

**INTERNATIONAL TAXATION AND COMPANY TAX POLICY IN  
SMALL OPEN ECONOMIES**

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**ABSTRACT**

This paper examines company income tax policy in the presence of increasing globalization from the perspective of a small open economy. It focuses on the implications of international capital mobility and international tax competition. The paper begins by considering the arguments for tax exemption or even subsidization of capital income, and then examines the many qualifications to these arguments that in practice lead to significant levels of taxation of capital income. This analysis pays particular attention to the implications of the existence of firm-specific and location-specific economic rents and the issues raised by various forms of international tax avoidance. The paper then traces out the implications of the analysis for company income tax policy in a small open economy, and briefly discusses applications of the analysis to the case of New Zealand.

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# **INTERNATIONAL TAXATION AND COMPANY TAX POLICY IN SMALL OPEN ECONOMIES**

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## **I. INTRODUCTION**

Company tax policies around the world are in a state of considerable flux, as many countries have reformed their corporate income tax systems in response to the ongoing process of globalization, in an environment characterized by highly mobile international capital, international tax competition, and aggressive international tax avoidance by many multinational corporations (MNCs). This environment is especially difficult for countries that can approximately be characterized as small open economies, that is, countries that face a perfectly elastic supply of capital at a rate of return that is determined in international capital markets as well as fixed prices for internationally traded goods; New Zealand is often characterized as an especially open economy (New Zealand Treasury Department, 2008). Tax competition for highly mobile capital has placed downward pressure on company tax rates, as countries strive to be competitive in attracting highly prized investments, especially those that promote the transfer of technology and have the potential of increasing productivity and growth rates, and New Zealand is no exception (New Zealand Inland Revenue Department, 2008). At the same time, however, such pressure is countered by a variety of factors, including arguments for taxing relatively immobile investments that generate economic rents at high rates and for aligning tax rates under the corporate and personal income tax systems to limit opportunities for domestic tax avoidance. In addition, increasingly aggressive efforts at tax avoidance, especially by large multinational corporations, further complicate the determination of the company tax policy.

This paper examines company income tax policy from the perspective of a small open economy operating in such an environment, focusing on issues related to the taxation of inbound foreign direct investment (FDI).<sup>1</sup> It begins by providing a selective overview of recent research on the current global economic environment and the economic effects of company income taxes, focusing on research examining international capital mobility, international tax competition, and international tax avoidance. Given this background, the paper then considers various positions regarding company income tax policy in a small open economy that have appeared in the literature, focusing first on arguments for tax exemption or even subsidization of capital income and then on the many qualifications to these arguments that in practice have led to significant, if arguably declining, levels of taxation of capital income. This analysis pays particular attention to the implications of the existence of firm-specific and location-specific economic rents and the issues raised by various forms of international tax avoidance. The paper then traces out the implications of the analysis for evaluating various potential company income tax reforms, including brief discussions of applications of the analysis to the case of New Zealand – a topic that is covered in depth in the paper prepared for this conference by Bengtsson and Holland.

## **II. A SELECTIVE REVIEW OF LITERATURE ON THE GLOBAL ECONOMIC ENVIRONMENT**

The literature on the implications of globalization for company tax policy is voluminous. The following selective review, which draws on Zodrow (2008a, 2008b), focuses on research related to international capital mobility, international tax competition, and international tax avoidance.

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<sup>1</sup> See Devereux and Sorensen (2006), Altshuler and Grubert (2008), and Griffith, Hines and Sorensen (2008) for discussion of company income taxation that include excellent treatments of outbound FDI, including the choices between territorial and residence (both accrual and deferred) tax systems, and destination-based and residence-based taxes; see Head (2009) for a recent discussion of the integration of corporate and individual tax systems.

## **International Capital Mobility**

Most, although by no means all, of the economics literature suggests a high degree of international capital mobility. In general terms, it is clear that the volume of capital flows, including both foreign direct investment and portfolio capital, has grown dramatically in recent decades, suggesting that capital has become more mobile over time (Hines, 2007). Barriers to international capital flows have declined significantly over time and have been accompanied by widespread deregulation of financial markets and dramatic advances in information and communication technology – all factors that have operated to increase international capital mobility (Feldstein and Bacchetta, 1991; Coakley, Kulasi and Smith, 1998). Moreover, worldwide interest rate differentials on deposits of the same maturity and risk characteristics and expressed in the same national currency are in general small enough to be consistent with perfect capital mobility (Frankel, 1993).

Two strands of the recent literature in empirical public economics are also generally consistent with a high degree of international capital mobility. Specifically, a large literature has examined the sensitivity of foreign direct investment to tax factors, while a small collection of recent papers has investigated whether the burden of the corporate income tax is distributed in a way that is consistent with a high degree of capital mobility.

### Tax Sensitivity of Foreign Direct Investment

Numerous studies have investigated the sensitivity of foreign direct investment (FDI) by multinational corporations (MNCs) to tax factors. These studies must deal with numerous difficult measurement and econometric issues, including controlling for the many other factors that affect investment decisions and determining the appropriate tax rate variable to utilize – not to mention the extent to which the negative effects of high tax rates on investment are mitigated

by tax avoidance techniques. Nevertheless, while acknowledging the inevitable uncertainty surrounding such estimates, the current consensus seems to be that FDI is in fact sensitive to tax factors, and the most recent evidence suggests that this sensitivity may be increasing over time.<sup>2</sup> For example, Gordon and Hines (2002, 49) conclude that the “econometric work of the last fifteen years provides ample evidence of the sensitivity of the level and location of FDI to its tax treatment,” and a similar conclusion is reached in the more recent surveys conducted by de Mooij and Ederveen (2003, 2005). Gordon and Hines (2002) conclude that the early literature is consistent with an elasticity of FDI with respect to after-tax returns of approximately -1, which is roughly equivalent to investment elasticity with respect to effective tax rates of roughly -0.6. Similarly, for the large sample of studies they analyze, de Mooij and Ederveen (2005) calculate a median estimate of the investment tax elasticity of 0.57, and a median semi-elasticity (the percentage change in FDI with respect to an increase of one percentage point in the tax rate) of 2.9. Moreover, the most recent and most careful studies tend to obtain the largest estimates. For example, Altshuler, Grubert and Newlon (2001) estimate that the elasticity of investment with respect to after-tax host country rates of return for US multinationals increased from 1.5 in 1984 to 2.8 in 1992. Finally, Altshuler and Grubert (2006) examine data for 1992, 1998 and 2000, and find that their estimated investment tax elasticities are increasing over the period (with some estimates in the range of -4), although this result is quite tentative as the differences in the elasticities over time are not statistically significant; similar results suggesting increasing tax sensitivity of investment are reported by de Mooij and Ederveen (2003, 2005). Thus, the empirical literature as a whole suggests that international capital is quite mobile and significantly

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<sup>2</sup> In addition, some empirical evidence suggests that taxes affect the ownership of assets, which in turn may affect their productivity (Hines, 1996; Desai and Hines, 1999, 2003).

affected by tax factors, although the degree of responsiveness is not as large as would be implied by a perfectly elastic supply of internationally mobile capital.

### Recent Estimates of the Incidence of the Corporate Income Tax

A second line of research infers the extent to which capital is mobile internationally from results on the incidence of the corporate income tax. From a theoretical perspective, the burden of a corporate income tax imposed by a small open economy in the presence of a high degree of international capital mobility is likely to fall largely on local factors, as capital is able to migrate to avoid the tax, with the ultimate burden borne by local factors – land and relatively immobile labor – and consumers of nontradable goods. Indeed, in some models with both corporate and noncorporate sectors, capital may be able to shift more than 100% of the corporate income tax to labor. For example, in the four-sector open economy general equilibrium model constructed by Harberger (1995, 2008), labor must bear all of the burden of the tax imposed on the corporate sector (because both the return to capital and the price of the tradable corporate good are fixed) and, since labor is mobile across production sectors, wages fall in the other sectors as well. As a result, labor bears more than all of the burden of the tax – 130% in the central case analyzed by Harberger (2008).

Gravelle and Smetters (2006) question these results. They note that the strong conclusions on shifting of the corporate tax described above depend on perfect capital mobility, which is not likely to obtain in reality. Moreover, even if capital is perfectly mobile, they show within the context of a four-sector model similar to that constructed by Harberger that the share of the corporate tax burden borne by capital increases significantly as the elasticity of substitution between traded corporate domestic goods and imports declines (Harberger assumes domestic goods and imports are perfect substitutes). For example, in the US context, Gravelle

and Smetters show that if the elasticity of substitution in consumption between traded corporate domestic goods and imports is reduced from infinity to 3.0 (a value they argue is consistent with the empirical literature), the share of the tax burden on domestic capital in the US increases from roughly 30%<sup>3</sup> to 62%. These results have in turn been challenged on several grounds. McDaniel and Balistreri (2002) note that many trade economists are skeptical of the relatively low estimates of import substitution elasticities found in the literature<sup>4</sup>; moreover, the most recent estimates of import substitution elasticities have been significantly higher than those found in the earlier literature (Erkel-Rousse and Mirza, 2002; Hertel, et al., 2004; Head and Ries, 2001; Clausing, 2001). In addition, Randolph (2006) shows that extending the Gravelle-Smetters model to allow a domestic corporate sector that produces two types of traded goods – one that is a perfect substitute for imports and one that is imperfectly substitutable – dramatically reduces the extent to which capital bears the burden of the corporate income tax. Indeed, if the capital intensities of the two sectors are identical, the incidence of the corporate income tax is independent of the degree of import substitutability.

These theoretical results are sufficiently ambiguous that empirical evidence on the extent to which international capital mobility implies that corporate income taxes are shifted to labor would be extremely useful. Estimating the incidence of corporate income taxes is notoriously difficult, especially given the severe problems that arise in attempting to accurately measure rates

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<sup>3</sup> The 30 percent figure corresponds roughly to the US share of the world capital stock, which is the share of the tax burden borne by capital in the case of perfectly mobile capital and perfect substitutability between domestic corporate goods and imports.

<sup>4</sup> Similarly, Harberger (2008) argues that such relatively low elasticities of substitution between domestic and imported products imply an implausibly large degree of market power for domestic producers, who in many cases appear to have relatively little market power.

of return to capital.<sup>5</sup> Several very recent papers have taken an alternative route – examining the extent to which differences in corporate income taxes are reflected in differences in wages, as would be predicted to varying extents by the small open economy analyses noted above. These studies are also plagued by econometric difficulties, especially in controlling for the many factors that might affect wages and the process of wage determination in a country. Nevertheless, three recent studies have attempted to do so and thus indirectly shed light on the question of the international mobility of capital.

Each of these studies examines various samples of OECD countries and estimates that differences in corporate income taxes across countries are to a large extent reflected in differences in wages.<sup>6</sup> Hassett and Mathur (2006) examine a sample of 72 countries using data from 1981-2002, looking at how five-year averages of hourly wages in manufacturing are affected by corporate income taxes. They estimate extremely large elasticities of the labor tax burden with respect to the various measures of the corporate tax rate, ranging from 0.5 to 1.0. Indeed, Gravelle and Hungerford (2007) argue that their results are highly implausible, as a wage elasticity of 1.0 would imply that a one percent increase in corporate revenues would be accompanied by a fall in wages that would be roughly 26 times as large. They replicate the Hassett-Mathur analysis but use annual data (rather than five-year averages) for wages and tax rates on the grounds that such an approach better measures the long term effects of corporate tax rates on wages, and use several alternative methods for converting nominal values in other currencies to U.S. dollars. They obtain much smaller, and often statistically insignificant, effects of the corporate tax on wages.

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<sup>5</sup> For a recent review of this literature, see Gravelle (2008).

<sup>6</sup> For an excellent analysis of these studies, including more details on the methods used, see Gentry (2007).



Felix (2007) examines a sample of 19 OECD countries over the period 1979-2002. She uses the statutory tax rate as a measure of the corporate tax burden and analyzes labor compensation for workers at three skill levels as measured by education level. In her central case, which controls for the extent to which the economy is open, she obtains estimates that imply that a one percentage point increase in the average corporate tax rate would reduce labor compensation by roughly four times the amount of revenue collected, with little variation across the skill groups. These results also imply a very large degree of overshifting of the burden of the corporate income tax to labor, although the extent of overshifting is considerably less than that reported by Hassett and Mathur.

Finally, Arulampalam, Devereux and Maffini (2008) analyze data on wages from France, Italy, Spain and the UK over the period 1993-2003 in the context of a wage bargaining model that determines how firm owners and labor divide economic rents. They analyze how differences in corporate income taxes affect this division of rents. (They thus do not consider explicitly the tax-induced capital emigration stressed above.) Their central estimates suggest that 62% of the corporate income tax burden is borne by labor in the short run, and labor fully bears the burden of the tax in the long run. Beyond the question of the relevance of the wage bargaining model for the issue of the relative mobility of capital, Gravelle (2008) notes several econometric issues with the analysis and its interpretation, and that the results are not robust to the varying specifications used in the paper.

All of these studies are very recent, and are plagued by the difficulties inherent in measuring the incidence of corporate tax burdens across countries. Thus, their results must be viewed as quite tentative. The three studies finding full or considerable over-shifting of the corporate income tax to labor are generally suggestive of considerable international mobility of

capital, while the Gravelle-Hungerford and Gravelle analyses call this interpretation into serious question. One can anticipate much further research in this area.

### Savings and Investment Correlations

A third line of research suggests that international capital may not be as mobile as is commonly believed. Feldstein and Horioka (1980), hereafter FH – with subsequent papers by Feldstein (1983), Feldstein and Bacchetta (1991) and Feldstein (1994) – argued that observed correlations between domestic saving and domestic investment are far larger than the very low values that should occur if international capital were perfectly mobile; that is, they argue that very small savings investment correlations would be the rule with perfect capital mobility, as any increase in domestic saving would be distributed across the world economy and any increase in domestic investment would be financed from the world supply of capital rather than primarily from increased domestic saving. In marked contrast, their estimates of the “savings retention” coefficient in several studies using various samples of OECD countries range from 0.89 in the first analysis (Feldstein and Horioka, 1980) to 0.61 for a sample of 23 OECD countries and 0.36 for EU countries in Feldstein and Bacchetta (1991). Feldstein (1994) interprets these results as being consistent with international capital mobility that is gradually increasing over time, especially in highly integrated economies, but still falls far short of reflecting perfect capital mobility. Feldstein (1994, p. 11) attributes relatively high savings-investment correlations to a reluctance by investors and corporate managers to invest abroad, suggesting important limits on capital mobility when he concludes that, “Capital is mobile but its owners generally prefer to keep it at home. ... The evidence on investment-saving correlations and portfolio composition

reflects the fact that ignorance, risk aversion and prudence keep capital close to home.”<sup>7</sup> These results were supplemented by Murphy (1984), who examined two subsets of a group of 17 OECD countries to determine whether relatively small countries, which should approximate small open economies, have lower savings retention coefficients. Indeed, Murphy found this to be the case, as the savings retention coefficient was 0.98 for the seven largest countries in his sample, but 0.59 for the ten smallest countries.

These results, often described as the “Feldstein-Horioka puzzle,” have generated a huge literature, much of which has also found relatively high savings-investment correlations (Coakley, Kulasi and Smith, 1998).<sup>8</sup> However, several strands of this literature challenge both the FH result and their interpretation of high savings retention coefficients. Three of the more prominent arguments are as follows.

First, several papers have focused on econometric problems in the FH analysis and similar subsequent analyses. In particular, Coakley, Fuertes and Spagnolo (2004) argue that estimated savings-investment correlations are reduced significantly when the FH methodology is corrected for country heterogeneity and cross section dependence in savings and investment rates. They replicate the FH methodology for a sample of OECD countries over 1980-2000 and obtain a savings retention coefficient of 0.676, similar to the later estimates described above. However, once they make their preferred adjustments for country heterogeneity and cross section

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<sup>7</sup> In particular, Feldstein argues that investors appear to perceive that the additional return and benefits of diversification that might be obtained from additional foreign investment are more than offset by the additional risks of such investment, in the form of the currency risks, the uncertainties associated with investing in unfamiliar economies where information is difficult and costly to obtain (Gordon and Bovenberg, 1996; Ahearne, Griever and Warnock, 2004), and the political risks of policy changes ranging from higher capital income taxation and market regulation to capital controls or convertibility restrictions to outright expropriation in the case of developing or emerging economies. He also cites the “home country bias” literature which shows that investors invest a much higher fraction of their portfolios in domestic securities than would be implied by a diversified portfolio in which the share of domestic securities roughly equaled the domestic share of total world market capitalization (Sercu and Vanpée, 2007).

<sup>8</sup> See Zodrow (2008a) for a more complete treatment of these arguments.

dependence, their estimate of the savings retention coefficient is virtually zero (0.062). They “tentatively conjecture that that the FH puzzle may well be history” (Coakley, Fuertes and Spagnolo, 2004, p. 587).

Second, Summers (1988) and Obstfeld (1995) argue that the FH assumption that national savings and investment rates are exogenously determined may be inappropriate as high savings-investment correlations may simply reflect policy responses to large current account deficits. For example, countries may attempt to limit capital inflows to avoid large changes in exchange rates and in the trade balance that will negatively impact the domestic traded goods sector, or limit capital outflows because social returns to domestic investment may exceed private returns (e.g., due to domestic taxes or risks of capital expropriation).<sup>9</sup> However, because the balance of payments on current account equals the difference between domestic savings and investment, such policies by definition will tend to bring domestic saving and domestic investment into balance, creating the correlations captured in the FH analysis. Summers constructs a simple model in which capital is perfectly mobile and countries set their budget deficits to offset imbalances in net saving and thus the trade balance. He shows that the endogenous budget deficit policy response in his model explains roughly three-quarters of the observed correlation between savings and investment. Summers concludes that high investment savings correlations should not be treated as evidence that capital is immobile internationally, and instead reflect the efforts of governments to maintain external trade balance.

Finally, a huge literature in empirical macroeconomics is highly critical of the conclusion that high savings-investment correlations imply imperfect capital mobility. The central argument

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<sup>9</sup> Summers also notes that the assumptions that governments will set policies to maintain trade balance explains the otherwise puzzling support of investment tax incentives by firms in the tradable goods sector; that is, although such firms are aware that the capital inflows induced by the investment incentives will tend to reduce net exports, they anticipate that this effect will be offset by other policies.

is that large savings and investment correlations are not indicative of capital immobility but instead reflect a long-run intertemporal budget constraint that precludes countries from running current account deficits or surpluses indefinitely; this intertemporal solvency constraint implies that in the long run domestic saving and investment must be highly correlated. That is, under this view, the high savings retention coefficients obtained in the FH literature, which is designed to capture the long-run relationship between savings and investment, simply reflect the fact that countries must eventually bring their current accounts into balance. However, in the short run capital mobility allows deviations of saving and investment that would not exist if capital were immobile, and it is longer (temporary) deviations from equality of domestic saving and investment that are the best indicator of greater capital mobility – an interpretation that obviously turns the interpretation of the FH results on its head. The most recent of many studies that have taken this approach is Pelgrin and Schich (2008), who analyze a sample of 20 OECD countries over the period 1960-1999 within the context of a dynamic model that takes into account the speed of an economy's adjustment to shocks. They conclude that the relationship across countries between savings and investment is roughly consistent with a binding solvency constraint over a sufficiently long time frame, especially in recent years. (That is, their empirical results are consistent with the high long run savings-investment coefficients found in the FH literature, although their interpretation is completely different.) At the same time, they find that short run deviations from the long run equilibrium – that is, savings-investment correlations significantly less than one – have become more persistent over time, a result that they interpret as being consistent with increasing capital mobility over time.

Interpreting the multitude of conflicting results that have appeared in this literature is exceedingly difficult. Feldstein's arguments suggest that caution is appropriate before simply

assuming a country faces a highly elastic supply of capital, especially for large economies. Nevertheless, even researchers who have followed in the FH tradition have found savings investment correlations that have declined considerably over time, and that are smaller in more highly integrated economies and in smaller and developing economies, and in one case alternative estimation techniques have resulted in a savings retention coefficient that is virtually zero. In addition, the various alternative explanations of the FH result have some plausibility, and the results and interpretations of the empirical macroeconomics literature raise some troublesome issues with the traditional interpretation of high savings-investment correlations, although the practical relevance of the long run solvency constraint is unclear. On balance, a reasonable interpretation may be the now somewhat dated but still highly relevant view of Harberger (1980), who argues that while international capital may not be perfectly mobile, the mobility of capital is relatively high, especially among smaller economies and the developing emerging countries and in the long run, and that with the inexorable march of globalization the level of capital mobility is likely to continue increasing over time – a development that deserves serious consideration in the formulation of tax and other economic policies.

### **International Tax Competition**

A second key feature of the global environment in which a small open economy must operate is international tax competition, defined in general terms as reductions in company income taxation by countries attempting to attract internationally mobile capital. The literature on international tax competition is also voluminous; the discussion below focuses first on indirect evidence in the form of recent changes in corporate income taxation and then on several recent studies that attempt to directly measure the extent of international tax competition.

### Trends in Corporate Income Tax Rates

Statutory corporate income tax rates have clearly declined in recent years. For example, Devereux, Griffith and Klemm (2002) note that average statutory corporate income tax rates in the EU and U.S. fell dramatically from 48% in 1982 to 35% in 2001. Similarly, Devereux and Sorensen (2006) show that the weighted (by GDP) average statutory tax rate in a sample of 19 OECD countries was roughly 50 percent in the early 1980s, dropped to the low 40s in the early to mid-1990s, and has continued to decline moderately to the high 30s by 2004 (at which time the unweighted average of statutory rates was roughly 32 percent, reflecting the relatively lower rates of the smaller countries in the sample).

Statutory corporate tax rates in New Zealand have also declined dramatically, especially with its large rate cut in 1989, but the current company statutory tax rate in New Zealand of 30 percent, reduced recently from 33 percent, is moderately high, at least when compared to an unweighted OECD average and especially when compared to a sample of smaller OECD countries (New Zealand Treasury Department, 2008).

These rate reductions, however, were often accompanied by base-broadening efforts. As a result, effective marginal and average tax rates, which are significantly lower than marginal rates, have declined somewhat less (and would have declined even less had not inflation moderated, offsetting some of the effects of less rapid depreciation allowances) but nevertheless have fallen by roughly ten percentage points over 1982-2004 (see Devereux and Sorensen, 2006, and Devereux, 2007, who define the average effective tax rate prospectively on an investment that generates above-normal returns). Reflecting the smaller decline in average tax rates, but also other factors such as increased profitability, income shifting from the personal tax base, and higher levels of investment, the weighted average of corporate tax revenues as a fraction of GDP

has been roughly constant over the past forty years.<sup>10</sup> This evidence is suggestive of tax competition in statutory rates, but also implies that tax competition has not yet had as significant an impact in these countries on effective tax rates and very little if any impact on revenues.

More generally, several studies suggest that international tax competition is more pronounced for smaller more open economies, and includes competition in both statutory and average or marginal effective tax rates. For example, Garretson and Peeters (2006), provide empirical support for the predictions of theoretical models that stress the role of agglomeration economies and posit that tax competition will be more intense (and thus the elasticity of supply of capital will be larger) among smaller less-developed “peripheral” countries than among “core” countries characterized by significant economies of agglomeration.<sup>11</sup> This result is generally consistent with Grubert (2001) and Altshuler and Grubert (2006) who found that average effective tax rates have declined significantly more in the small, open and relatively poor countries that are more susceptible to the effects of tax competition. Similarly, Keen and Simone (2004) find that tax competition has been more pronounced in developing countries, where competition has not been limited to statutory tax rates, but also to average and marginal effective tax rates as well as revenues, primarily due to generous tax holidays and tax incentives designed to attract foreign direct investment. Finally, Huizinga, Laeven and Nicodème (2006) find that corporate tax revenues relative to GDP decline with size (measured as GDP).

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<sup>10</sup> In New Zealand, corporate tax revenues comprise 15.3 percent of total revenues, and corporate revenues relative to GDP have increased significantly in recent years to 5.8 percent of GDP, the third highest level in the OECD (New Zealand Inland Revenue Department, 2008; New Zealand Treasury Department, 2008).

<sup>11</sup> For example, Bucovetsky and Wilson (1991) construct a model of asymmetric tax competition where only large countries with some market power in capital markets have positive taxes on capital income, and the “new economic geography” models implies that larger “core” countries with significant agglomeration economies have relatively high tax rates on capital income, which are avoided by relatively smaller and less developed “peripheral” economies (Baldwin and Krugman, 2004).



### Strategic Tax Reaction Functions

A more direct method of testing for tax competition focuses estimating strategic interactions among governments in setting tax rates on capital, under the assumption that national governments react to changes in the tax policies of their neighbors. Devereux, Lockwood and Redoano (2008) construct a model in which multinationals whose investments earn above-normal returns choose their investment locations primarily in response to differences in statutory tax rates, and then, given their location, choose their level of investment partly as a function of the marginal effective tax rate. In addition, firms are assumed to be able to use transfer pricing, limited by the threat of audit, to shift profits across jurisdictions in response to differences in statutory tax rates. Governments potentially compete, in both marginal effective tax rates and statutory tax rates, in the sense that their tax rates may be a function of the tax policies in neighboring countries. Devereux, Lockwood and Redoano (2008) find strong evidence of international tax competition over statutory corporate tax rates; specifically, they estimate that a one percentage point reduction in the weighted average statutory tax rate in other countries results in a 0.7 percentage point reduction in the home country tax rate. They also find evidence of competition in marginal effective tax rates, but the magnitudes of the effects are much smaller, suggesting that competition over statutory tax rates is the dominant form of international tax competition.<sup>12</sup> Finally, they note that their estimated government tax reaction functions suggest that equilibrium statutory tax rates should have fallen substantially over the time period considered, consistent with the observed behavior described above.

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<sup>12</sup> Devereux, Lockwood and Redoano also argue that the fact that the strategic tax interactions between countries that they observe occur only between relatively open economies implies that they cannot be explained by two alternative theories – “yardstick competition” and common intellectual trends, such as a move toward broader tax bases and lower rates.

Heinemann, Overesch and Rincke (2008) also provide a recent test for the existence of tax competition. They examine a series of discrete tax reform events involving reductions in statutory tax rates in a sample of 32 European countries to test for interactions among neighboring countries. They estimate that a country reduces its own statutory tax rate by 1.5-3.2 percentage points in response to a reduction in statutory tax rates of one percentage point in neighboring countries. Similarly, Altshuler and Goodspeed (2002) estimate that the EU has a positive tax reaction function to tax changes in the US (which they model as a Stackelberg leader) and the tax competition between the EU and US has become increasingly intense. Besley, Griffith and Klemm (2001) show the corporate income tax rates are positively related to tax rates in other countries, especially within the EU, but that such a strategic relationship does not hold for other taxes. All of these studies suggest that international tax competition is an important ongoing phenomenon.

### **International Tax Avoidance**

The third key component of the economic environment facing a small open economy that must be considered in determining company tax policy is international tax avoidance. A growing body of empirical evidence suggests that multinational corporations are quite aggressive in using financial accounting manipulations to minimize their tax liabilities, primarily by shifting income across jurisdictions in response to differentials in statutory corporate income tax rates. A wide variety of mechanisms, including especially transfer pricing, loan allocation, assignment of rights to intellectual property and other intangible assets, are used to move revenues to low tax jurisdictions and deductions to high tax jurisdictions. Moreover, these efforts appear to be successful despite an ever-growing arsenal of governmental mechanisms designed to limit such attempts at income shifting, including advanced pricing agreements that regulate transfer pricing,

thin capitalization rules, interest allocation rules, and special treatment of passive investment income.

For example, numerous studies have found that after-tax profitability tends to be high in low-tax countries, suggesting that firms are shifting taxable profits to such countries, especially tax havens (Hines, 1999); indeed, Grubert (2003) estimates that tax-minimizing choices regarding the location of intangible income and the allocation of debt explain all of the observed differences in profitability across countries with high and low statutory tax rates. Several studies find that deductible interest payments tend to be made by subsidiaries in high tax countries, while non-deductible dividend payments tend to be made in low-tax countries (Altshuler and Grubert, 2002; Grubert, 1998; Huizinga, Laeven and Nicodème, 2006; Buettner and Wamser, 2007). Similarly, there is evidence that multinationals reduce their combined tax liabilities by substituting deductible royalties for non-deductible dividends in host countries with high tax rates (Grubert, Randolph and Rousslang, 1996; Grubert, 1998).

Research and development expenses and other intangible inputs also create opportunities for taxable income shifting. For example, Hines (1996) finds that the allocation of research and development expenditures is highly sensitive to international tax differentials, Altshuler and Grubert (2004) show that low-tax countries are becoming much more important destinations for intangibles initially produced in the U.S., and Mutti and Grubert (2006) estimate that less than half of the contribution of parent research and development expenditures to subsidiary income is reflected as royalties. This large body of evidence strongly supports the widely held perception that many multinationals aggressively engage in various forms of international tax minimization activity. Moreover, increasing economic integration, including especially the greater intra-firm trade that now accounts for nearly 40% of all U.S. international trade (Clausing 2003), suggests

that such tax-motivated taxable income shifting is likely to become more prevalent over time. This conjecture is supported by empirical evidence presented in Grubert (2001) and Altshuler and Grubert (2006) who find dramatic increases in taxable income shifting over time.

The most striking results are obtained in three recent studies that directly examine the shifting of taxable income. Bartelsman and Beetsma (2003) estimate the extent of income shifting due to changes in transfer prices on intra-firm transactions in the manufacturing sector in response to national tax differentials for a sample of fifteen industrial sectors in a group of sixteen OECD countries. They find strong evidence of significant taxable income shifting, as a 1% increase in a country's tax rate leads to a decline in reported before-tax income of 2.7%; indeed, their estimates suggest that the revenue increase from a unilateral increase in the statutory tax rate is on average reduced by roughly more than 65% due to income shifting solely in the form of transfer pricing.<sup>13</sup> Broadly similar results are obtained by Huizinga and Laeven (2008), who analyze the shifting of profits in Europe and estimate that the elasticity of the taxable corporate income tax base to the statutory corporate tax rate is 0.45. In closely related work, Clausing (2003) finds that prices for intra-firm imports and exports are strongly affected by international tax differentials. Her estimates indicate that, relative to goods that are not traded within the firm, a reduction in a country's statutory tax rate of one percentage point results in changes in the prices of intra-firm traded goods of roughly 2%, in the directions predicted by a tax minimization strategy.

Finally, note that increasing international tax avoidance has interesting implications for international tax competition. The most obvious effect is that international tax avoidance

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<sup>13</sup> There is, however, considerable variation in the coefficients, and the coefficients for the US and Australia are insignificant and of the wrong sign. New Zealand is not included in the sample analyzed.

reinforces the standard tax competition arguments, since it implies downward pressure on statutory corporate income tax rates as countries attempt to avoid revenue losses due to income shifting. However, an offsetting factor, stressed by Altshuler and Grubert (2006), is that possibilities for international tax avoidance may moderate international tax competition, as such opportunities imply that the negative effects of relatively high statutory and effective tax rates on foreign direct investment may be muted if multinationals are easily able to mitigate their effects through tax planning. Indeed, Altshuler and Grubert argue that a new dimension of international tax competition is that countries may compete in allowing or even facilitating tax avoidance as a means of reducing the effective taxation of highly mobile international capital and thus attracting such capital, while continuing to apply relatively high statutory corporate income tax rates to relatively immobile domestic capital.

Using a database of US multinationals, Altshuler and Grubert provide several pieces of empirical evidence to support their view that international tax competition increasingly takes the form of allowing tax avoidance. They examine various phenomena before and after the 1997 adoption in the US of the “check-the-box” regulations, which greatly facilitated tax avoidance by allowing affiliated firms to choose their tax status in the US as a subsidiary, subject to separate taxation, or a branch, taxed on a pass-through basis to the parent firm, creating “hybrid” entities that are treated differently for tax purposes in the host and home countries.<sup>14</sup> First, they examine changes in average effective tax rates, which continued to decline over the period 1992-2002, although at a slower rate than the decline documented in the studies cited above. They conclude that after 1998 tax avoidance behavior was much more important in explaining these declines in host country effective tax rates than the declines in statutory tax rates that occurred over the same

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<sup>14</sup> See Altshuler and Grubert (2006) for details.

period, as the correlation between effective and statutory tax rates declined significantly. Second, the extent to which the reported profitability of subsidiaries in low-tax countries exceeded that in high-tax countries grew considerably after 1997, as would be expected if profits were increasingly being shifted to low-tax jurisdictions. Third, Altshuler and Grubert show that intercompany tax payments and holding company income grew considerably after 1997, as would occur with the various strategies described above that are designed to shift income to lower-tax countries. At the same time, however, they do not find evidence that the tax sensitivity of foreign direct investment declined over the same period.

### **III. GENERAL IMPLICATIONS FOR COMPANY TAX POLICY**

This section of the paper considers some of the general implications for company tax policy in a small open economy in the environment described above. It draws primarily on theoretical results on capital income taxation in a multijurisdictional setting in which the taxing jurisdiction can be approximated as a small open economy. It begins with a discussion of the standard argument that a small open economy should not apply a source-based (production-based) tax on internationally mobile capital, and then considers the many qualifications to that argument.

#### **The Standard “Zero Tax” Argument**

A now well-known argument is that a country that can accurately be characterized as a small open economy should not attempt to apply a source-based tax to internationally mobile capital (Zodrow and Mieszkowski, 1983; Gordon, 1986; Razin and Sadka, 1991).<sup>15</sup> The

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<sup>15</sup> These arguments of course supplement the traditional case against the most common form of source-based capital income taxation, the corporate income tax. Many observers have argued that the corporate tax, especially when applied to multinational corporations, is a singularly complex and inefficient tax instrument, significantly distorting a wide variety of decisions, including those regarding asset mix, method of finance, organizational form,

intuition is that if capital is perfectly mobile, the imposition of such a tax will simply cause it to migrate to other jurisdictions until its after-tax return increases to the internationally determined rate of return. This emigration of capital lowers the productivity of the fixed factors in the taxing country – land and labor (or at least relatively immobile labor), so that local factors of production ultimately bear the entire burden of the capital income tax, including both the revenue raised as well as the efficiency costs of the tax. These efficiency costs include suboptimal capital intensities, a tax bias favoring labor-intensive goods (Gordon and Hines, 2002), and a tendency toward under provision of public services as governments are reluctant to finance public services using a tax on internationally mobile capital in the presence of international tax competition (Zodrow-Mieszkowski, 1986; Wilson, 1986). Indeed, as noted above, Harberger (1995, 2008) argues that in a small open economy, immobile labor and land may bear more than one hundred percent of a corporate income tax, once general equilibrium effects across business sectors are considered.<sup>16</sup>

### **Extensions of the “Zero Tax” Argument**

The discussion thus far has implicitly considered a marginal effective tax rate applied to capital investments in the absence of tax avoidance. However, much of the recent research on international taxation has focused on the role played by investments that earn economic rents and

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and the mix of retentions, dividends paid and share repurchases (Gravelle, 1994; Cnossen 1996, Nicodème, 2008). Note, however, that arguments against corporate income taxation do not extend to benefit taxes or user charges that are linked to the costs of providing public services to businesses; in the absence of such charges, the corporate tax could be viewed as a proxy tax.

<sup>16</sup> Moreover, these results are largely robust to allowing variations in labor supply or labor mobility. For example, Bucovetsky and Wilson (1991) show within the context of a multi-jurisdictional tax competition model that as long as all jurisdictions are small, tax competition leads to the abandonment of capital income taxes, as the elasticity of supply of capital to the jurisdiction is infinite, while individual labor-leisure substitution possibilities are limited. Similarly, Brueckner (2000) constructs a tax competition model in which individuals are mobile across jurisdictions, sorting themselves according to differences in their preferences for public goods. Given the allocation of individuals across jurisdictions, tax competition still results in downward pressure on capital income tax rates, although this tendency is less pronounced in “high demander” jurisdictions, and differential capital taxation implies an inefficient allocation of capital across jurisdictions. Wilson (1999) argues that as a general rule tax competition arguments are robust to labor mobility as long as the supply elasticity of labor is smaller than the supply elasticity of capital.

the implications of tax avoidance activity, especially by multinational corporations, for statutory corporate income tax rates.<sup>17</sup>

### The Role of Firm Specific Economic Rents

Another key element of setting tax policy in a world characterized by increasing globalization is its effects on investment by multinationals. The economic theories underlying the formation of MNCs stress their potential to earn significant firm-specific economic rents,<sup>18</sup> attributable to factors unique to the firm such as specialized technological knowledge, superior managerial skills or production techniques, or valuable product brands, trademarks, reputations and other intangible assets (Dunning, 1977, 1981). Moreover, there is some indirect empirical evidence suggesting that the relative importance of such rents is increasing over time, as Auerbach (2006) shows that the dispersion of relative profitability for U.S. corporations has increased significantly in recent years, suggesting an increase in the importance of investments that generate above-normal returns made by a relatively small number of highly profitable firms.

Economic analyses have stressed that multinational decisions regarding the location of investments expected to generate significant economic rents are typically made among numerous mutually exclusive discrete choices; for example, a firm may want to take advantage of significant economies of scale due to large fixed costs by choosing a single location to serve multiple national markets. Under the circumstances, Devereux and Griffith (2003) argue that the

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<sup>17</sup> Two additional arguments suggest that the optimal source-based tax on capital income is negative, that is, a subsidy. Judd (1997, 2001) argues that the effects of imperfect competition in the market for capital goods, especially equipment, should be offset by subsidies to capital investment. Gordon and Bovenberg (1996) argue that a relative lack of information on the part of foreign investors regarding prospective investment returns in a country should similarly be offset by capital income subsidies.

<sup>18</sup> Location-specific economic rents, including resource rents and rents attributable to local economies of agglomeration, will be discussed below.



average effective tax rate, which is a function of the statutory rate as well as the effective marginal tax rate, is the key determinant of MNC investment location decisions. Because investments generating firm specific economic rents are also highly mobile (and indeed may be especially highly prized by national governments as they are most likely to be associated with high levels of technology transfer, access to skilled labor and the generation of other external benefits, including a competitive environment that fosters invention and innovation), the logic underlying the standard tax competition model implies that the statutory tax rate applied to such investments should also equal zero (Gordon Hines, 2002).

### The Role of Income Shifting

The discussion in the previous section demonstrates that the pervasive phenomenon of income shifting by multinationals through various financial accounting manipulations accentuates the downward pressure on statutory tax rates attributable to international tax competition for investments that earn firm specific economic rents. In particular, it is corporate statutory tax rates that are relevant for income shifting as they determine the value of deductions and the tax cost of incremental revenues; that is, in the presence of income shifting, any country with a relatively high tax rate will receive a disproportionately large share of worldwide deductions while losing its fair share of worldwide revenues. Furthermore, a low statutory rate may make a country attractive for investment by MNCs simply because it creates the potential for additional income shifting (Slemrod, 1997). Serious concerns about income shifting have been expressed in New Zealand, including concerns that tax avoidance is encouraged by relatively high effective tax rates on labor income and will create the perception that the tax system is unfair and reduce compliance (New Zealand Inland Revenue Department, 2008; New Zealand Treasury Department, 2008).

Several recent papers have shown that these two factors imply that statutory tax rate reductions may be desirable, even if they are accompanied by base broadening measures that increase marginal effective tax rates in the interest of maintaining revenue neutrality. For example, Haufler and Schjelderup (2000) construct a model in which multinational firms earn above normal profits and can use transfer pricing to shift those profits to low tax countries. They show that the optimal revenue neutral corporate income tax policy under these circumstances can be to lower statutory rates and broaden the corporate tax base, even at the cost of raising the marginal effective tax rate on new investment. Fuest and Hemmelgarn (2005) obtain a similar result in a model in which firms earn only normal profits, as they demonstrate that a rate lowering, base broadening policy may be optimal if firms can reallocate debt to minimize their tax liability. Becker and Fuest (2005) show that in the presence of differentially mobile firms, corresponding loosely to relatively mobile multinational enterprises and relatively immobile domestic firms, a rate lowering, base broadening reform will be desirable if the marginal highly mobile firm is more profitable than the average firm in the country. In this case, a lower statutory tax rate induces the high profitability mobile firms to remain in the country since their profits are taxed relatively lightly, while the broader tax base implies that more revenues are collected from the low profitability immobile firms.

### **Qualifications to Arguments for Low Corporate Income Taxes**

It is clear that, notwithstanding the arguments made thus far, corporate income tax rates have not converged to zero and that the corporate income tax is still an important source of revenues in most developed and developing countries. A wide variety of arguments have been offered in support of company taxation (Mintz, 1995; Sorensen, 1995; Bird, 1996; Weichenreider, 2005; Auerbach, 2006; Sorensen, 2006; Zodrow, 2006; Gravelle, 2008), all of

which qualify the argument that a small open economy should exempt capital income from tax. Although it is difficult to judge the relative importance of each of these qualifications, the pervasiveness of corporate income taxation around the world suggests together they have been taken seriously by policymakers.

#### Questioning the Basic Assumptions of the Small Open Economy Model

As discussed at length above, Gravelle and Smetters (2006) argue that, at least in the US context, both the assumptions of perfect capital mobility and perfect substitutability between imports and domestically produced goods that underlie the zero tax result may be inappropriate, in which case domestic labor does not bear the full burden of a corporate income tax which is to a perhaps significant extent borne by capital, including foreign capital owners. For example, Wildasin (2003) stresses that the costs of adjusting the capital stock imply that capital will be less than perfectly mobile in the short run and that some taxation of such capital is desirable. Moreover, Gravelle and Smetters stress that even if a perfectly elastic supply of capital is a reasonable approximation for a small open economy, these same incidence results obtain if the substitution elasticity between domestic traded goods and imports is sufficiently low. The intuition behind this argument is that if traded goods are imperfect substitutes, then some of the burden of a source-based tax on capital income can be shifted forward to domestic consumers, including the owners of domestic capital, who experience a reduction in purchasing power and thus bear some of the burden of the tax.

The Gravelle-Smetters argument thus provides a fundamental challenge to the standard tax exemption result, as source-based taxation of capital income is no longer inherently counterproductive for the relatively immobile residents of a country. However, for most small economies, the assumption of a highly, if not perfectly, elastic supply of capital seems to be a

reasonable approximation (apart from considerations of location-specific rents to be discussed below). In addition, as also described above, the Gravelle-Smetters results on the importance of imperfect substitutability for domestic goods have been questioned by Randolph (2006) who argues that results similar to those in the standard model are obtained if the Gravelle-Smetters model is extended by allowing the corporate sector to produce both a good that is imperfectly substitutable with imports and a second good that is perfectly substitutable. In addition, several recent studies have obtained relatively high estimates of import substitution elasticities, consistent with the conjectures of Harberger (2008) and others. Thus the relative importance of the Gravelle-Smetters argument is a subject of ongoing debate.

#### The Role of Location Specific Economic Rents

Perhaps the most important argument in support of a relatively high level of corporate income taxation is that it allows the government to obtain significant revenues from the taxation of location specific economic rents. Such rents, which may accrue to both domestic and foreign firms, can reflect resource rents as well as economic rents that arise because of factors such as local economies of agglomeration, productive government infrastructure, easier access to consumers, lower transport costs, and inexpensive but relatively productive local factors of production including skilled labor, in addition to the ability to avoid trade barriers such as tariffs and quotas.

The taxation of location specific economic rents provides an efficient and thus highly desirable source of revenue. Moreover, such taxes are especially attractive from the standpoint of domestic residents and thus from a political perspective if the rents accrue to foreigners (Mintz, 1995). In the model constructed by Wildasin (2003) in which capital is less than perfectly mobile due to convex costs of adjusting the capital stock, the optimal tax rate on capital

income is inversely proportional to the speed of adjustment and the elasticity of demand for capital and directly proportional to the share of foreign ownership. Consistent with these results, Huizinga and Nicodème (2006) analyze a sample of 34 European countries and find that an increase in the share of foreign ownership by one percentage point in a country results in an increase of 0.43 percentage points in the average corporate income tax rate. In addition, increasing globalization implies that foreign ownership of domestic corporations is increasing over time, suggesting that this “tax exporting” rationale for corporate income taxation will increase over time (Huizinga and Nielsen, 1997).

The potential for taxing location specific economic rents may be particularly important in an island economy such as that of New Zealand where access to local markets is especially critical. Indeed, a significant fraction of FDI in New Zealand seems to service the domestic market, including banking and finance, communications and media, automotive, insurance, retail wholesale distributors, industry and community services, construction and trade services, or to access New Zealand's natural resources (primary food production, food processing, oil, gas, minerals and electricity). Combined with a desire to tax rents earned by relatively immobile domestic capital, the opportunity to tax location specific rents provides an important qualification to arguments for low source-based taxes on capital income.

#### The Personal Income Tax Backstop Argument

The traditional rationale for a corporate income tax – independent of international considerations – is that it is essential to limit avoidance of the personal income tax; that is, in the absence of a corporate income tax, individuals could incorporate and defer personal income tax on labor income by retaining the earnings in corporate form while financing consumption with loans from their companies. Although commonly provided as a rationale for corporate taxation

of domestic companies, this argument extends to foreign companies to the extent that domestic individuals or firms can establish corporations that are nominally “foreign” (e.g., in a tax haven) and thus largely avoid domestic tax liability on their sheltered income (Gordon and Mackie-Mason, 1995; Gordon and Slemrod, 2000). In New Zealand, a top individual marginal tax rate of 39 percent<sup>19</sup>, relative to 30 percent tax rate on corporations (as well as on trust and portfolio investment entities), creates clear incentives for income shifting, and concern about increased income shifting due to the deviation from the traditional policy of rate alignment naturally permeates discussion of reducing the corporate statutory rate (New Zealand Inland Revenue Department, 2008).

A key factor in determining the importance of this argument is whether the labor earnings are likely to be exempt from individual level tax or taxed eventually when distributed to the owners of the corporation. In the latter case, the central issue is whether the combined tax burden due to current taxation at the statutory corporate income tax rate and eventual individual level taxation of capital income falls significantly below the tax rate applied to individual labor income. Retention in corporate form implies that tax will be deferred, but given the widespread availability of tax-deferred savings in most nominally “income tax” countries, this may not be a serious problem. For example, Griffith, Hines and Sorensen (2008) argue that rough neutrality between the taxation of labor income into capital income is achieved if the pattern of tax rates satisfies  $(1-t_c)(1-t_r) = (1-t_L)$ , where  $t_c$  is the statutory corporate tax rate,  $t_r$  is the individual

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<sup>19</sup> Effective tax rates at relatively low incomes can also be quite high, due to the phase out of various credits, such as the Working for Families Credit (New Zealand Inland Revenue Department, 2008) and indeed in some cases exceed 50 percent (New Zealand Treasury Department, 2008). The top statutory individual marginal tax rate is scheduled to decline to 37 percent in 2011.

level tax on capital income, and  $t_L$  is the top individual tax rate on labor income.<sup>20</sup> Of course, earnings retained in the corporate sector that are ultimately taxed as realized capital gains will benefit from deferral. If deemed desirable, this advantage can be negated by adjusting the taxation of realized capital gains on shares of closely held corporations to reflect the benefit of deferral, for example, by adopting the “retrospective capital gains taxation” technique proposed by Auerbach (1991).<sup>21</sup> Such taxation of capital gains effectively on an accrual basis might, however, be perceived as unusually harsh. Alternatively, income shifting can be reduced by placing limits on the extent to which investment income earned by closely held corporations is subject to reduced tax rates (New Zealand Inland Revenue Department, 2008).

On the other hand, if the labor earnings are effectively exempt from taxation – e.g., because capital gains are never taxed, even at death – then incorporation is an effective tax sheltering tool to the extent that the statutory corporate tax rate falls below the individual’s personal income tax rate. For example, in New Zealand, corporate income earned by trusts is exempt from further taxation, given current imputation rules, and a recent dramatic increase in the amount of imputation credits held by closely held companies suggests a sizable increase in sheltering activities by these companies (New Zealand Inland Revenue Department, 2008).

More generally, in the presence of a corporate income tax, the effectiveness of incorporation as a sheltering device depends on the differential between the corporate and

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<sup>20</sup> Of course, in the case of New Zealand, this argument would apply for retained earnings only if capital gains were made subject to tax as part of base broadening of the personal income tax (New Zealand Treasury Department, 2008), although the calculation of tax on such gains should in principle reflect adjustments for corporate taxes paid and inflation.

<sup>21</sup> Under this approach, the capital gains tax paid upon realization is increased to reflect the value of deferral, calculated using a risk-free rate of return, resulting in a system that is neutral with respect to realization decisions even though it does not involve any accrual taxation. This approach requires knowledge only of the investor’s marginal tax rate, the holding period, the sales price of the asset, the risk-free interest rate, and the final sales price; see Auerbach (1991). Alternatively, the same result can be achieved with the shareholder tax described by Sorensen (2005).

individual income tax rates and the extent to which the two tax systems are integrated. Specifically, more effective integration increases the attractiveness of incorporation as a tax shelter because it reduces the incorporation tax penalty that must be paid in the form of a separate corporate income tax. In addition, even with a fully integrated system, a corporate tax is likely to facilitate tax administration by serving as an effective tax withholding device.

Several factors limit the relevance of the backstop argument for a corporate income tax. First, the scope of the argument is limited as it applies only to self-employed individuals or the owners of closely held corporations. Second, the extent to which the corporate tax serves as an effective backstop to the personal income tax is unclear, given the relatively low income tax compliance of sole proprietors and small businesses in most countries.

Nevertheless, in the absence of a corporate income tax or the presence of a significant tax rate differential favoring the corporate tax, the potential for tax avoidance and evasion could be significant, implying serious equity and perception problems. This is especially true because Gordon and Slemrod (2000) suggest that the degree of income shifting between the corporate and individual tax bases, at least in the US, could be large – they estimate that a one percentage point reduction in the difference between the individual and corporate tax rates increases reported labor income by 3.4 percent.<sup>22</sup> In an analysis of a sample of 17 European countries, de Mooij and Nicodème (2008) estimate that between 12-21 percent of corporate income tax revenues in their sample reflect income shifting from the personal income tax base, and that a corporate rate reduction that would reduce corporate income tax revenues by one euro in the absence of income shifting will cost 76 eurocents in corporate revenues when increased income

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<sup>22</sup> Similarly, Goolsbee (2004) finds that an increase in the corporate income tax rate in the US decreases the corporate shares of sales, employment and the number of firms. Similar results are found in Europe by de Mooij and Nicodème (2008).



shifting is considered, a decline that is more than offset by reduced personal income tax collections. It is clear that the backstop argument provides a potentially important rationale for a company tax in New Zealand, and underlies its tradition of rate alignment.<sup>23</sup>

### The Role of Tax Avoidance Revisited

As discussed above, the relative ease with which multinational corporations can use financial accounting manipulations to shift income across jurisdictions provides a powerful additional argument for lower statutory corporate income tax rates. However, this argument must be qualified to the extent that possibilities for such tax avoidance by MNCs mitigate the otherwise negative effects on FDI of relatively high statutory and effective tax rates. Indeed, to the extent that such tax avoidance opportunities are available primarily to MNCs and such firms are relatively more mobile than domestic companies, a relatively high statutory rate may be desirable as an “optimal capital income tax” strategy that attracts FDI at minimal revenue cost by imposing a high tax burden on relatively immobile domestic capital but a low effective tax burden, taking into account tax avoidance activities, on relatively mobile international capital (Gugl and Zodrow, 2006). An aggressive version of this strategy would include lax enforcement of rules designed to limit tax avoidance by MNCs or even explicit regulations that facilitate such tax avoidance – the “new” variation of international tax competition stressed by Altshuler and Grubert (2006) discussed above.<sup>24</sup> Of course, the pursuance of such a strategy will

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<sup>23</sup> Note, however, that although the backstop argument provides a rationale for some business level tax, it does not necessarily require a corporate income tax. In particular, the backstop function could be served with a corporate cash flow tax assessed at the top individual rate, which would remove the incentives for conversion of labor income into corporate income, while taxing economic rents and exempting ordinary returns to capital (Hubbard, 2002; Zodrow and McLure, 1991; Zodrow, 2006).

<sup>24</sup> Indeed, Hong and Smart (2007) argue that tax havens should be “praised” for allowing this flexibility, which implies that FDI will be less sensitive to cross country tax rate differentials, thus allowing higher corporate tax rates in host countries to be welfare-increasing for their citizens. In contrast, Slemrod and Wilson (2006) that this is not the case when tax havens also facilitate sheltering of domestic labor income.

understandably be viewed as highly inequitable by domestic firms and may be difficult to maintain politically. Indeed, it will be interesting to see if recent rhetoric in the US regarding closing the income tax gap and reducing tax incentives for “exporting jobs” translates into increased efforts by the new administration to restrain tax avoidance activities and revise regulations that facilitate such avoidance.

### The Treasury Transfer Effect

An often-invoked rationale for imposing a relatively high tax burden on FDI in countries that import capital from capital exporting countries that tax their MNCs on a residence basis but allow credits for foreign taxes paid, including the US, the UK and Japan, is the “treasury transfer” effect. The essence of this argument is that, under certain circumstances, a host country that imports capital primarily from countries that grant foreign tax credits (FTCs) should raise its tax rate approximately equal to the rate utilized by those countries, since such a rate increase will essentially transfer revenues from the treasury of the home country to the treasury of the host country without having any deleterious effects on FDI. This results obtains because the rate increase in the host country is offset by foreign tax credits which reduce the final domestic tax liability of the MNC.

The prospect of such a “free” source of tax revenue is naturally appealing. However, in practice, the treasury transfer effect is often of limited relevance. Most obviously in the case of New Zealand, the US and UK are by a considerable margin secondary as a source of FDI to Australia, which operates a territorial corporate income tax system and thus does not grant any foreign tax credits to its multinationals.<sup>25</sup> But even apart from this consideration, several

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<sup>25</sup> Australia accounts for roughly half of FDI in New Zealand, with the shares of the US, the Netherlands and the UK ranging from 6-12 percent.

arguments suggest a limited role in practice for the treasury transfer effect. First, because of various limitations placed on the use of foreign tax credits, many US multinationals are in an “excess foreign tax credit” position – that is, they already have more credits than they can use currently, so that additional credits are of limited value.<sup>26</sup> Second, the treasury transfer effect may be illusory in many cases because host country taxes are assessed currently but foreign tax credits in the home country are not granted until the funds are repatriated to the parent firm. Indeed, some economic models suggest that, for investment financed with the retained earnings of the subsidiary, the home country repatriation tax is irrelevant to marginal investment decisions, as it represents only the deferred tax that would have been paid on the earnings from the original infusion of equity into the subsidiary by the parent firm had those funds been repatriated rather than reinvested (Hartman, 1985; Sinn, 1987); under this view, investments financed with retained earnings are affected only by host country taxes.<sup>27</sup> Together, these arguments suggest that the treasury transfer effect should play little if any role in the determination of company tax policy in New Zealand.

#### The Political Desirability of Business Taxation

Political realities may make some form of corporate income taxation inevitable, given popular demands to tax “rich” corporations owned by wealthy investors. In particular, the long history of company taxation in most countries suggests that taxing both domestic and foreign corporations may be indispensable from a political viewpoint, regardless of how compelling the

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<sup>26</sup> Moreover, the likelihood that a US firm is in an excess foreign tax credit position has been increased by (1) the use of tax avoidance techniques that effectively separate foreign taxes paid, which can be credited currently, from the associated foreign source income which can then be deferred – perhaps indefinitely provided that the multinational does not need to repatriate the funds back to the US – from US tax liability, and (2) the rules used by the US to allocate expenses to foreign source income; see Zodrow (2008b) for further discussion.

<sup>27</sup> This argument applies the logic of the “new view” of dividend taxation in an international context and is subject to the same criticisms; in particular, Grubert (1998) finds that repatriation flows are negatively related to repatriation taxes, a result that is consistent with the “traditional view” that such taxes do have an effect on investment behavior.

arguments against such taxation may be to economists (Bird, 1996). Similarly, political considerations may effectively place an upper limit on the amount of taxes that can be assessed on labor and consumption bases, so that a corporate income tax is required to meet revenue needs even if the tax is undesirable on economic grounds. In addition, source countries often assert a sovereign “right” to tax the income generated within their boundaries, beyond any royalties that are imposed on the extraction of natural resource (Musgrave, 2000). Finally, the corporate income tax is an excellent example of a “hidden tax,” one whose burden is not readily apparent. Although public choice theorists argue that hidden taxes are especially undesirable because they promote overexpansion of the public sector, from a political standpoint, hidden taxes are extremely attractive as they allow politicians to claim credit for highly visible public services while effectively disguising their costs.

Nevertheless, in New Zealand as elsewhere around the globe, the political arguments favoring relatively high corporate income taxation are increasingly offset in public discussion of tax policy by the specter of increasing globalization and international tax competition. Accordingly, it is far from clear that political considerations present an insurmountable obstacle to reductions in corporate income taxation, although they are likely to preclude the elimination of the company tax.

#### **IV. EVALUATION OF SPECIFIC COMPANY TAX REFORM OPTIONS**

The discussion thus far demonstrates clearly that setting company tax policy in a small open economy is an exceedingly difficult task, and that no single tax structure will simultaneously deal with all the issues discussed above. In particular, following the prescription of eliminating source-based capital income taxation is not appealing, given that (1) the supply of capital is not perfectly elastic, at least in the short run, (2) the desire to tax location specific

economic rents earned in the economy, especially those that accrue to foreigners, (3) the company tax serves as a backstop to the personal income tax, and (4) the potential political costs associated with such a policy. At the same time, adherence to traditional arguments for a corporate income tax applied uniformly to domestic and foreign corporations with a rate equal to the top rate under the personal income tax (with the two systems presumably integrated to at least some extent) is not an appealing option either, given (1) the likelihood that a (perhaps significant) fraction of the burden of the corporate income tax, including a wide variety of the efficiency costs, will be borne by domestic factors in any case, (2) the specter of international tax competition, especially in the form of declining statutory company tax rates, for highly mobile capital, including investments that generate highly prized firm specific economic rents, and (3) the potential for tax avoidance attributable to income shifting by multinationals. Accordingly, it is not surprising that countries instead attempt to strike a balance between these various competing forces, that the balance struck differs across countries, depending on their individual circumstances, and that this balance is continually being reconsidered especially in light of the economic forces associated with increasing globalization and a more highly integrated global economy. For example, while noting that numerous arguments suggest that corporate tax rates will not follow a “race to the bottom” of a zero rate, the New Zealand Treasury Department (2008) argues that competition for mobile capital is likely to put downward pressure on corporate tax rates – and that the tax rate in Australia, currently under review by the government, is naturally a critical benchmark. Within the context of striking such a balance between exemption and full taxation of mobile international capital, a wide variety of company tax reform options might be considered in any small open economy. The following discussion focuses on several of these options, beginning with several revenue neutral base broadening approaches and then

turning to options that would reduce the overall amount of revenue obtained from capital income taxation.

### **Revenue Neutral Base Broadening and Rate Reducing Income Tax Reform**

The traditional arguments supporting income tax reform in the direction of broadening the base by eliminating tax preferences and other deviations from the accurate measurement of real economic income and using the resulting revenues to reduce statutory tax rates for both domestic and foreign firms are largely strengthened by the international taxation considerations discussed above. Base broadening, rate reducing corporate income tax reforms are in general desirable because they reduce the efficiency costs associated with tax distortions across assets and business sectors (unless such “distortions” are desirable to offset important externalities) as well as distortions of the choice of organizational form, method of finance, and payout policies, simplify tax administration and compliance, and eliminate both the perception and the reality of inequitable government favoritism toward certain industries. Although New Zealand has historically been known for its extremely broad tax bases (with the exception of the exemption of capital gains at the individual level), tax preferences, including accelerated depreciation and research and development tax credits, have been creeping into the system to a growing extent, so that there is some limited scope for a base broadening, rate reducing reform (New Zealand Inland Revenue Department, 2008; New Zealand Treasury Department, 2008).

These standard arguments are significantly reinforced if one considers the possibilities for international tax avoidance, as a lower statutory rate reduces incentives for multinationals to shift revenues out of, and deductions into, a taxing jurisdiction. Lower statutory corporate income tax rates are also likely to be effective in attracting foreign direct investments that generate firm specific economic rents by lowering the average effective tax rate applied to such

rents. The combination of lower rates and eliminating tax preferences, however, is not likely to reduce effective marginal tax rates on average to any significant extent and thus will not increase the equilibrium level of investment at the margin.

Several objections are commonly raised to the base broadening, rate reducing approach to company income tax reform. A standard criticism is that reductions in statutory rates are very costly in terms of revenue relative to the additional investment incentives they generate because lower rates apply to the income earned by existing capital. A closely related point is that reductions in statutory rates financed with base broadening reduce the taxation of both domestic and foreign investments that earn location specific rents or are otherwise immobile. Finally, to the extent that a lower statutory corporate income tax rate creates or increases a rate differential between personal and corporate income tax rates, it exacerbates incentives for tax avoidance in the form of shifting income from the personal tax base to the corporate tax base (Gordon and Slemrod, 2000).

Although these arguments have some validity, each must be qualified. There is no question that a corporate tax rate reduction benefits existing investments and results in lower taxation of location specific economic rents. However, as suggested above, the “bang for the buck” from rate reduction may not be as small as is sometimes envisioned, because it may stimulate investments that generate firm specific economic rents. In addition, in some cases increases in alternative revenue instruments, such as production based taxes in the case of resource rents, can be used to maintain the taxation of location specific rents. Assuming that base broadening efforts are designed to result in a tax base that measures real economic income

as closely as possible,<sup>28</sup> the base broadening, rate reducing approach has the important advantage of creating a tax system that is based on solid economic principles and is hopefully more stable than one based on granting tax preferences that are often as much or more politically than economically motivated. Finally, if rate reduction is perceived to result in an unacceptable level of benefit to existing investments, that tax reform-induced benefit could be eliminated with appropriately designed transitional taxes, such as the “windfall recapture tax” that was proposed, but ultimately not enacted, to deal with this issue under the large rate reductions enacted in the US Tax Reform Act of 1986.<sup>29</sup>

A corporate tax rate reduction that widens the differential between the top personal tax rate and the corporate rate does encourage income shifting from the personal tax base to the corporate tax base, and recent empirical work suggests that the magnitude of this effect may be significant. However, the importance of this effect depends on the extent to which tax administration and enforcement – including new provisions if deemed necessary in the face of an increasing differential – are effective in limiting opportunities for such income shifting. The importance of such income shifting also depends on the extent to which it results only in deferral, rather than complete exemption, of individual level taxation on the shifted income – e.g., because the shifted income is eventually distributed as taxable dividends, capital gains or

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<sup>28</sup> A separate issue is whether the measurement of income should be adjusted for inflation, as described in Thuronyi (2000). As long as the inflation rates are relatively low and fairly stable, the complexity of a comprehensive system of inflation adjustment can be avoided (although at the cost of some additional complexity in the treatment of asset sales) with ad hoc adjustments such as appropriately accelerated depreciation allowances (or partial expensing) and LIFO inventory accounting.

<sup>29</sup> The proposed windfall recapture tax would have calculated the deferred income due to accelerated depreciation deductions (defined as those in excess of the deductions allowed under the “earnings and profits” accounting method) taken prior to the enactment of reform and effectively taxed that income at the pre-reform tax rate; see Zodrow (1988).



wages.<sup>30</sup> Finally, it is important to note that the alternative of sector or industry-specific investment incentives also creates numerous opportunities for tax evasion and avoidance that are illuminated with a base broadening, rate reducing reform. In particular, highly accelerated depreciation allowances and other investment incentives increase the returns to various schemes designed to disguise personal expenditures as deductible business expenses, and any type of preferential tax treatment creates obvious incentives to reclassify investments to the tax preferred categories.

On balance, the traditional base broadening, rate reducing approach to company tax reform has considerable appeal. Note that the same logic applies to the personal income tax. In particular, given the relatively high mobility of labor in New Zealand, including highly skilled labor,<sup>31</sup> low marginal tax rates on labor income are highly desirable as well, and a substitution of labor taxes for capital taxes is less desirable than it would be if labor mobility were lower (New Zealand Inland Revenue Department, 2008; New Zealand Treasury Department, 2008).

### **Further Rate Reductions under an Income Tax Reform**

If the corporate income tax rate reduction that can be achieved with (politically feasible) base broadening is deemed to be insufficient, several other approaches can be utilized within the context of an income tax.

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<sup>30</sup> This issue is discussed further below.

<sup>31</sup> Indeed, the New Zealand Treasury Department (2008) argues that New Zealand probably has the most mobile labor force of all the countries in the OECD, noting that approximately one quarter of skilled New Zealanders live abroad, with trans-Tasman migration a particularly important phenomenon.

## The Comprehensive Business Income Tax

The Comprehensive Business Income Tax (CBIT) was proposed by the US Treasury (1992) as a means of integrating the corporate and personal income taxes in the US.<sup>32</sup> The CBIT further broadens the base of the corporate income tax – beyond the extent typically associated with a traditional classical income tax – by disallowing deductions for interest expense. In addition, under a fully integrated system, individual level taxation of capital income is needed only to the extent of differences in corporate and individual tax rates (the rate under the CBIT as proposed in the US would have approximated the top individual tax rate), and the extent to which the taxation of capital gains in excess of those attributable to retained earnings is deemed desirable. Thus, for debt financed investment, the CBIT effectively shifts the locus of taxation from the holder of the debt to the corporation. Since much interest income typically escapes taxation at the level of the bondholder, a CBIT would likely raise revenue and allow further rate reduction – estimated to be roughly three percentage points in the case of the US – although in general this depends on whether the revenue increase due to the elimination of interest deductibility is offset by the revenue decline due to reduced taxation of capital income at the individual level (and any changes in the taxation of foreign shareholders). Since both interest and dividends are treated uniformly – that is, they are not deductible and are thus taxed at the corporate level – the tax bias favoring debt finance under the typical income tax is eliminated.

The effect of a revenue neutral CBIT on effective marginal tax rates would depend on the net effect of a reduction in the tax burden on equity financed investment (assuming that the statutory rate declines) and the increase in the tax burden on debt financed investment, which would now all be assessed at the business level, raising the source-based tax on debt-financed

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<sup>32</sup> The proposed CBIT would have also applied to unincorporated businesses.

foreign direct investment. Such relatively harsh treatment of debt would likely reduce the level of debt-financed investment, especially by multinationals – unless multinationals responded by keeping their investment level largely unchanged while reallocating their debt to other countries where full interest deductibility was allowed. The statutory rate reduction obtained under a CBIT would moderately reduce incentives for income shifting, as well as the level of taxation of economic rents. The CBIT is thus more attractive to countries attempting to attract multinationals with investments that generate firm specific rents, than to countries focused on taxing location specific rents earned by both domestic firms and multinationals.

In addition, note that since the CBIT disallows deductions for interest expense, it would raise the same foreign tax creditability issues that plague cash flow taxes (e.g., the Flat Tax and the X-Tax) with the same feature. The combination of an increase in the effective marginal tax rate applied at the business level to debt-financed foreign direct investment (and the transition problems that would cause for highly leveraged firms) plus the lack of foreign tax creditability would seem to make the CBIT an unattractive option for most small open economies.

#### Increasing the Individual-Level Share of the Taxation of Capital Income

From the perspective of attracting foreign direct investment that earns either normal returns or firm specific rents, the CBIT has the disadvantage of increasing the share of the tax burden on capital income that is borne at the corporate rather than the individual level.<sup>33</sup> Altshuler and Grubert (2008) stress that shifting the mix of capital income taxation from the corporation to the individual level, while largely irrelevant in a closed economy (apart from administrative considerations), is desirable as globalization and capital mobility increase. For example, additional corporate income tax rate reduction could be effected by shifting the point at

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<sup>33</sup> Of course, this is an advantage from the perspective of effectively collecting revenue on domestic investment.

which tax burden is imposed from the company level to the individual level in the form of a higher rate or more comprehensive taxation of dividends, capital gains (discussed further below) and interest income at the individual level for domestic investors. Such an approach could keep the combined capital income tax burden on domestic investors roughly constant, especially if the company and personal tax systems are largely integrated,<sup>34</sup> while applying a lower statutory rate to the income (including firm specific economic rents) earned by highly mobile international capital, while reducing incentives for international tax avoidance.

### **Corporate Rate Reduction with Increases in Labor or Consumption Taxation**

Although such base broadening, rate reducing approaches to corporate income tax reform can be used to lower the statutory company tax rate somewhat, that rate would still likely be relatively high after such a reform, and the associated effects on effective marginal tax rates applied to capital income would be relatively small (under the reasonable assumption that any tax preferences eliminated had some impact in terms of reducing the cost of capital for the preferred investments). Accordingly, further reductions in the corporate statutory rate, financed with increases in the taxation of labor income or consumption rather than tax changes that increase the burden on capital income, may be desirable, especially for countries that are focused on attracting foreign direct investment, including investments that generate firm specific economic rents, and concerned about revenue losses due to income shifting by foreign multinationals. Indeed, both the New Zealand Inland Revenue Department (2008) and the New Zealand Treasury Department (2008) suggest that moving toward increased reliance on consumption-based taxes may be desirable – partly on the grounds that corporate income taxes

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<sup>34</sup> See US Department of the Treasury (1992), Hubbard (2005) and Head (2009) for discussions of alternative means of achieving corporate-individual tax integration.

are more harmful than consumption-based taxes to economic growth (OECD, 2008); in addition, the Treasury stresses that limited use of payroll taxes in New Zealand implies that the tax burden on capital income is relatively high in comparison to other OECD countries.<sup>35</sup>

Such an approach could be implemented simply by decreasing income tax rates and increasing tax rates applied to consumption, e.g., under a value-added tax. Such a tax substitution, however, is often deemed to be undesirable on distributional grounds. In this case, an alternative approach is to reduce the taxation of capital income relative to the taxation of labor income. Such an approach clearly deviates from traditional arguments for comprehensive income taxation of all capital and labor income at the same rate. However, as discussed above, the application of a lower rate to capital income than that applied to labor income may be desirable for a wide variety of reasons, especially in an environment characterized by increasing international capital mobility, international tax competition, and international tax avoidance. That is, in general there is no particular reason to believe that the optimal balance between labor and capital income taxation necessarily prescribes equal tax rates for both types of income, and the arguments for relatively lower rates on capital income typically found in the optimal income taxation literature are augmented by international taxation considerations (Sorensen, 2005; Auerbach, 2008a,b).

However, applying lower income tax rates to capital income naturally creates incentives for the conversion of labor income into capital income. As discussed above, lower rates for capital income may simply be accompanied by a variety of administrative measures designed to limit the conversion of labor income to more lightly taxed capital income. An alternative and

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<sup>35</sup> Both institutions also recommend increased reliance on property taxation. The desirability of such an approach depends on the relative efficiency of the property tax, which is a subject of considerable debate; for recent discussions of this issue, see Zodrow (2001) and Fischel (2001).

more systematic approach, which attempts to limit the conversion of labor income into capital income through the use of special imputation rules, is the “dual income tax” (DIT) pioneered in the late 1980s and early 1990s by the Nordic countries, and adopted more recently in numerous other settings (Genser and Reutter, 2007).

Since the dual income tax is addressed at length in the paper by Sorensen at this conference, the following discussion will be brief. Under a “pure” dual income tax,<sup>36</sup> all capital income is taxed at a single proportional rate at either the business or individual levels (equal to the minimum non-zero tax rate applied to labor income), while labor income is taxed at progressive rates under the individual income tax. Dividends are excluded from the individual capital income tax base, while capital gains are taxed at the individual level on a realization basis but with shareholders allowed to write up their basis by net retained earnings. Capital income taxes are collected via withholding at source, which in the simplest version of the tax (which does not allow capital loss offsets against labor income or apply personal exemptions or standard deductions against capital income) represents a final tax. In principle, full tax withholding could be extended to foreigners, but in practice this is very limited, for the same reasons as noted above in the discussion of the CBIT. Profits of proprietorships and closely-held companies are split into a capital income component, typically calculated by applying a presumptive rate of return to the firm’s capital, which is taxed at the proportional rate on capital income, and a labor income component, which equals the residual profit and is taxed at progressive rates under the personal income tax.

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<sup>36</sup> This definition follows Cnossen (2000); see also Sorensen (1994) and Nielsen and Sorensen. Of course, in practice, actual dual income taxes differ to varying degrees from this ideal version.

The structure of the dual income tax is clearly designed to strike a balance between the standard small open economy argument for low tax rates on capital income, including firm specific rents, supplemented by concerns regarding the implications of international tax avoidance, and the opposing arguments for taxing capital income at relatively high rates to capture location specific economic rents earned by both multinationals and relatively immobile domestic firms, while maintaining a backstop to the personal income tax.

The primary problem with the dual income tax approach – its “Achilles heel” according to Sorensen (2005) – is that despite the imputation method used to split capital income described above, in practice considerable income shifting by the owners of closely held companies still occurs.<sup>37</sup> In addition, as mentioned above, in response to intense tax competition with respect to the taxation of interest income, in practice DIT countries impose at most partial withholding taxes at source on interest payments. Note, however, that to the extent interest income is taxed at source under a DIT, its treatment of debt is relatively harsh (compared to the typical treatment of full deductibility and limited if any withholding), discouraging multinationals from allocating debt to any country that has adopted a DIT.

In summary, by largely separating the taxation of capital income from the progressive income taxation of labor income, the dual income tax approach provides a mechanism for dealing with the many tensions faced by tax policy makers in a small open economy described above. The dual income tax approach will not satisfy those who, following the Schanz-Haig-Simons tradition, insist on taxing all income comprehensively under the same rate structure. Nor does it completely eliminate income taxation of highly mobile capital, as is desirable under the

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<sup>37</sup> Devereux and Sorensen (2006) note that Norway has attempted to remedy this problem (for “active” shareholders in a closely held company) by replacing the income splitting approach with a shareholder tax that results in taxation of returns in excess of a normal rate of return (termed the rate-of-return allowance) at individual rates.

“zero tax” scenario. Nevertheless, the dual income tax represents a reasonable approach to balancing the offsetting tensions that characterize today’s fiscal landscape, and deserves serious consideration by governments who are attempting to design capital income tax policy in the face of increasing international capital mobility, international tax competition, and international tax avoidance.

### **Consumption-Based Business Taxes and Consumption Tax Reforms**

As discussed above, one response to the forces of increasing globalization has been to reduce business level taxes as much as possible in order to attract foreign direct investment (including investments earning firm specific rents) and minimize business income shifting opportunities, and concentrate the taxation of capital income at the individual level.<sup>38</sup> Implementation of a dual income tax would reduce the taxation of capital income at the individual level as well. A natural question, especially in light of the desire to stimulate domestic saving in New Zealand to reduce persistent current account deficits and reliance on potentially unstable mobile foreign capital, is whether it would be desirable to eliminate the taxation of the normal returns to capital by adopting a more radical and certainly more controversial reform – implementing direct taxation on the basis of consumption rather than income.

Many consumption-based direct taxes have been proposed in recent years.<sup>39</sup> In general terms, under a consumption-based approach, a business level tax would apply an effective tax

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<sup>38</sup> The same reasoning played a role in the development of the recent Norwegian reform, noted above, that provides a rate of return allowance at the personal level to shareholders rather than at the business level as under the conventional “allowance for corporate equity” (ACE) tax discussed below (Sorensen, 2005).

<sup>39</sup> These include the Flat Tax proposed by Hall and Rabushka (1983, 1995) and its X-Tax variant as designed by Bradford (1986, 2003), the “cash flow income tax” proposed by Aaron and Galper (1985) and its close relative the “Unlimited Savings Allowance” or USA Tax (see Wiedenbaum, 1995), the “hybrid consumption tax” proposed by McLure and Zodrow (1996a, b), the “allowance for corporate equity” or ACE tax adopted temporarily in Croatia (Institute for Fiscal Studies, 1991; Rose and Wiswesser, 1998; Keen and King, 2002), and a tax on net corporate distributions, adopted in Estonia.



rate of zero to the normal returns earned by marginal investments while taxing above normal returns or economic rents at the statutory tax. Under most plans, this would be achieved by subjecting businesses to a cash flow tax that would allow immediate expensing of all investment purchases and either disallow deductions for interest expense or tax loans on a cash flow basis (with loan proceeds taxed and both interest and principal repayments deductible). However, under the alternative “Allowance for Corporate Equity” (ACE) approach,” firms would continue to get deductions for depreciation and interest expense, and would be allowed an additional deduction for equity financed investment – equal to the product of the book value of equity capital and a fixed rate of return – analogous to the deductions for interest expense allowed for debt-financed investment under the income tax. Such an approach is often argued to be especially attractive in an open economy context, as it exempts normal returns to capital (an effective marginal tax rate of zero), consistent with the “zero tax” argument made above in the context of perfectly mobile international capital, while taxing immobile location-specific rents (but of course mobile firm specific rents as well) at a relatively high statutory rate. Capital income at the individual level would either be exempt or subject to consumption-based cash flow taxation as well – in the latter case with deductions for saving and taxation of all withdrawals (that is, the same treatment provided to much retirement savings under many tax systems that are nominally described as income taxes).

There is of course a huge literature on the relative advantages of income and consumption taxation (developed largely in the context of closed economies), which can only be very quickly summarized here.<sup>40</sup> In brief, proponents of consumption-based taxes make the following

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<sup>40</sup> For recent discussions see Auerbach (2008), Banks and Diamond (2008), and Zodrow (2007), as well as the articles in Zodrow and Mieszkowski (2002), Aaron, Burman and Gale (2007), and Diamond and Zodrow (2008).

arguments – all of which have of course been challenged by proponents of traditional income taxation. On efficiency grounds, consumption tax advocates argue that by eliminating the income tax distortion of consumption-saving decisions as well as distortions of the level, allocation and financing of investment by applying a marginal effective tax rate of zero to both debt-financed and equity-financed investment income (as well as distortions regarding the distribution of earnings), a broad-based low-rate consumption tax would result in large increases in saving and investment, labor supply, output, and economic welfare; this contention has been supported by some dynamic computational general equilibrium simulation models (Altig, Auerbach, Kotlikoff, Smetters and Walliser, 2001; Diamond and Zodrow, 2008), although the results are sensitive to a wide variety of assumptions, including the choices of various key parameter values, the specific structure of the consumption tax being analyzed, and the transition rules that are utilized (Gravelle, 2002, 2008). Moreover, in an open economy, the efficiency gains from implementing a consumption tax would be larger than in a closed economy setting to the extent that the reform raised net rates of return to investment, as would typically be the case (Ballard, 2002), although this effect might be reversed if debt financed investment were sufficiently important, given the generous treatment of such investment under the typical income tax (Gravelle, 2008).

On equity grounds, consumption tax advocates argue that the tax is fairer because, unlike the income tax, it does not discriminate against individuals who save and earn capital income. Because of widespread concerns regarding the equity properties of consumption taxation, its proponents stress that consumption taxes are less regressive when viewed in a lifetime incidence context; they also note that the progressivity of current income taxes could, on average, be roughly replicated with progressive rates under the individual components of the tax.

On simplicity grounds, advocates of consumption tax reforms stress that such taxes are inherently simpler than income taxes. Under the cash flow approach, accrual accounting is replaced with cash flow accounting so that thorny timing issues, such as inflation adjustment and accounting for depreciation, inventories and capital gains, disappear. Under the ACE approach, the importance of deductions for depreciation and inflation adjustment is greatly reduced because errors in measuring these items are canceled in present value terms by offsetting adjustments that occur automatically in the calculation of the deduction for equity.

From the perspective of a small open economy, a consumption-based tax has the advantage of applying an effective marginal tax rate of zero to the normal returns earned by both foreign and domestic investment while taxing location specific economic rents at the statutory rate – which under most plans would be set equal to the maximum individual tax rate on labor income. In addition, alignment of the business level tax rate and the top individual rate implies that a consumption tax acts as an effective backstop to individual level taxation of labor income. The business tax under a consumption tax also satisfies at least partially the political need for such a tax.

At the same time, however, several factors suggest that implementing a consumption-based tax may not be appropriate for a small open economy attempting to attract investment in the world economy. A consumption-based tax naturally also taxes firm specific economic rents at the statutory rate, and thus may discourage relatively mobile investments that generate such rents, especially if the statutory rate is kept high in order to collect significant revenues from both domestic and international investments that earn location specific economic rents and to make up for the loss of revenue that occurs with the tax exemption of normal returns to immobile investments. Similarly, a relatively high statutory tax rate under the business component of a

consumption tax will create incentives for tax avoidance in the form of income shifting by multinationals, resulting in a potentially significant negative effect on tax revenues. It should also be noted, however, that under certain forms of consumption-based taxation interest deductions are not allowed, in which case businesses would face a large incentive to allocate debt to income tax jurisdictions where interest was deductible, thus mitigating the effect of a relatively high cash flow tax rate.

Several other issues associated with implementing a consumption tax are problematical. Since normal returns are not subject to the business tax, some (probably relatively small) amount of revenues that might be obtained via the treasury transfer effect would be foregone. Moreover, it seems clear, that the US, and perhaps other countries that grant foreign tax credits, would not allow credibility for a cash flow business tax, despite arguments that creditability would be appropriate (McLure and Zodrow, 1988).<sup>41</sup> Consumption-based taxes are not immune to tax avoidance manipulations, especially in a world where one's trading partners continue to use the income tax (Bankman and Schler, 2007). Finally, the transition problems associated with implementing a consumption tax – including the need to renegotiate existing treaties with income tax countries – would be formidable (Gravelle, 2002), although a variety of factors act to mitigate some of these problems (Zodrow, 2002).

This discussion suggests that, although consumption-based direct taxation has many advantages, there are also a number of reasons why caution would be advisable, and why the desirability of such reform in a given country would depend on its specific circumstances.

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<sup>41</sup> Note, however, the US has agreed to allow creditability for a portion of the Italian IRAP (Imposta Regionale sulle Attività Produttive), a type of origin-based value-added tax that is quite similar to a cash flow business tax with no deductions for labor compensation; roughly speaking, the creditable portion is the value-added tax base less compensation and interest payments (Adelchi Rossi, 2002).

Moreover, if a country is seriously contemplating a move towards consumption-based direct taxation, the discussion above also suggests that serious consideration should be given to the ACE approach to such a tax. Because the ACE approach is closer to an income tax in structure than any of the cash flow tax options – it basically adds a generous investment incentive to an income tax in the form of the additional deduction for corporate equity, while continuing to allow deductions for depreciation and interest expense – it would involve fewer transitional issues and would not be perceived as a radical departure from income tax, as would any of the cash flow based consumption tax options. Moreover, for essentially the same reasons, the US has not questioned the credibility of the ACE tax, for example, when it was enacted briefly in Croatia (Rose and Wiswesser, 1998; Zodrow, 2003). The investment stimulus and efficiency gains associated with adopting an ACE would of course be enhanced if the equity deduction were not granted to existing capital; indeed, Griffith, Hines and Sorensen (2008) propose such an approach, and show that the potential problem of firms liquidating and reforming to take advantage of the new equity deduction is limited as long as asset sales are treated as fully taxable.

The ACE approach does not have the apparent simplicity advantages of allowing expensing rather than deductions for economic depreciation. However, the practical benefits of allowing expensing for tax purposes are limited, given that firms will still have to determine depreciation deductions for financial accounting purposes. A related point is that the ACE approach also avoids some problems peculiar to allowing expensing under the cash flow approach, including increasing the gains to various tax avoidance schemes and creating new avoidance opportunities (especially in the international arena), and increasing the likelihood of negative business tax bases and the problems they engender (McLure and Zodrow, 1995).

Moreover, in a variant of his X-Tax, Bradford (2004) argues that an approach similar to that under an ACE tax is in fact a highly desirable way to implement a consumption tax, as it reduces transition problems and eliminates the potential distortions of investment timing decisions that arise under strict cash flow accounting when future tax rate changes are anticipated. The ACE approach – like the cash flow options but in contrast to the income tax – has the advantage that inflation adjustment of depreciation allowances is unnecessary as any understatement of such allowances is exactly offset in present value terms by a higher value for the equity deduction; indeed, this argument applies to all mismeasurement of depreciation allowances since, as with the expensing option under the cash flow approaches, the present value of the deductions allowed – for depreciation and the equity deduction – equals the purchase price of the asset.

The determination of the imputed rate of return on equity would of course be difficult under the ACE tax, and its neutrality properties would not obtain unless that rate were determined accurately. (The same issue arises in the determination of the carryforward interest rate for negative cash flows under the various cash flow options.) Griffith, Hines and Sorensen (2008) conclude that the appropriate rate would be the risk free rate plus an “average” risk premium to reflect the possibility that any losses might not be recovered in full; since the appropriate risk premium will differ across firms but administrative realities imply that a single rate will be used, some distortions of investment decisions will arise. In addition, because the statutory tax rate under an ACE tax would likely be relatively high, it cannot avoid the problems of taxing firm specific economic rents, creating incentives for income shifting by multinationals, and perhaps losing some revenue by forgoing the treasury transfer effect. But no tax is perfect, and the ACE tax achieves all the benefits of consumption-based taxation outlined above. In particular, it might be an attractive business tax reform option in a country – like New Zealand –

that can be characterized as a relatively small open economy, has a significant fraction of investments that earn location specific economic rents, and wishes to increase domestic saving by eliminating income taxation of the normal return to saving.

Finally, the argument made by Altshuler and Grubert (2008) discussed above – that concerns regarding globalization and international capital mobility suggest that the taxation of capital income should be concentrated at the individual rather than the corporate level – can be applied in this case as well, with the same advantages and disadvantages. Specifically, if some taxation of capital income were deemed desirable, consumption-based taxation could be applied at the business level, coupled with individual level taxation of capital income. Such an approach results in a hybrid system that has the advantages of consumption-based taxation of the business level, while retaining some taxation of capital income, to satisfy distributional concerns or to reflect a policy response to arguments implying that the optimal tax rate on capital income, while lower than that applied to labor income, is nevertheless not zero (Auerbach, 2008a, b; Zodrow, 2007). Indeed, the “Growth and Investment Tax” proposed by the President’s Advisory Panel on Federal Tax Reform (2005) in the US consisted of a consumption-based business level tax that allowed immediate expensing of all business-related purchases (while ignoring loans), coupled with taxation of dividends and capital gains at a flat rate of 15%. Similarly, the reform proposed for the UK by Griffith, Hines and Sorensen (2008) consisted of an ACE Tax at the business level, similarly coupled with individual level taxation of dividends and capital gains.

## **V. CONCLUSION**

This paper argues that any moderately small open economy operates in an environment characterized by increasing international capital mobility, international tax competition, and international tax avoidance. Although one can construct theoretical arguments with policy

prescriptions that range from zero taxation of capital income to full taxation of capital income and a rate equal to the top individual rate applied to labor income, in practice neither of these extreme solutions is likely to be desirable. Instead, policies on the taxation of capital income will depend on specific circumstances – with the primary factors being the extent to which the supply of international capital is highly elastic, the relative importance of firm specific and location specific economic rents, and the extent to which income shifting, including by multinational corporations and between the personal and company tax bases, is a problem that cannot be resolved with regulations designed to limit such shifting. In general, the traditional arguments for base broadening and rate reduction are strengthened by international considerations, which also imply that taxation of capital income at rates lower than those applied to labor income is likely to be desirable, with the dual income tax being one potential way to achieve such differentiation. Finally, although there are many advantages to direct taxation on the basis of consumption, there are also many problems associated with implementing such a reform. On balance, in the current environment, if a consumption-based approach is deemed desirable, the ACE approach is the most feasible of the many available consumption-based business tax options; moreover, it could in principle be accompanied by individual level income taxation of dividends and capital gains, if a full implementation of a consumption tax were deemed undesirable.



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