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Corporations and Taxation A Largely Private Matter?

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Corporations may be “public” (widely held) or “private” (closely held). As has long been recognized in the industrial organization literature, beginning with Berle and Means (1932), the performance of widely held corporations may differ from that of those that are closely held for a variety of reasons (see, e.g., Jensen and Meckling 1976; and Demsetz 1983). Private corporations may be governed better than public firms since managers in public firms have greater incentives to “shirk” by enjoying nonpecuniary benefits (Williamson 1978), or controlling shareholders of public firms may make decisions that have negative consequences for new shareholders after an initial public offering (Bebchuk and Zingales, chap. 2 in this volume). On the other hand, owners of private businesses may be less willing to take on risk (owing to a lack of opportunities to diversify risk) or might face constraints in raising equity finance.

The purpose of this paper is to examine how taxation can influence businesses’ choice between private and public status. In section 4.1, we begin with a review of the primary differences between U.S. and Canadian tax systems that might influence the extent to which corporations might be privately held. Our review suggests that the Canadian tax system may

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provide some inducement for corporations to be kept private. This arises from special favorable treatment given to certain private corporations, in particular, lower corporate income taxes on active business income retained in the corporation and a special capital gains tax exemption. U.S. tax law also encourages individuals to sell shares more readily than Canadian tax law does, and the Canadian exemption for intercorporate dividends, along with a less restrictive approach to the use of nonvoting shares, may create more complex corporate structures, allowing private companies to control public ones.

Then, in section 4.2, we examine a simple model to simulate the decision of entrepreneurs to go public. On the one hand, private ownership avoids any agency costs that arise by going public but may result in businesses failing to undertake sufficient investment owing to insufficient internal resources. On the other hand, a public offering of the firm can create opportunities to obtain capital at a cheaper price, although there may be an agency cost that is incurred since outside investors do not have full information to control the effort and risk-taking decisions of entrepreneurs. With this model, we can show that lower taxes on the return to investment in private firms, compared to the return on investment for public firms, encourage greater numbers of privately held companies. On the other hand, income and wealth taxes on entrepreneurs that reduce their ability to fund investments internally may encourage greater public offerings of businesses.

In section 4.3, we provide a simulation of the theoretical model described in section 4.2. We then review the data and find that there tends to be a much greater share of Canadian corporate wealth held in private companies in Canada than in the United States. This would be consistent with our simulation.

4.1 Canadian and U.S. Treatment of Private and Public Companies

In this section, we review a number of special features of the Canadian tax system, consider how these may influence the behavior of Canadian entrepreneurs and corporate shareholders, and contrast this with the corresponding tax treatment in the United States, with 1997 as the reference year. We then discuss whether—and how—particular Canadian tax issues may influence growing Canadian companies to remain private perhaps to a greater extent than they do in the United States. Comparisons of the size of the private corporate sectors in Canada and the United States are provided in the following section.

4.1.1 Canada Has Highly Progressive Personal Rates

The tax issues relating to corporate operations and ownership must be understood in the context of the overall tax system, including that affect-

ing individuals. The average top rate of personal income tax—combined federal and provincial—in Canada is about 51 percent, in comparison to an average federal and state level of 43–44 percent in the United States. But the significant difference in Canada is that the Canadian rate structure is much more progressive at moderate income levels: these top rates are reached in Canada at a level of income of approximately U.S.\$43,000, in contrast to an income level of over U.S.\$250,000 for the top rate in the United States.

As a generalization, it would be somewhat more difficult in Canada than in the United States for investors to accumulate capital in the absence of certain provisions, reviewed below.

4.1.2 General Features of the Taxation of Business Income

In considering the tax position of smaller business enterprises, the following general features of the Canadian tax system are relevant (within each case, the corresponding position in the United States is noted).¹

Dividend Tax Credit

Individual shareholders receiving dividends from Canadian corporations are entitled to the equivalent of a 25 percent dividend tax credit. The mechanics of this, which involve an integrated approach under federal and provincial tax regimes, require the amount of the dividends being “grossed up” by 25 percent for inclusion in the individual’s taxable income, but with the individual receiving a dividend tax credit roughly equivalent to 20 percent of the amount of the grossed-up dividends. This effectively reduces the tax rate payable by individuals on Canadian dividend income, with the top personal tax rate falling to about 35 percent (combined federal and provincial tax) on such income, instead of the normal combined 51 percent. The gross up and the dividend tax credit are applied to essentially all dividends from taxable Canadian corporations and are not related to the actual corporate taxes paid by the corporation.

As noted below, the dividend tax credit has the effect of largely eliminating the double taxation of certain corporate source income received by Canadian-controlled private corporations and flowed out to their Canadian individual shareholders as dividends but serves as only a partial offset to the corporate tax paid when such dividends are paid out of fully taxed income by other Canadian companies (such as public companies). In the United States, in contrast, dividends are not subject to special treatment when received by individual taxpayers and bear full personal tax with no relief for the corporate tax on the income out of which they are distributed.

1. In this section, all dollar amounts given with respect to the Canadian tax system are in Canadian dollars except where otherwise noted, while amounts relating to the U.S. tax system are in U.S. dollars. At the time of writing, the exchange value of the Canadian dollar was approximately U.S.\$0.70.

As discussed later, U.S. entrepreneurs do have the availability of subchapter S elections and limited-liability corporations (LLCs) to avoid the double tax on dividend income.

Intercorporate Dividends

In Canada, dividends received by one Canadian company from another taxable Canadian company are generally free of corporate tax. (Private corporations receiving portfolio dividends from other Canadian companies are liable to pay a special “antideferral” tax on these dividends: the tax is fully refundable to the company when this income is distributed to its shareholders as dividends.)

In the United States, the position is more complex, and significant taxes can be imposed on dividends received by one U.S. corporation from another. In brief terms, dividends can flow tax free between U.S. companies only if the one company has a substantial (frequently 80 percent) interest in the other: Dividends received by one U.S. corporation from another are included in taxable income to the extent of 30 percent if less than a 20 percent interest (votes or values) is held, are included in taxable income to the extent of 20 percent if the holdings is 20–80 percent, and are totally exempt if more than an 80 percent interest is held. Dividends flow tax free between companies that jointly file a consolidated return (generally requiring an 80 percent or greater interest [votes and value] being held by a U.S. parent in the group).

Capital Gains

Taxable capital gains are included in income in Canada to the extent of three-quarters of such gains, and capital losses in general can be offset only against taxable gains, not against ordinary income, with carryovers provided. At the corporate level, the effective combined federal and provincial tax on capital gains at the general rate of corporate income tax is roughly 32 percent, while, for individuals in the top rate bracket, the total personal tax on such gains would amount to about 38 percent. (Canadian-controlled private corporations [CCPCs] recognizing capital gains do pay a further “antideferral” tax on this income, fully refundable when the gain is distributed.)

In the United States, capital gains are fully taxable, but, for individuals, special tax rates apply to the amount of such gains. For corporations, capital gains are taxed as ordinary income, with the effective (federal and state) corporate rate being about 38 percent. For individuals in the United States prior to the 1997 tax changes, the effective federal top tax rate on capital gains would have amounted to about 28 percent. Under new rules adopted in 1997, the effective federal tax on longer-term capital gains (with respect to assets held at least eighteen months) is now 20 percent (10 percent for certain lower-income individuals), with a higher rate (28

percent) being applied to medium-term capital gains (with a one-year to eighteen-month holding period).

The legislation also provides that, after the year 2000, very long-term gains (on assets held over five years) will be taxed at a federal rate of only 18 percent (8 percent for certain lower-income individuals). Of course, most, but not all, states have personal income taxes that will raise the total effective tax on capital gains by an average of about 5 percentage points. The new U.S. rules mean that effective capital gains tax rates in Canada for individuals will be substantially above those in the United States. Both countries have incentive capital gains provisions for entrepreneurs: a special lifetime exemption of up to \$500,000 in Canada, half rates on gains on certain “original issue” stock in the United States. Both measures are discussed below.

Death Taxes

Canada does not have any estate tax, succession duty, or gift taxes either at the federal or the provincial level. Instead, most capital assets are deemed to be realized at their fair market value at death (or on some *inter vivos* transfers), with the resulting gain or loss included in the deceased’s final tax return. (There are “rollovers” of assets at the deceased’s adjusted cost base available with respect to transfers to spouses and certain spousal trusts.)

In the United States, summarizing a complex tax picture, the estates of deceased individuals are subject to federal estate tax and, additionally, in many cases to state taxes (with a limited credit with respect to such state taxes available on the federal return). There is also a federal gift tax, integrated with the estate tax. Deferral of tax is available on transfers to spouses. However, for income tax purposes, assets transferred on the owner’s death to a beneficiary generally have a basis equal to their fair value at that time, thus totally avoiding income tax on any accrued gain. U.S. federal rates of estate tax range from 18 up to 55 percent, subject to a general exemption of \$625,000 (rising to \$1 million over the next nine years).

As a judgmental generalization, the Canadian deemed realization at death is substantially less on medium-size and larger estates than the U.S. estate tax. However, in both countries, estate-planning techniques can reduce effective burdens, particularly on larger estates.

4.1.3 Favorable Tax Treatment for Small Business

In accordance with the practice in many countries, small business corporations in Canada receive a variety of special tax incentives and concessions. However, the difference is that, in Canada, such tax incentives are generally larger than elsewhere—Canada has one of the most favorable tax regimes, relative to the general tax system, for small business enterprises of any country in the world. Further, the Canadian incentives are distin-

guished by the fact that most of them are reserved exclusively for CCPCs, which can be of any size, as opposed to small corporations generally.

In this discussion, *Canadian-controlled* means that an enterprise is not controlled, directly or indirectly, by nonresidents of Canada. And the term *private company* simply refers to a company that does not have equity or debt securities traded on public markets (or that is controlled by a public company).

4.1.4 Tax Incentives for Private Business

The main specific provisions providing special treatment of private or smaller (the terms are far from synonymous) companies are noted below.

Lower Corporate Rates

CCPCs pay a combined federal and provincial tax rate of about 21 percent on the first \$200,000 of active business income, in contrast to the general combined federal and provincial corporate tax rate of 43 percent. The reduction is achieved through the “small business deduction,” which reduces the federal corporate income tax rate for CCPCs by 16 percentage points to 13.12 percent (with surtax) on this first slice of active business income, with most provinces also having lower rates for the same income, again confined to CCPCs. Total federal and provincial rates in 1997 vary from 18.12 percent in Newfoundland, Nova Scotia, and the Northwest Territories to 22.62 percent in Ontario. (Lower provincial rates are available in some provinces for manufacturing activities.) The \$200,000 limit, along with some other incentives, must be shared among an associated group of companies.

Tax Integration

An important effect of the lower rate for small business in Canada is that shareholders of CCPCs benefit from having their corporate and individual income taxes more fully integrated than are the corporate and individual income taxes of shareholders of larger businesses. For CCPCs, the lower rate of federal and provincial income tax of about 21 percent on the first \$200,000 of active business income (in contrast with the general combined corporate rate of about 43 percent) means that the corporate and personal taxes on such profits are roughly integrated when the after-tax corporate income is paid out to individuals and covered by the dividend tax credit. The result is an individual shareholder paying about the same total tax (corporate and personal) on distributed profits out of such income as if he or she had earned the income personally. There is also a complex regime for the taxation of income from property—investment income—that provides the same benefits of full integration for such income earned in a CCPC, regardless of amount.

The benefit of the lower rate of corporate tax on a CCPC’s active busi-

ness income of up to \$200,000 is clawed back as the CCPC grows in size. The federal incentive starts to be recovered when the CCPC reaches \$10 million of capital and is fully phased out when capital reaches \$15 million: provincial incentives are also generally clawed back as the CCPC's income rises.

In the United States, the federal tax code provides for reduced corporate rates of tax for lower-income corporations: 15 percent for taxable income up to \$50,000; 25 percent for taxable income from \$50,000 to \$75,000; 34 percent for taxable income from \$75,000 to \$10,000,000; and 35 percent for taxable income over \$10,000,000. The benefits of the lower rates on the first \$75,000 of income are clawed back as income exceeds \$100,000, and the 1 percent tax reduction (a 34 percent corporate rate instead of the general 35 percent rate) is also recovered as income exceeds \$15 million.

However, regardless of the level of income, U.S. corporations and their shareholders face a significant burden through the double taxation of corporate income since *no* relief is provided to individuals receiving dividends from such companies with respect to the corporate tax already paid. Accordingly, not only is the Canadian treatment of the business income of smaller corporations relatively more generous than that in the United States, but the full integration of corporate and personal taxes means that the distributed income of smaller Canadian corporations is not subject to a substantial tax penalty, as is the case in the United States. However, U.S. entrepreneurs have available special operating forms—the subchapter S election and the LLC (both discussed below)—to attain the equivalent benefits of full integration.

The ability of shareholder-managers of CCPCs to achieve a fully integrated tax is expanded through the administrative practice of allowing such companies to pay bonuses, almost without limit, to shareholder-managers so as to maintain active business income at or below the \$200,000 annual threshold. The funds so bonused to shareholder-managers are subject to personal tax only and can be loaned back to the company if required in the business. The validity of bonuses paid to shareholder-managers is subject to a greater degree of review in the United States than in Canada, and, in general, such bonuses must be justified as being reasonable compensation for services provided.

The U.S. tax system does have features that allow for the equivalent of a full integration of corporate and personal taxes for private business operations. The first of these is the subchapter S elections. U.S. corporations with relatively simple share structures (one class of shares), having only U.S. individuals or other qualifying entities as shareholders (and having no more than seventy-five shareholders), and meeting other criteria are allowed to elect to have their income taxed only in the hands of their shareholders. Under this option, the corporation's income is not subject

to corporate income tax but is required to be allocated currently to its individual shareholders. This treatment eliminates the double taxation of corporate income while still enabling the business to benefit from limited liability and other features of the corporate form of organization.

In addition, there has been a growing use of LLC entities—essentially organizations that have limited liability but lack some of the other characteristics of ordinary corporations—which are also treated as conduit vehicles for tax purposes: their income is not subject to corporate tax but is allocated to and taxed currently in the hands of its member-owners. The LLC has some advantage in flexibility over a subchapter S election, but both are widely used by U.S. entrepreneurs to carry on small and even large U.S. businesses. Compared to the Canadian CCPC, the LLC and subchapter S election have the advantage that there is no limit to the amount of business income that can be earned and flowed through to shareholders without any “double tax” penalty.

The Canadian CCPC does, however, have the advantage of a significant tax deferral for earnings retained in the business—qualifying business income up to \$200,000 is taxed currently at a low rate, with further personal tax postponed until actual distribution.

Capital Gains

Canada has a unique feature allowing a \$500,000 lifetime capital gains exemption to individuals on gains realized on shares of qualifying CCPCs (and on farm property). For this purpose, any CCPC with most of its assets used in an active business in Canada, without size limitation, qualifies its shareholders for this special exemption.

The United States also has a special tax regime applying to gains on the sale of certain small business companies. Only 50 percent of qualifying gains are included in income (and eligible for capital gain treatment), although 100 percent of losses are still recognized. This special treatment is available only to individuals (and certain other noncorporate entities) and applies only to gains realized on shares acquired on original issue from a corporation after 10 August 1993 and held for at least five years. Further, only shares in a corporation having assets of less than \$50 million and meeting tests to demonstrate that it is almost exclusively engaged in an active trade or business (other than certain excluded activities, such as personal services, hospitality, banking, resource extraction, etc.) qualify as original issue shares.² The gain eligible for this exclusion is limited to the lesser of \$10 million or ten times the investor’s cost basis in the stock. The U.S. incentive is more favorable for larger gains than the Canadian exemption, but its application is much more restricted.

2. Guenther and Willenborg (1998) conclude that this favorable tax treatment has both increased the price at which shares of qualifying small businesses are sold in an initial public offering (IPO) and offered net benefits to the investors in such shares.

Investors in CCPCs are allowed a more generous treatment with respect to capital losses on shares or debt on CCPCs primarily carrying on an active business in Canada: in general, they can claim 75 percent of such losses (allowable business investment loss), not only against capital gains, but also against ordinary income (with no maximum). The U.S. tax rules contain a much more limited provision allowing investors to write off up to a \$100,000 loss on their investment in a small business enterprise against ordinary income.

Capital Tax

A capital tax is imposed under the “large corporations tax” on companies in Canada, but there is an exemption for the first \$10 million of taxable capital that effectively eliminates federal capital taxes for small business. Some provinces also impose general corporate capital taxes, but many exempt or provide lower rates of tax on capital below a certain threshold.

In the United States, there is no federal tax on corporate capital, while some states levy capital taxes at varying rates.

Other Features

The Canadian tax rules contain a variety of other special provisions targeted at smaller private companies: an enhanced scientific research and experimental development tax credit, available only to CCPCs within certain size limitations; a deferral of tax on stock options issued by small businesses to employees, with the result that no tax arises when the option is exercised, only when a gain on the stock acquired is realized; enhanced treatment for investors in labor-sponsored venture capital corporations with respect to investments in smaller businesses; measures that reduce the tax compliance burden on small corporations; provisions allowing smaller corporations to obtain “after-tax” financing on more favorable terms than other companies;³ the right to use funds in registered retirement savings plans (RRSPs) to invest, within limits, in a CCPC.

In general, U.S. federal tax law contains relatively few other provisions benefiting smaller corporations as such, although some states provide limited concessions.

4.1.5 Both Countries Favor Smaller Companies

In Canada, there are a large number of tax incentives and special treatments available to private companies in general and to CCPCs in particular, including a substantially reduced corporate rate of tax on the first \$200,000 of annual active business income, the full integration (absence of double taxation) on such business income plus all income from property,

3. This can be done by issuing preferred shares to banks and others on which the dividends to the recipient company are not taxable—up to a limit of \$500,000 a year. For smaller companies with losses or without income taxed at full rates, this can offer financial savings.

and a \$500,000 lifetime capital gains exemption to the owners of the shares of such companies.

The Canadian tax system does offer a limited dividend tax credit that offsets part of the burden of the double tax on corporate source income that would otherwise apply: the United States has no similar provision. On the other hand, owners of private U.S. enterprises have mechanisms available under U.S. tax law (subchapter S elections and LLCs) that also offer the advantages of integration and avoid the double taxation of corporate income, without limit, through allowing such income to be taxed only at the personal level.

The Canadian tax system does, however, have the substantial advantage of a deferral of personal tax on retained business earnings built up from the \$200,000 a year amount of active business income eligible for the lower corporate rate—a benefit that is not available to LLCs or subchapter S companies in the United States. In the Canadian tax system, this deferral of personal tax can amount to 30 percent of pretax business income (the difference between the 51 percent top personal rate and the 21 percent corporate rate), or \$60,000 a year (30 percent of \$200,000). Over a ten-year period, this could result in a tax deferral of over \$0.5 million—far larger than the corresponding amount in the United States.

There are, of course, important potential gains to be achieved through going public—including the possibility of obtaining additional funding at better rates, achieving a premium value relating to the easier transferability of ownership, and so on. With respect to tax issues, Canadian entrepreneurs have the advantage of a \$500,000 lifetime capital gains exemption on their shares, while, in the United States, individuals may qualify for a 50 percent tax discount on the realization of long-term gains on original issue shares held in qualifying small businesses. The tax advantages of going public tend to be roughly similar in both countries, except possibly that the United States, with a better-developed capital market for smaller public enterprises, offers better returns to such enterprises that go public.

On balance, a critical difference may be the ability of CCPCs to build up significant retained earnings out of business income that has borne only a relatively low rate of corporate tax. This feature may therefore provide a modest inducement for Canadian CCPCs to remain private for a longer period than might similar U.S. companies operating under U.S. law.

4.1.6 Tax Treatment of Dividends and Capital Gains

In Canada, individuals pay about the same rate of personal tax in upper income brackets on dividends as on capital gains. In the United States, dividends are fully taxed as ordinary income, but capital gains are eligible for much more favored treatment, with a combined federal and state tax burden that may be below 25 percent (and possibly eligible for even more favored treatment on “original issue” stock).

The substantial tax advantage of receiving capital gains rather than dividends would tend to induce U.S. shareholders of U.S. private companies to prefer “cashing in” their gains through sale, rather than receiving distributed earnings. In Canada, the relative neutrality between the taxation of dividends and that of capital gains will tend to mean that there is less tax reason for entrepreneurs to realize accumulated earnings through sale (other than those gains qualifying for the \$500,000 lifetime capital gains exemption).

4.1.7 Death Taxes Influence Holdings

Canada has a deemed realization of capital assets at death, while the United States has an estate tax that is generally more onerous. The fact that the Canadian tax system has a lower net burden at death on larger estates may mean slightly less pressure on older taxpayers to arrange for companies to go public and thus facilitate liquidity for investments in such enterprises. In the United States, the threat of death duties may influence owners of smaller enterprises to have their corporations go public to a greater degree than prevails under the Canadian system.

4.1.8 Complex Corporate Structures Facilitated in Canada

The absence of tax on dividends paid between Canadian companies could be a reason making for more complex corporate group structures in Canada, as there is no general tax penalty—as there would be in the United States—for holding blocks of dividend-paying shares (but less than complete ownership) in other companies. When combined with the greater acceptability in Canada of the use of nonvoting equity shares in the capital structures of public companies, complex corporate structures involving layers of corporations that permit family groups to maintain control with less than 51 percent of the economic interest in other enterprises can provide advantages to a few private corporations.

4.1.9 Summary

Overall, the general Canadian tax rules appear to provide, directly and indirectly, some moderate but appreciable inducements for Canadian entrepreneurs to have their corporations remain as private companies to a greater extent than would prevail in the United States. However, it is important not to overstate these inducements, which may in many particular cases be more than offset by nontax factors and other specific tax factors. Prospective reforms to the Canadian federal tax structure could reduce this incentive.⁴ On the other hand, the province of Ontario plans to cut its

4. The Technical Committee on Business Taxation (1998) has recommended that the \$500,000 capital gains tax be eliminated, coupled with a provision to allow capital gains for farms and CCPCs to be rolled over into registered savings plans.

small business corporate rate in half over the next seven years, which would increase the incentive.⁵

4.2 A Simple Entrepreneurial Model: The Choice between Private and Public

In this section, as a basis for the simulation offered in the next section, we consider a simple two-period model of an entrepreneur deciding whether to maintain a company under private (closely held) ownership or move to public (widely held) ownership.⁶ If the company is private, the entrepreneur is the only owner and may not have sufficient resources to fund a desired level of capital. Should the company go public, the entrepreneur will have better access to financing investment but may incur an agency cost that adversely affects the profitability of the company. The agency cost is related to the inability of investors fully to monitor the entrepreneur's effort to achieve an efficient level of production and an appropriate level of risk for the firm.⁷

As discussed in the previous section, taxes affect the entrepreneur's decision to create a public company in several ways. First, the tax rates on dividend and capital gains income derived from the private and public firms account for the degree of integration between corporate and personal income taxes for each type of firm. Capital gains taxes at death and taxes on wealth transferred to heirs may also be important. Although estate taxes (and taxes on deemed realizations of capital gains) apply to wealth transfers, an equivalent effective tax rate on capital income can also include computations for estate taxes (Poterba 1997). Second, income from safe assets (bonds) is taxable at the personal income tax rate.⁸ Third, any differential treatment of income received from private and public companies can be reflected in the individual tax rates. Fourth, estate and other taxes on accumulated wealth can reduce the amount of resources available to entrepreneurs for investment.

Each entrepreneur has an initial level of pretax wealth, \bar{W} , distributed uniformly over the index $[0, W^*]$. Accumulations of wealth prior to the initial period are subject to estate, income, and capital gains taxes at the

5. The 1998 Ontario budget would reduce the provincial corporate tax rate for CCPCs in eight steps from 9 to 4½ percent in 2005.

6. The two-period model is meant to capture a lengthy time period since creating a public firm can result in significant sunk transaction costs.

7. The agent has private information about internal resources that is unavailable to the market. Those agents that go public would convey information about their wealth. The model could enable one to derive a signaling equilibrium that would result in a cost imposed on the high-quality firms that would give up profitable investments. We use a simpler model for understanding the role played by taxes.

8. Estate taxes can also fall on safe assets that are transferred to heirs. The tax rate on the return on safe assets can also be adjusted for the effect of estate taxes.

total effective rate τ . Wealth can be invested in safe assets, $b \geq 0$,⁹ earning the return $r(1 - t)$, t being the effective tax rate on interest income. Alternatively, wealth can be invested in the corporation, $y \geq 0$. If the corporation is a private one, the entrepreneur will receive all the income from the firm plus the value of the original capital, y , received as a tax-free return of capital. Let $g(y, e) = f(y)\varphi(e)$ be the expected pretax income of the firm that is strictly concave in its arguments, capital, y , and effort, e , the latter supplied at the equivalent monetary constant cost of c per unit.¹⁰ At the end of the second period, the owner receives back the capital, y , plus the pretax income of the firm. Taxes paid on pretax income of the private corporation are levied at the rate u , which is the effective total tax rate incorporating corporate and personal income taxes on returns and potentially other taxes, such as estate taxes (this will be discussed further below in deriving effective tax rates on income).

If the firm is private, the entrepreneur's problem is to maximize consumption (end-of-period wealth) by choosing the level of investment, y , and effort, e :

$$(1a) \quad \max W_p = \{\hat{W}(1 - \tau) - y\}[1 + r(1 - t)] + y \\ + (1 - u)f[y]\varphi[e] - ce,$$

subject to

$$(1b) \quad \hat{W}(1 - \tau) - y \geq 0.$$

The solutions for the optimal values, y^* and e^* , to this problem are the following:

$$(2a) \quad \partial W_p / \partial y = (1 - u)f_y \varphi - r(1 - t) \geq 0,$$

for $y^* \leq \hat{W}(1 - \tau)$, and

$$(2b) \quad \partial W_p / \partial e = (1 - u)f \varphi_e - c = 0.$$

Equation (2a) states that the entrepreneur will invest in capital until the after-tax marginal product of capital is equal to the after-tax cost of capital, assuming that there are sufficient internal resources to invest in the firm (otherwise, the after-tax marginal product of capital is greater than

9. It is assumed that the entrepreneur is constrained from borrowing funds from outside investors either directly or indirectly through the business. Thus, there is no bankruptcy in the model since all returns are in the form of equity. Short-selling constraints are appropriate since agency costs could arise if entrepreneurs borrow funds that may not be repaid to outside investors. For a recent model incorporating such agency costs associated with the repayment of debt, see Hart and Moore (1998).

10. Income is uncertain, but, without limiting generality, we treat the variables in gross income as the certainty-equivalent value. Taxes treat gains and losses symmetrically, and there is no bankruptcy in the model since all finance is in the form of equity.

the cost of capital as the entrepreneur gives up good projects). Equation (2b) states that the after-tax marginal product of effort is equal to its cost. Note that there is a value of after-tax initial wealth, $\hat{W}'(1 - \tau)$, that is the point at which wealth is just sufficient to meet the demands for capital, y , and invest in no bonds. High-wealth entrepreneurs with wealth greater than $\hat{W}'(1 - \tau)$ will invest in both the firm and bonds. Low-wealth entrepreneurs with wealth less than $\hat{W}'(1 - \tau)$ will choose to invest only in the firm, with their investment constrained below the most profitable level of capital investment.

Should the firm become public, the entrepreneur sells off some of the wealth held in the firm, E , to outside investors, or “angels,” prior to the determination of investment and effort decisions by the entrepreneur. Angels can observe investment levels but cannot monitor the entrepreneur’s effort level. As derived below, the entrepreneur will let the firm become public only if there are insufficient resources available to maximize end-of-period wealth if the firm were to remain private. Thus, the gain to becoming public is achieving an effective lower cost of funds. The cost of becoming public is that the firm operates with an agency cost that arises from angels having imperfect information about the entrepreneur’s willingness to supply effort that has an associated nonpecuniary cost that the entrepreneur would like to avoid.¹¹

The value of equity sold to the angels is equal to E and is composed of two components ($E = \alpha y + G$). The first is a share of capital investment, αy , where α is a proportion of capital financed by the angels. The second is a goodwill payment, G , a lump-sum payment paid to the entrepreneur from the angels for a share of the economic rents earned by the private firm.¹² If the firm is public, the angels choose the share of capital investment they wish to hold, given the goodwill payment, G . The entrepreneur chooses the level of investment, contingent on the choice of α made by the angels. Therefore, if the firm goes public, the problem for the entrepreneur is solved by using subgame perfection—the entrepreneur’s choices of effort and investment are made in reaction to the shareholders’ choice of contract.

If the firm goes public, the taxes on income are the following. The entrepreneur’s wealth is taxed at the rate τ , and the return on bonds is taxed at

11. The model could be extended to include other economic reasons for going public, such as risk diversification or obtaining better management support than can be supplied by the angels (see Amit, Brander, and Zott 1997). These other economic factors affecting the status of business would play a role in determining the economic benefits and costs of going public.

12. We assume that the goodwill payment is predetermined as a Nash bargaining solution between the entrepreneurs and the angels regarding the distribution of “pure profits” or rents earned by the firm. Note that, at the maximum, G cannot be set such that the present value of the firm’s investment is negative, as shown in eq. (5) below. Otherwise, the choice of G will depend on a bargaining outcome. In principle, G could also be subject to a capital gains tax.

the rate t for both the entrepreneur and the shareholders.¹³ The entrepreneur and the angels pay tax on the firm's income at the rate θ . Any special relief for capital gains taxes on shares held in the entrepreneur's firm would be captured in a lower value of θ . We note that there may be important differences between the rate of taxes that the entrepreneur pays when the firm is held privately (u) and the rate paid when the firm is public. Generally, given some of the provisions of the U.S. and Canadian tax systems, we expect that private-company ownership has more preferential treatment, so $u < \theta$.

The entrepreneur's investment and effort decision is determined by maximizing end-of-period wealth, which is denoted as follows:

$$(3) \quad W_s = \{\hat{W}(1 - \tau) - y + E\}[1 + r(1 - t)] + E \\ + (1 - \alpha)(1 - \theta)f[y]\varphi[e] - ce.$$

The entrepreneurial choices of investment and effort are determined, respectively, as follows:

$$(4a) \quad \partial W_s / \partial y = (1 - \theta)f_y \varphi - r(1 - t) = 0,$$

$$(4b) \quad \partial W_s / \partial e = (1 - \theta)f \varphi_e - c/(1 - \alpha) = 0.$$

The important distinction between equations in (2) and (4) is that the share of profits earned by the entrepreneur, $(1 - \alpha)$, affects the entrepreneur's effort decision, reducing the desire to work. In this model, the agency cost of going public is related to the entrepreneur's effort decision, which affects the value of the firm—entrepreneurial effort cannot be directly compensated by the angels, who cannot monitor amounts provided. However, the higher the share of income (α) paid to the angels, the lower is the incentive for work effort by the entrepreneur.¹⁴

When the firm is public, the angels maximize their end-of-period wealth, choosing α , given that the entrepreneur chooses the optimal level of effort, e^* , and capital, y^* , to maximize the entrepreneur's end-of-period wealth from equation (3):

$$(5) \max V = \alpha\{y^*[\alpha] + (1 - \theta)(f[y^*[\alpha]]\varphi[e^*[\alpha]])\} - (1 + r(1 - t))E, \geq 0,$$

with e^* and y^* denoting the values that maximize the entrepreneur's wealth for given levels of α .¹⁵ The choice of α by the angels that solves the equations in (5) is the following (applying the envelope theorem):

13. Shareholders could have a different tax rate on bond income, but, to avoid unnecessary complexity, we ignore this difference for modeling purposes.

14. The comparative static effects, $\partial e / \partial \alpha$, can be shown to be negative—an additional share of income to the angels reduces effort by the entrepreneur.

15. Note that, in this problem, we do not incorporate a minimum participation constraint for the entrepreneur, who must earn income at least as great as some alternative investment

$$(6) \quad \partial V / \partial \alpha = \{(1 - \theta)f\varphi - r(1 - t)y\} + (1 - \theta)\alpha f\varphi_c \partial e / \partial \alpha = 0.$$

For a maximum choice of α in (6), the after-tax income, net of the opportunity cost of investing capital in bonds in the first term, is balanced with the loss in the entrepreneur's effort in the second term.

From the above, we compare two outcomes for privately and publicly held firms in terms of the investment and effort decisions. For the public firm, the investment decision is determined at the point where the after-tax marginal product of capital is equal to its cost of capital ($[1 - \theta]f\varphi = r[1 - t]$), but the effort decision is provided at an additional cost beyond the entrepreneur's marginal cost of supplying effort ($[1 - \theta]f\varphi_y > c$). For the private firm, investment may not be determined at the cost of funds since the lack of internal resources may constrain the firm from achieving its full capacity, but the effort level is chosen at a lower cost on the basis of the entrepreneur's cost of providing effort.

Leaving aside taxes, the entrepreneur would not consider taking the firm public if there were sufficient internal resources to invest in capital—the agency cost associated with the entrepreneur's effort decision reduces potential income should the firm become public. Thus, the choice of going public critically depends on the internal resources of the entrepreneurs (as well as tax variables). High-wealth entrepreneurs, with $\dot{W}(1 - \tau) > y^*$, would not go public, while low-wealth entrepreneurs would go public if the agency cost from a public offering is less than the gain from relaxing the entrepreneur's capital constraint.

With taxes, the decision whether to go public will be determined by the comparative statics of the model: (a) If income, capital gains, and estate taxes on the entrepreneur's return from investments in private firms are levied at a rate, u , that is less than the rate, θ , for public firms, then there will be greater incentive for the firm to be privately held, as reviewed in section 4.1 above. This seems to be the representative case for Canada. (b) Estate, income, and capital gains taxes that reduce the initial accumulated wealth of entrepreneurs will encourage more firms to be publicly held. Since τ reduces the initial amount of wealth for investment, low-wealth entrepreneurs take on less investment and may be more willing to let the firm become public. (c) Any exemption for capital gains taxes or income earned on the basis of the status of the company (e.g., special incentives to sell shares for a public offering) reduces taxes on income held, creating an incentive for the firm to go public. As discussed in section 4.1, the United States does provide such an incentive for going public, while Canada provides capital gains incentives for private shares only.

(investment in bonds). Here, we assume that the angels do not have sufficient power to force the entrepreneur to give up all the excess returns associated with original ownership of the firm.

The model presented above provides a basis for evaluating how the tax system affects the choice of firms to be public or private.

4.3 Private and Public Companies: A Quantitative Review

This section assesses the relative importance of private and public corporations in Canada, with some comparative data for the United States. Data sources for Canada include the LEAP (Longitudinal Employment Analysis Program) database, developed by the University of British Columbia and Statistics Canada, and data derived from corporate taxation statistics from Revenue Canada and Statistics Canada. The data for the United States include balance-sheet data from the Federal Reserve Board and data from *Statistics of Income*, published by the Internal Revenue Service.

As noted in section 4.1 above, both Canada and the United States have special tax provisions that favor private companies. For Canada, CCPCs have a low rate of corporate tax on the first \$200,000 of net income. This effectively creates full integration for distributed earnings and a significant deferral for reinvested earnings. In addition, each of a CCPC's shareholders can realize up to \$500,000 of tax-free capital gains on the sale (or deemed sale) of his or her shares in the company.

In the United States, certain private companies may qualify for S status. If S status is elected, all shareholders of the private corporation are taxed on a partnership basis—thereby eliminating the double taxation of corporate source income that would otherwise occur.

Both systems have changed significantly over the postwar period. The special treatment of CCPCs in Canada dates from the 1971 income tax reforms. The lifetime capital gains exemption was introduced in 1985.

In the United States, prior to the major income tax reform of 1986, the advantages of S status were attenuated by personal marginal income tax rates well above corporate rates. This meant that corporations that reinvested a high share of earnings would not elect S status. The 1986 tax reform moved marginal personal rates below the corporate rate, effectively removing this disincentive for S status.¹⁶

As a result of these changes, the attractiveness of CCPC status in Canada and S status in the United States increased significantly after 1986.¹⁷

Table 4.1 presents current (1998) effective tax rates on private and public corporations in Canada and the United States on the basis of the features

16. Some small corporations may still find S status unattractive because of the low rates of corporate tax on the first \$75,000 of income.

17. Subsequent changes in Canada—the limitation of the general capital gains exemption and its elimination in 1994—enhanced the attractiveness of the \$500,000 exemption for CCPCs and farm property. In recent years, LLC status has become an alternative to S status in the United States.

Table 4.1 Effective Tax Rates by Type of Corporation and Dividend-Payout Rates and the Decision to Go Public

	Effective Tax Rates		Decision
	Private	Public	
<i>Canada (CCPCs)</i>			
100 percent payout:			
Small CCPC	.48	.63	Stay private
Large CCPC	.63	.63	Go public
50 percent payout:			
Small CCPC under CGE	.35	.59	Stay private
Small CCPC above CGE	.43	.59	Stay private
Large CCPC under CGE	.53	.59	Stay private
Large CCPC above CGE	.59	.59	Go public
Zero payout:			
Small CCPC under CGE	.21	.56	Stay private
Small CCPC above CGE	.39	.56	Stay private
Large CCPC under CGE	.43	.56	Stay private
Large CCPC above CGE	.56	.56	Go public
<i>United States (firms eligible for S status)</i>			
100 percent payout	.44	.66	Stay private
50 percent payout	.44	.55	Stay private
Zero payout	.44	.45	Go public

Note: CGE = capital gains exemption.

of the two tax structures described in section 4.1 above. These rates represent the combined effect of corporate and personal income taxes and capital gains taxes at the personal level. Details regarding these calculations are presented in the appendix.

As is clear, the differences between the effective tax rate on a private corporation and the rate it would face if it were to go public vary with the dividend-payout ratio in both countries. In Canada, the effective rate also depends on whether the firm's income is under the small business deduction and on whether accrued capital gains would be covered by the lifetime capital gains exemption.

We have simulated the decision of a cash-constrained firm whether to go public under alternative dividend-payout ratios using an arbitrary quadratic function for the underlying revenue function described in section 4.2 above. The results are shown in the final column of table 4.1. Details are provided in the appendix.

Taxes can play a major role affecting the decision whether to go public. In Canada, a CCPC would not typically go public until two conditions are met: (a) the firm must have exhausted its small business deduction, and (b) the shareholders must have reached the point at which incremental capital gains are not sheltered under the lifetime capital gains exemption. The decision is also affected by the payout ratio: since capital gains are

less important for higher-payout firms, a CCPC would go public when it fully exhausts the small business deduction.¹⁸

In the United States, for firms that could qualify for S treatment, the decision also depends on the payout ratio. The lower the payout ratio, the less important is the double taxation of dividend income. At a sufficiently low payout ratio, the tax advantages of S status are insufficient to offset the advantages to a cash-constrained firm of going public.

4.3.1 1994 Benchmark Comparison of Canada and the United States

Because of the changed tax incentives for the formation/election of CCPCs and S corporations, we decided to compare the situations of the two countries in 1994. This is the latest year for which certain data are available and is several years after the major tax changes that fundamentally altered incentives.

Figure 4.1 and table 4.2 provide a summary picture of the relative importance of private and public nonfinancial corporations in the two countries. Note that *private* here refers to *all* closely held nonpublic companies, not just CCPCs and S status companies.

Although the data are not strictly comparable, the difference in the relative importance of private companies between the two countries is striking. In Canada, private companies' share of total assets is higher than the public companies' share. In the United States, on the other hand, the market value of public companies' equity is two and a half times the market value of closely held companies.

One explanation of the difference is the much greater role of subsidiaries of foreign companies in Canada. Wholly owned subsidiaries of foreign companies (whether public or private) are classified as *other private* companies in Canada (i.e., private but not CCPCs).

Figure 4.2 and table 4.3 provide some insight on this issue. If we treat all corporations classified as *other private* as foreign subsidiaries and exclude their assets (and the assets in the *other* category) from the data, the relative share of private companies declines to 43 percent, and the share of public companies increases to 57 percent. The relative share of CCPCs is nevertheless substantially higher and the relative share of public companies lower than the relative shares of private and public corporations in the United States. Foreign subsidiaries explain part, but by no means all, of the difference between the two countries.¹⁹

Another way of examining the role of private corporations in Canada

18. Note that, in the table, the tax rate for a large CCPC refers to a firm whose small business deduction has been fully clawed back. This would occur at an asset level of \$15 million.

19. Note that the comparison presented above no doubt understates the relative importance of closely held Canadian-controlled companies since some public companies are controlled by foreign companies and some of the other private companies are not subsidiaries of foreign companies.

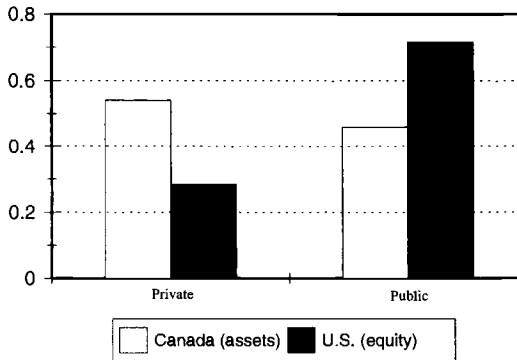


Fig. 4.1 Share of nonfinancial corporations, Canada and the United States, 1994 (Canada, assets)

Table 4.2 Shares of Nonfinancial Corporations, Public versus Private, Canada and United States, 1994

	Private	Public
Canada (assets)	.541	.459
United States (equity)	.285	.715

Sources: Canada: Statistics Canada, special tabulations of Canadian corporations by type, 1992–96. United States: Federal Reserve Board, unpublished balance-sheet data on market values of equities of closely held and public nonfinancial corporations, 1994.

and the United States is to compare the relative importance of CCPCs in Canada with that of S corporations in the United States. As noted above, changes in tax incentives in the mid-1980s should have stimulated the growth of both types of firms. This is confirmed in figures 4.3 and 4.4. In Canada, CCPCs increased in importance over the period 1984–93 (see fig. 4.3). The expansion of CCPCs was accompanied by a decline in the relative importance of unincorporated employers. Since proprietors and partnerships were not eligible for the \$500,000 capital gains exemption, the most likely explanation of this trend is that many of these types of enterprises became incorporated.

In the United States, the growth of S corporations after 1985 was much more dramatic, as illustrated in figure 4.4. S corporations' share of total receipts increased from 5.1 percent in 1985 to 16.5 percent in 1994. Over the same period, the percentage of corporations that were S corporations more than doubled, from 22.1 percent in 1985 to 46.6 percent in 1994. The dramatic increase in S corporations appears to have leveled off after 1992.

The number and relative importance of S corporations in the United States grew more than the number and relative importance of CCPCs in

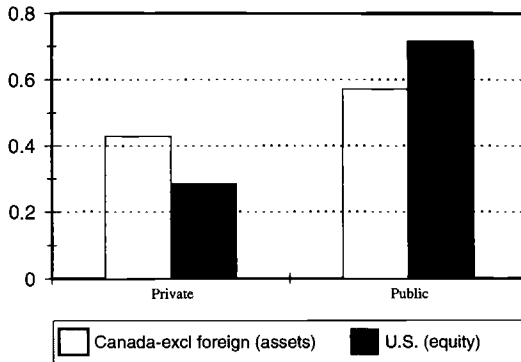


Fig. 4.2 Share of nonfinancial corporations, Canada and the United States, 1994 (Canada, excluding foreign assets)

Table 4.3 Shares of Nonfinancial Corporations, Public versus Private, Canada and United States, 1994

	Private	Public
Canada (assets)	.438	.572
United States (equity)	.285	.715

Sources: See table 4.1 above.

Note: Figures for Canada exclude foreign subsidiaries.

Canada over the period 1985–94. However, in 1994, CCPCs were a much more important category within Canada than S corporations were within the United States. CCPCs constituted 95 percent of Canadian corporations (vs. 47 percent for S corporations in the United States). Almost two-thirds of corporate employment in Canada was in CCPCs. These firms accounted for 32 percent of the assets of nonfinancial corporations and 47 percent of the income. In the United States, by contrast, S corporations accounted for 16.5 percent of receipts of all corporations and 8.1 percent of the assets of nonfinancial corporations.

Taken in conjunction with the aggregate data discussed above, these data indicate that S corporations represent a smaller share of the assets of privately held corporations in the United States than CCPCs' share of such assets does in Canada.

The relative importance of S corporations and CCPCs varies with firm size. Figure 4.5 and table 4.4 present data for CCPCs classified by employment size. Figure 4.6 and table 4.5 present data for S corporations classified by asset size. In Canada, CCPCs dominate the first four size classes, but their share of employment drops to 43 percent for the largest size class

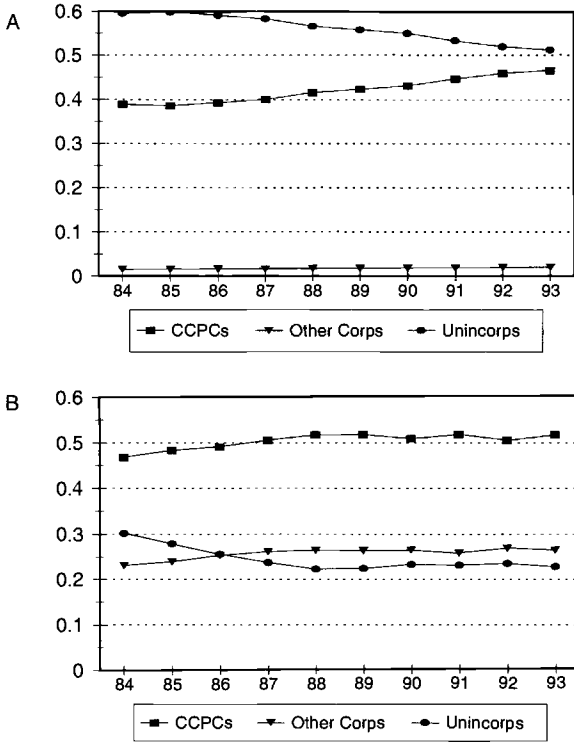


Fig. 4.3 CCPCs, other corporations, and unincorporated firms, Canada, 1984–93: *A*, Number of companies; *B*, Share of employment

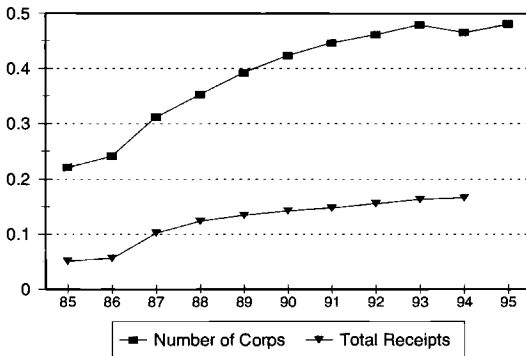


Fig. 4.4 U.S. S corporations as a share of all corporations, 1985–94

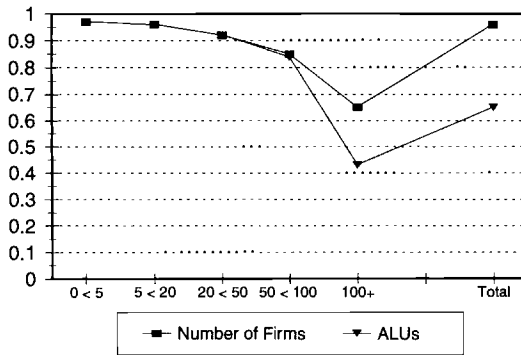


Fig. 4.5 CCPCs' share of all incorporated firms by number of ALUs, Canada, 1992

Note: An ALU is a standardized unit of labor input, measured by payroll divided by the average wage for each industry/province/size category.

Table 4.4 CCPCs' Shares of All Incorporated Firms by Firm Size (level of employment), Canada, 1992

	Number of Employees (ALUs)	Number of Firms	Employment (ALUs)
0 < 5		.97	.97
5 < 20		.96	.96
20 < 50		.92	.92
50 < 100		.85	.84
100+		.65	.43
Total		.96	.65

Source: Hendricks, Arnot, and Whistler (1997).

Note: An ALU is a standardized unit of labor input, measured by payroll divided by the average wage for each industry/province/size class category.

(one hundred or more employees). In the United States, S corporations account for about 40 percent of total receipts for asset size classes up to \$25 million; their share then declines sharply with increasing size.

More detailed data are available for CCPCs and other Canadian companies for two broad asset size classes—under \$15 million and \$15 million and over. Data for nonfinancial corporations are presented in figure 4.7 and table 4.6. The results show that CCPCs dominate the smaller asset size group: CCPCs hold 86 percent of assets, earn 89 percent of revenue, and constitute 95 percent of these corporations. For the larger asset size class, CCPCs are much less important, holding 10 percent of assets and earning 14 percent of revenue. In terms of numbers of firms, CCPCs are more significant—38 percent of the larger firms were CCPCs.

For comparative purposes, we have constructed a table for two broad

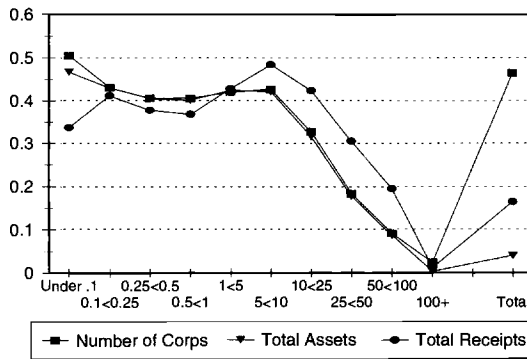


Fig. 4.6 U.S. S corporations as a share of all corporations, 1994, by asset size (\$million)

Table 4.5 S Corporations' Shares of All Incorporated Firms by Firm Size (assets), United States, 1994

Assets (\$million)	Number of Corporations	Total Assets	Total Receipts
Under 0.1	.505	.467	.337
0.1<0.25	.431	.429	.412
0.25<0.5	.407	.406	.379
0.5<1	.405	.402	.369
1<5	.421	.425	.429
5<10	.426	.422	.485
10<25	.328	.317	.424
25<50	.184	.178	.306
50<100	.091	.087	.195
100+	.025	.003	.013
Total	.466	.040	.165

Source: IRS (1994).

size classes for all corporations in the United States divided between those with assets under \$10 million and those with assets of \$10 million and over (see fig. 4.8 and table 4.7). These may be compared with data for all Canadian corporations presented in figure 4.9 and table 4.8. S corporations accounted for 41 percent of receipts for the smaller size group but only 7 percent for the larger size group. In contrast, CCPCs accounted for 88 percent of revenue for smaller and 12 percent for larger firms (see fig. 4.9 and table 4.8).

4.3.2 Summary

It is clear from the data we have reviewed that private companies play a much larger role in the Canadian than in the U.S. economy. The greater

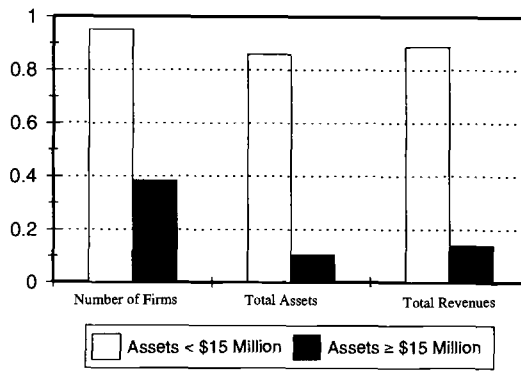


Fig. 4.7 CCPCs' share of nonfinancial corporations by asset size, Canada, 1994

Table 4.6 CCPCs' Shares of Nonfinancial Corporations by Firm Size (assets), Canada, 1994

Assets (\$million)	Number of Corporations	Total Assets	Total Revenues
Under 15	.951	.860	.887
15+	.384	.104	.139

Source: Statistics Canada, special tabulation of Canadian nonfinancial corporations by type, 1992-96.

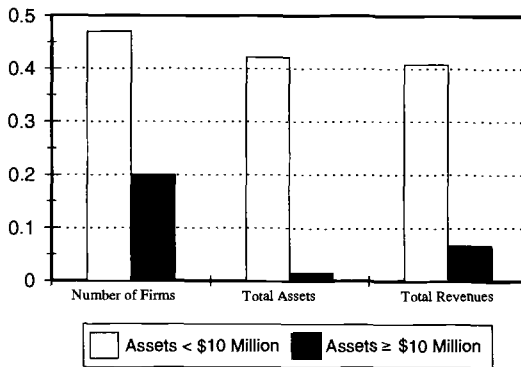


Fig. 4.8 S corporations' share of all corporations by asset size, United States, 1994

Table 4.7 S Corporations' Shares of All Incorporated Firms by Firm Size (assets), United States, 1994

Assets (\$million)	Number of Corporations	Total Assets	Total Receipts
Under 10	.470	.422	.409
10+	.200	.015	.067

Source: IRS (1994).

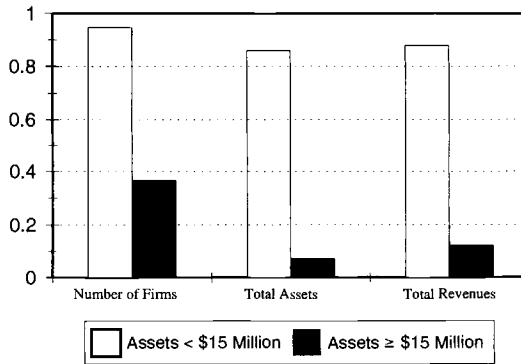


Fig. 4.9 CCPCs' share of all incorporated firms by asset size, Canada, 1994

Table 4.8 CCPCs' Shares of All Corporations by Firm Size (assets), Canada, 1994

Assets (\$million)	Number of Corporations	Total Assets	Total Revenues
Under 15	.946	.859	.878
15+	.367	.072	.122

Source: Statistics Canada, special tabulation of Canadian corporations by type, 1992-96.

importance of subsidiaries of foreign corporations in Canada explains only part of the difference. Domestic private companies are more important in Canada than are their counterparts in the United States.

Whether tax rather than nontax factors provided the greater encouragement for private firms in Canada cannot be resolved here. But it is clear that the combination of full integration for dividend income, substantial deferrals for retained earnings, and a special capital gains tax exemption provide a powerful incentive for attaining and retaining CCPC status. The data provide some confirmation of these results.

Appendix

Simulations of Decisions to Go Public under Representative Tax Regimes

The purpose of this appendix is to explore how the Canadian and U.S. tax structures may affect the decision to go public. We first determine

representative tax systems for the two countries. The basic rates used to construct the effective tax rates shown in table 4.1 above are presented in table 4A.1. The rates shown in table 4A.1 capture the essential features of the two systems of taxation.

The U.S. system consists of a “classic” corporate tax unintegrated with the personal tax, except for S status corporations, which are treated as equivalent to partnerships. The Canadian system has full integration for dividend income from small CCPCs and partial integration, through dividend credits, for other corporations. Canada also has a \$500,000 lifetime capital gains exemption for shareholders of large or small CCPCs. Both countries provide favorable tax treatment for capital gains. U.S. tax rates are generally lower than Canadian rates, with the exception of dividend income and corporate income of small corporations, where Canadian rates are lower.

Effective combined tax rates on shareholders of corporations are derived by applying the applicable personal tax rates on dividends and capital gains to corporate distributions and retentions, as follows:

$$T = tc + (1 - tc)P \cdot td + (1 - tc)(1 - P)tg,$$

where tc is the corporate tax rate, td is the tax rate on dividends, tg is the effective accrual tax rate on capital gains, P is the dividend-payout ratio, and T is the total effective tax rate.

The results are presented in table 4A.2. Of course, what matters for the

Table 4A.1 Representative Effective Marginal Tax Rates

Income Type	Canada	United States
Corporate income: ^a		
Public corporations	.43	.39
Private corporations	.21	Partnership treatment
Personal income: ^b		
Dividends	.34	.44
Interest income	.51	.44
Capital gains:		
Nominal rate	.38	.20
Effective accrued rate	.22	.10
Under lifetime capital gains exemption	0	N.A.

Note: N.A. = not applicable.

^aFor Canada and the United States, the corporate tax rates are from Technical Committee on Business Taxation (1998, p. 3.26).

^bFor Canada, these rates are the combined federal and provincial rates for a top-bracket taxpayer in Ontario in 1998. For the United States, these rates are based on federal rates for 1998, with an assumed effective net state personal income tax rate of 4 percent. Relevant personal tax rates are for top bracket taxpayers. (Source: *Tax Facts, 1997-98 1997*.)

Table 4A.2 Effective Total Tax Rates by Type of Corporation and Payout Ratio, 1998

Payout Ratio and Corporate Type	Private	Public ^a
<i>100 percent</i>		
Canada:		
Small CCPC	.48	.626
Large CCPC	.626	.626
United States: S corporations	.44	.658
<i>50 percent</i>		
Canada:		
Small CCPC:		
Under CGE	.345	.592
Above CGE	.433	.592
Large CCPC:		
Under CGE	.528	.592
Above CGE	.592	.592
United States: S corporations	.44	.555
<i>0 percent</i>		
Canada:		
Small CCPC:		
Under CGE	.21	.558
Above CGE	.386	.558
Large CCPC:		
Under CGE	.43	.558
Above CGE	.558	.558
United States: S corporations	.44	.451

^aWhen a CCPC or an S corporation goes public, it loses CCPC or S status.

decision to go public is not so much the average levels of taxation but the differences in tax burdens between public and private corporations. These are presented in table 4A.3.

The tax incentive for private status is actually stronger in the United States for firms with high payout ratios. As partnership status and full integration are equivalent when the payout ratio is 100 percent, the advantages of S status in the United States are greater than those of CCPC status in Canada because there is no dividend credit for public companies in the United States. At medium payout ratios, the situation is reversed, with small CCPCs having a greater tax incentive to remain private than S corporations. Finally, at low payout ratios, both small CCPCs and large CCPCs where shareholders have not exhausted their lifetime capital gains exemption have a greater tax incentive to remain private than do S corporations in the United States. U.S. corporations ineligible for S status and Canadian CCPCs that have exhausted their small business deductions and

Table 4A.3 Tax Incentives for Private Status, Canada versus United States, by Payout Ratio

Payout	Tax Advantage of Staying Private					
	Canada				United States	
	Small CCPC		Large CCPC		Eligible for S Status	Ineligible for S Status
	Under CGE	Above CGE	Under CGE	Above CGE		
100 percent	.15	.15	Nil	Nil	.22	Nil
50 percent	.24	.16	.06	Nil	.11	Nil
0 percent	.35	.17	.13	Nil	.01	Nil

lifetime capital gains exemptions are essentially treated the same as public corporations.²⁰

In order to explore the effect of these tax rates on the decision to go public, we have constructed a simulation model with the underlying revenue function represented by a quadratic function. The parameters are selected so that a cash-constrained firm would choose to go public in the absence of taxes. Effective tax rates are then introduced into the model, and the model is solved to determine whether the firm will go public or remain private.

The revenue function $f(y)\varphi(e)$ is represented by the quadratic function

$$ay - \frac{1}{2}by^2 + me - \frac{1}{2}ge^2 + dey.$$

Parameters specified are $a = 3$, $b = 0.5$, $d = 0.25$, $g = 0.5$, and $m = 3$. This function is then used in equation (6). We also set the real return (r) at 0.04, and the marginal cost of effort (c) is normalized at 1. Tax parameters are from table 4.1 above. For each case shown in table 4.1, we determine the level of initial wealth $W^1(1 - \tau)$ where going public would increase total wealth. If no positive level is found, we determine that the firm will stay private. If there is any range of values for $W^1(1 - \tau)$ where going public would increase total wealth, we determine that the firm will go public.²¹

20. This refers to basic rates of tax. However, there are other features of the tax laws that may favor private status.

21. Total wealth includes the wealth of outside investors as well as the wealth of the entrepreneur. In all cases, a side payment to the entrepreneur is required for the firm to go public.

In three of the Canadian cases shown in table 4.1, the firm would go public for any value of initial wealth below W^1 . In one of the U.S. cases, the firm would go public if initial wealth is below 78 percent of $W^1(1 - \tau)$.

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Comment Daniel Feenberg

The days when Arnold Harberger could model the corporate tax system with a single parameter are but a nostalgic memory for older public finance economists. The change is partly progress made by economists in understanding the nature of corporate taxation and partly backsliding by legislatures with little regard for efficiency or horizontal equity. The results are that tax-induced effects on the cost of capital depend not only on the income of shareholders, the financing method, and the holding period but also the age, number, and nationality of controlling shareholders.

Brown, Mintz, and Wilson build a combined model of all these tax parameters to find the differential between the total tax rate on privately and publicly held corporations in Canada and the United States. In Canada, the tax rates are calculated for Canadian-controlled private corporations, while, in the United States, the somewhat similar S corporations are mod-

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eled. The perspective is one of a newly formed corporation rather than a preexisting one.

Except for firms expecting very high payout rates, the authors find a noticeably stronger tax incentive to remain private in Canada than exists in the United States. This could well be the reason for the observation documented in this paper that a greater share of business equity is private in Canada than in the United States.

While nearly comprehensive in its treatment of taxes, the paper does not quantify some related tax issues that might affect the decision to remain private. In the United States, the estate tax is a significant levy, typically over 50 percent at moderate levels of wealth. Although the estate tax is often offered in the popular press as a reason for companies to go public (to raise liquidity to pay the tax), it is more likely that the effect goes the other way. Private firms are treated to a valuation discount of 35 percent, the tax on a closely held family firm can be paid in installments over ten years, and the appraised valuation of a private firm is likely to be far lower than stock market valuations of the similar firms in public hands. Gifts of partial interests can often be structured to have little taxable value. While it would be difficult to judge the quantitative significance of these considerations, they all point to the desirability of maintaining private control. The Canadian system of taxing capital gains at death appears to create a smaller incentive (in the same direction).

Another consideration is the far greater latitude that private companies have to press the edges of tax avoidance. The public company is restricted by the desirability of obtaining an audited financial statement from a nationally respected auditor with few reservations. The private company can stand a few reservations about the need for a reserve against future tax assessments.

Other explanations for the prevalence of private companies in Canada are not excluded by the evidence presented. The industrial mix is different in Canada. Mining is a larger share of the economy, and information asymmetries provide an obvious possible explanation for the unsuitability of such firms for public ownership. Some Canadian firms have grown large in a protected home market that is much smaller than the corresponding U.S. market. Smaller firms are better suited for private ownership. Bankruptcy laws differ between the two countries, as do many other institutions and customs. Restrictions on branch banking may have encouraged U.S. firms to be publicly held. This list is hardly exhaustive. Any of these cross-country differences could be the true explanation for the difference. So this paper is not necessarily the last word on the subject, even if it seems convincing to a discussant now. I will not comment on the possibility that training in public finance made me more sympathetic to this view than others might be.

One particularly disquieting note is the observation that private firms

are always preferentially taxed relative to publicly held firms. The tax-minimizing strategy is always private in both countries. In reality, as in the authors' model, the desire to deploy more capital without assuming more risk drives the firm to public markets. But, while most capital in both countries is in publicly traded firms, the structure of firms is very different. Canadian firms are often arranged in vertical pyramids with substantial minority equity at lower levels. U.S. firms are either subsidiaries or independent, (La Porta, Lopez-de-Silanes, and Shleifer 1998). In the United States, the limitations on the intercorporate dividend deduction make it expensive for controlled subsidiaries to raise equity of their own. This explains the absence of pyramids in the United States. But what explains their presence elsewhere?

The controlling shareholders in a pyramid may control an empire while supplying only a small fraction of the capital and absorb only a small portion of the risk. That is a benefit for them, but only if they can attract and exploit outside finance. What is the advantage to the minority shareholders providing that capital? Are minority shareholders even a significant source of capital? Do they share fully in company profits? Are they protected through the legal system, through relationships of blood, marriage, or business? If not, are their alternative investments restricted by capital controls or weak property rights?

Shleifer and Vishny (1997) have argued that outsider finance is a feature of common law countries with strong protection for investors. Canada is one of those countries with a strong common law heritage, yet many Canadian corporations are organized in pyramids typical of countries with weak protection for shareholders. What is the motivation for that organization?

A full deduction for intercorporate dividends would appear to be a logical part of correctly valuing corporate income. If the United States joined the rest of the world in providing such a deduction, would the U.S. corporate structure drift toward the Canadian form? Would that be a good thing? There are lots of good questions left.

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**The Law and Concentrated
Corporate Ownership**

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