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Communiqué

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Ottawa should scrap foreign property limit on pension saving, says C.D. Howe Institute study

Ottawa should abolish the foreign property rule, a provision of the *Income Tax Act* that imposes a 1 percent per month tax on pension fund and RRSP holdings of foreign property that exceed 20 percent of their assets, concludes a *C.D. Howe Institute Commentary* released today.

The study, entitled "Assessing the Foreign Property Rule: Regulation without Reason," was written by economists Joel Fried and Ron Wirick at, respectively, the Department of Economics and the Ivey School of Business, University of Western Ontario.

The authors argue that the foreign property rule forces Canadians who save for retirement to invest in ways that provide lower returns and involve higher risks than would be possible without the restriction. According to Fried and Wirick, the cost, in terms of lower savings and ultimately lower retirement incomes, is enormous. They estimate that, if the rule had been fully effective, it would have lowered returns on Canadian retirement saving by more than $140 billion over the past decade alone.

Canadians are able to circumvent the rule in various ways, the authors say, through financial derivatives and "stacking" mutual funds, but these measures involve costs of their own. Fried and Wirick estimate that the rule will likely reduce returns on retirement saving by $2 billionto $4 billion annually, which causes a reduction in average retirement income of 6.3 to 12.9 percent per year. This effect, the authors point out, makes the foreign property rule akin to a payroll tax, which discourages work by lowering its rewards.

Fried and Wirick point out that there is little evidence that the foreign property rule provides any benefit in the form of lower costs for Canadian borrowers. They also note that the rate of the tax is so high that it provides negligible revenue to the government at present, while its negative impact on retirement incomes will reduce tax revenue in the future. Since the provision imposes costs on savers while providing no benefit to borrowers or governments, Fried and Wirick see no reason to retain it.

The authors argue that abolishing the foreign property rule would be painless, as there is little reason to expect downward pressure on the Canadian dollar's foreign exchange rate — indeed, the rule's abolition might boost the dollar. Moreover, investors' tendency to favor in-

vestments in their own countries would likely limit the size of portfolio shifts in the short term. And even domestic financial industry interests that might be thought to benefit from the rule have supported its removal. Rather than phase the rule out, therefore, Fried and Wirick recommend that Ottawa abolish it immediately.

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C.D. Howe Institute
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Communiqué

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Ottawa devrait mettre fin à la limite imposée à l'épargne-retraite sur les biens étrangers, selon une étude de l'Institut C.D. Howe,

Ottawa devrait abolir la règle sur les biens étrangers, une disposition de la *Loi de l'impôt sur le revenu* qui prélève un impôt de 1 % par mois sur les avoirs de REER et de caisses de retraites dont la part de biens étrangers dépasse 20 % de leur valeur totale. C'est ce qu'affirme un *Commentaire de l'Institut C.D. Howe* publié aujourd'hui.

Intitulée « Assessing the Foreign Property Rule: Regulation without Reason » (« Évaluation de la règle sur les biens étrangers : une réglementation dénuée de fondement »), l'étude est rédigée par MM. Joel Fried et Ron Wirick, des économistes du département d'économie et de la Ivey School of Business, respectivement, de l'Université Western Ontario.

Les auteurs soutiennent que la règle sur les biens étrangers force les Canadiens qui mettent de l'argent de côté pour leur retraite à investir dans des instruments qui fournissent un rendement moindre et qui comportent un risque plus élevé qu'il serait possible d'atteindre autrement. Selon MM. Fried et Wirick, les coûts, en termes d'économies moindres et au bout du compte, d'un revenu de retraite moins important, sont énormes. Ils sont d'avis que si la règle était strictement appliquée, elle aurait diminué, rien qu'au cours des dix dernières années, de plus de 140 milliards de dollars l'argent mis de côté par les Canadiens pour leur retraite.

Les Canadiens sont en mesure de contourner cette règle de diverses façons, indiquent les auteurs, grâce à des instruments financiers dérivés et au « cumul » des fonds communs de placement, mais ces mesures comportent elles aussi certains frais. MM. Fried et Wirick estiment que cette règle réduit probablement l'épargne-retraite de 2 à 4 milliards de dollars par année, ce qui produit une diminution moyenne du revenu de retraite de l'ordre de 6,3 à 12,9 % par an. Selon eux, la règle sur les biens étrangers s'apparente aux charges sociales, lesquelles dissuadent du travail par une diminution des gains qu'il procure.

Selon MM. Fried et Wirick, il y a peu de preuves que la règle sur les biens étrangers profite aux emprunteurs canadiens sous la forme de coûts réduits. Ils soulignent également que le taux d'imposition est tellement élevé qu'il ne procure à l'heure actuelle que des recettes dérisoires au gouvernement, alors que ses répercussions négatives sur le revenu de retraite ne feront que réduire les recettes fiscales dans l'avenir. Puisque la disposition impose des frais aux épargnants tout en ne procurant aucun avantage aux emprunteurs ou aux gouvernements, les auteurs affirment qu'il ne sert à rien de la garder.

Ils affirment que l'élimination de cette règle se ferait sans mal, puisqu'il y a peu de raisons de s'attendre à une pression à la baisse sur le taux de change du dollar canadien — en fait son élimination pourrait même stimuler la devise canadienne. De plus, la tendance qu'ont les investisseurs à accorder la préférence aux investissements domestiques limiterait probablement à court terme l'envergure des modifications de la composition des portefeuilles de placement. Même les organismes nationaux du secteur financier qui pourraient tirer profit de cette règle en ont appuyé l'élimination. Par conséquent, plutôt que de l'éliminer progressivement, MM. Fried et Wirick recommandent qu'Ottawa l'abolisse sans plus tarder.

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Assessing the Foreign Property Rule:
Regulation without Reason

by

Joel Fried
and
Ron Wirick

The foreign property rule (FPR), a provision of the *Income Tax Act* restricting the amount of foreign property that may be held without penalty in a tax-deferred pension account, is an ill-conceived, costly regulation. Canadians should be rid of its burden.

The apparent goal of the regulation is to ensure funds for investment in Canadian firms, lowering their cost of capital and thus creating jobs. Yet the Canadian equity market is so integrated with US and world markets that the FPR has little effect on capital expenditures. Rather, it acts as an indirect tax on wages, including benefits, with adverse effects on labor markets.

Moreover, the FPR has significant costs, the most important of which is the loss of diversification. By worsening the risk-return relationship available for most retirement-oriented savings and by generating artificial costs from mechanisms to circumvent the constraint (mostly the use of financial derivatives), the FPR costs an estimated $2 billion to $4 billion *annually*. For the average Canadian, it lowers retirement income by 6.3 to 12.9 percent per year. That the FPR is widely avoided is fortunate. If it were fully binding, it would impose costs considerably larger than these estimates.

Abolition of the FPR should be quick and complete. The sooner that Canadian and international investors receive a clear signal of improved rules of the game, the better will be the result.

Main Findings of the Commentary

- The foreign property rule (FPR) affects all Canadians who save for retirement through tax-deferred plans, such as registered retirement savings plans (RRSPs) and employer-sponsored registered pension plans (RPPs), and those who use registered postretirement products. These pools of funds were valued at more than a trillion dollars in early 1999.
- Ostensibly, the FPR is meant to encourage business capital expenditure and job creation, and to avoid disruptive exchange rate effects from an outflow of Canadian capital. None of these arguments is persuasive.
- Although the primary goal of the FPR is to reduce Canadian firms' cost of capital, its result is simply a shuffle of domestic and foreign funds with no significant influence on the cost of capital. For a small country with integrated equity markets, such as Canada, that cost is set in world markets.
- Fears that removal of the FPR would destabilize the exchange rate seem groundless. Canadian-related foreign exchange transactions are so large that any effect generated by that removal would be trivial.
- Any limit on the diversification possible in a portfolio decreases its expected return and / or increases its risk. The effect is especially burdensome for Canadians because this country's market for investable assets is small and remarkably unrepresentative of a balanced sector mix.
- Over the past 23 years, Canadian equities have yielded a significantly lower compound return than have either US or overseas stocks but have had a risk level roughly between the two. Increased international diversification could have resulted in both an increase in returns and a decrease in risk for most Canadians' retirement savings. Had the FPR been fully implemented over the past decade, Canadians would have forgone more than $140 billion in returns. If the FPR remains in place and is fully binding, the same kind of portfolio analysis suggests forgoing as much as $7 billion to $8 billion a year.
- Canadian investors can, however, avoid the FPR in several ways, particularly through the use of financial derivatives by pension plans and mutual funds.
- Overall, the FPR is estimated to reduce the returns on Canadians' tax-deferred investments by 16 to 32 basis points per year. That means a reduction in retirement income of 6.3 to 13.0 percent, or $2 billion to $4 billion annually.
- The FPR improves neither horizontal nor vertical equity in the tax system. Instead, it acts as a payroll tax on individuals' earned income, discouraging job creation.
- Had households and pension funds held 10 percent more of their $1 trillion of RRSP and RPP money in foreign assets in 1998, their wealth would have been $35 billion greater at year-end — an amount roughly twice the total employment insurance premiums paid in that year. And that money would have been taxable when working Canadians retired.
- The FPR likely decreases government revenue over the long run. In its absence, retirement-oriented portfolios would be reallocated toward higher-yielding securities, raising retirement incomes and ultimately governments' revenue.
- No major groups — workers, governments, firms, or the financial industry — gain economically from the FPR.

Canada's *Income Tax Act* contains a provision known as the foreign property rule (FPR), which restricts the amount of foreign property that can be held in a pension fund or a registered savings account without incurring a tax penalty.

Although no clearly stated rationale for the existence of the FPR can be found, its principal objective appears to be to encourage business capital expenditure and job creation in Canada by providing a large domestic source of funds. After setting out a brief overview of the rule, we examine the ostensible benefits to be derived from retaining it. Given the financial instruments available and the integration of capital markets, none of these arguments is persuasive.

The FPR is structured as a tax, and that is how we analyze it. In particular, we seek to determine its excess burden — that is, the value of the costs imposed by the tax less the benefits obtained. The presumed benefits consist of any revenue raised by the tax plus any benefits resulting from the increased financing of Canadian companies. The costs are the distortions the FPR creates and the ramifications of those effects throughout the economy. Because the FPR directly affects portfolio choice, the largest of these costs is a reduction in Canadians' ability to diversify retirement savings effectively, which leads to greater risk and lower expected return. This cost is detailed in two sections, where we consider the principles of diversification and the possible gains to be had from it. A series of hypothetical portfolios exemplifies our calculations of the losses that Canadians have suffered from full implementation of the FPR and will continue to suffer unless it is removed.

Investors have, of course, sought and found some ways to avoid the rule. A separate section explains the mechanisms used. It also describes our estimates of the offsets they provide to the possible losses. Nevertheless, the amounts forfeited are staggering.

The FPR rate is so high that the tax generates little or no direct revenue. In fact, it actually reduces government revenue, as we explain in a later section. We also examine the question of who wins and who loses as a result of the rule, and find that all major groups in Canadian society are adversely affected.

Finally, we summarize our conclusions and recommend that the FPR be eliminated as quickly as possible.

The FPR: A Brief Overview

The rule about foreign property — defined as foreign real property, foreign cash, foreign bonds, and equities issued by firms or other organizations not domiciled in Canada[1] — applies to tax-deferred savings vehicles:

- registered retirement savings plans (RRSPs), which allow individuals to deduct from current taxable income contributions up to prespecified limits — currently 18 percent of earned income to a limit of $13,500 per year;
- funds invested in registered pension plans (RPPs) offered by employers; and
- various postretirement plans, including registered retirement income funds (RRIFs), as well as life income funds (LIFs), which are similar to RRSPs but have restrictions on the amounts and timing of withdrawals.

Moreover, under new arrangements whereby the Canada Pension Plan (CPP) will be allowed to invest in a variety of financial assets, its ownership of foreign assets will be limited to the same constraints imposed by the FPR. Table 1 summarizes the amounts invested in these various plans.

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1 Liabilities of certain international bodies such as the World Bank are exempt from the FPR because the debt is guaranteed by world governments and Canada is a member country.

Table 1: ***Tax-Deferred Savings Vehicles***

	1990	1992	1994	1996	1999[a]
			($ billions)		
CPP/QPP	55	55	54	59	60
Registered pension plans	342	398	453	535	752
RRSPs	110	146	182	225	380
Postretirement products	11	22	33	46	60
Total[b]	*518*	*620*	*722*	*865*	*1,252*

[a] Estimated in the following way. The CPP/QPP and postretirement products figures are simple trend extensions. The RPP and RRSP figures were computed by applying the cumulative return on the constrained portfolio (defined later in the *Commentary*) from the end of 1996 through the first quarter of 1999. To these numbers were added the cumulative estimated annual net contributions to RPPs and RRSPs given in Ernst and Young (1997, 15).

[b] Because of rounding, some columns may not quite add to the total shown.

Sources: For 1990–96, Conference Board of Canada 1998; Statistics Canada 1997. For 1999, authors' estimates as described above.

The foreign property rule was introduced in its present form with the June 1971 revisions to the *Income Tax Act*. At that time, the stipulation was that no more than 10 percent of the book value of the assets in an RRSP or RPP could consist of foreign securities or real property. An effectively prohibitive tax of 1 percent per month would be charged on the book value of foreign holdings in excess of the limit.

In response to concerns that the FPR prevented retirement savings from being adequately diversified,[2] that limit was increased from 10 percent to 20 percent in annual stages beginning in 1990. Thus, the maximum rose from 10 percent in 1990, to 14 percent in 1991, 16 percent in 1992, 18 percent in 1993, and 20 percent in 1994 and subsequent years. We argue in this *Commentary* that these increases have proved insufficient.

Retention of the FPR

Proponents of retaining the FPR advance two basic arguments. Some think that abolishing it would raise the cost of capital for Canadian firms, with deleterious effects on job creation. Others believe that ending it would lead to increased instability in the exchange rate, again with negative effects on the economy.

We find both arguments groundless, but they are heard so often in some circles that it seems wise to begin this *Commentary* by examining them and setting out our reasons for not accepting them.

The Impact on the Cost of Capital

Although no official statement sets out the objectives of the FPR, the principal intent appears to be assuring that the pool of tax-deferred savings is substantially available for domestic purposes, resulting in higher levels of Canadian business investment and job creation.

Two difficulties arise. First, in an economy such as Canada's, with open and sophisticated financial markets, business investment decisions are not determined by the simple availability of funds but rather by their cost relative to the expected returns and risk of the investment projects being considered. Increasing the domestic supply of funds can affect investment only if the greater supply forces down the cost of capital.

Second, without a significant lowering of the cost of capital, the FPR is likely to decrease the number of jobs. As we argue later, it acts essentially as a tax on labor, raising the cost of total remuneration by increasing the cost of providing pension benefits and therefore inducing firms to substitute capital for labor. The FPR can have a net positive influence on jobs only if this adverse direct effect is more than offset by a positive indirect effect working through a lower cost of capital.

2 As early as 1979, the Economic Council of Canada had recommended that "as balance of payments and other circumstances permit, the Government of Canada amend the Income Tax Act to permit an increase in the proportion of the assets of Canadian pension funds that can be held in the form of foreign securities" (p. 105).

This outcome seems extremely unlikely. We believe that the FPR results simply in an economic shuffle of funds, increasing the use of domestic funds and decreasing the use of foreign funds with no significant impact on the cost of capital — and therefore no increase in either domestic business investment or jobs. Essentially, our argument is that Canada is a small country in the world economy. The cost of capital is determined in international markets much like prices for Canadian wood pulp, gold, or beef.

This small-country argument rests on two assumptions. The first is that Canada's economy and financial markets are small in comparison to their international counterparts, so that changes in the Canadian supply of funds have no impact on world asset prices. Second, Canadian financial markets are substantially integrated into world markets, which means that, for equivalent risks, expected Canadian and international asset returns must be equal. These two conditions assure that the cost of capital for a Canadian corporation is determined by how the riskiness of that company is priced in world markets, not by the domestic supply of funds. We consider both of these issues in general terms before turning to the direct empirical evidence on the integration of Canadian stock markets with world markets.

Canadian and World Financial Markets

The evidence that Canada is a small country in world markets is overwhelming. Canada's gross domestic product (GDP) is less than 3 percent of world GDP. The Canadian government bond market is less than 3 percent of the world market for sovereign debt.[3] Canadian equity markets represent about 2 percent of world stock markets. And daily Canadian foreign exchange activities are less than 3 percent of estimated world totals.[4]

Worldwide, these markets, including Canada's, are becoming increasingly sophisticated and interrelated. The rapid expansion of trade has been a major engine of international economic growth during the postwar era. World exports as a proportion of world GDP expanded from 6 percent in 1950 to 16 percent in 1992; they are even higher today (*The Economist* 1995, quoting statistics from the Bank for International Settlements).

The internationalization of world financial markets has been even more impressive. The trends to lower regulatory barriers, growth in financial innovation (including the securitization of assets and the proliferation of derivatives), and the explosion in the power and availability of information technology have led to international financial markets' growing even more rapidly than trade markets. For example, *daily* foreign exchange transactions in world markets soared from US$10–20 billion in 1973 to an estimated US$1.2 trillion in 1995 (ibid.). Foreign exchange transactions as a multiple of world trade rose from 9:1 to more than 90:1 during the same period (Nayyar 1995). Daily foreign exchange transactions are substantially larger than the aggregate foreign exchange reserves of all the world's central banks. International bank loans as a proportion of world trade surged from 0.7 percent in 1964 to 16.3 percent in 1991, and gross transborder sales of bonds and equities as a fraction of GDP rose from 10 percent in each of the United States, Germany, and Japan in 1980 to 135 percent, 170 percent, and 80 percent, respectively, by 1993 (ibid.). And finally, foreign assets as a percentage of total world pension assets increased from 8.2 percent in 1992 to 13.2 percent in 1997, and are projected to rise to 16.7 percent by 2002 (LJH Alternative Investment Advisors 1998, quoting InterSec Research Company).

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3 Morgan Stanley Capital International (1999) lists the Canadian share of sovereign debt as 2.6 percent.

4 *Bank of Canada Review* (1998-99) estimates daily Canadian foreign exchange transactions to have been US$32 billion. This amount represents about 2.4 percent of the estimated world total.

This vision of a financial world that is even more integrated and interdependent than world trade is strengthened by qualitative observations. More and more companies now issue equities and bonds simultaneously in different countries. Money managers operate across national borders. On-line stock trading is available to virtually anyone anywhere in the world. And even the small, individual investor can have Internet access, sometimes free and some- times for a small cost, to a range of financial and economic information that would have been available only to the privileged few just a short time ago.

Research on the integration of world stock markets attempts to determine whether risk is priced in international, rather than national, markets. Full integration implies that equity prices are established in international markets and are independent of shifts in the domestic supply and demand for funds. In general, the research results support the integration hypothesis for large companies in developed countries (see Box 1).

Overall, both the data and casual observation paint a picture of a world in which investors have access to and information about significant investment opportunities around the globe. At the same time, companies, especially larger companies, increasingly access the most cost-effective financing, wherever it may be found.

Implications

The previous discussion has two major conclusions. First, there is a very strong *prima facie* case that Canada is a small country whose financial markets are heavily and increasingly integrated with the world economy. The implication is that the FPR does not significantly affect the Canadian cost of capital or, therefore, Canadian business investment and job creation.

Second, direct empirical tests largely support the assertion that the Canadian equity market is now fully integrated with US and world markets. This inference is particularly strong for stocks interlisted on the Canadian and US markets. Such companies represent more than half the total market value of all stocks listed on the Toronto Stock Exchange (TSE); see, for example, Karolyi (1995). Non-interlisted stocks are also heavily integrated with US markets, with only modest room for an independent domestic price effect.[5] Again, the key implication is that the FPR has little if any impact on the cost of capital for listed Canadian companies.

About the only possible avenue for the FPR to have an impact on business investment and job creation is by lowering the cost of capital for small, unlisted Canadian companies that cannot easily access international capital markets. At first glance, though, it seems at least possible that, by increasing available domestic funds, the FPR may make it easier for such companies to expand. Yet we believe that,

5 Studies of what happens to the price of Canadian stocks when they are interlisted in the United States suggest that the differential price effect is small. Foerster and Karolyi (1993), for example, find an average price increase of 9 percent (relative to the market) during the 100 days prior to listing, followed by a further increase of 2 percent during the listing week. Almost all of this rise was eliminated, however, during the next 100 days, when prices fell 10 percent relative to the market. Also, market risk did not change significantly as a result of the listing.

Additional evidence comes from studies testing whether changes in Canadian tax laws with respect to dividends and capital gains have an impact on stock prices. The results are mixed, but some studies suggest some effect. Some of this price impact probably results from so-called clientele effects (high-dividend-paying preferred stocks are almost exclusively owned by high-income Canadian individuals), but the possibility remains that the Canadian market for non-interlisted stocks is mildly segmented. See McKenzie and Thompson (1996) for a recent survey of this literature.

Finally, recent changes in US accounting regulations for Canadian companies have markedly reduced the cost of listing on US stock exchanges. As a result, if the cost of whatever mild segmentation still exists in the Canadian markets is sufficiently great, firms can now more effectively avoid it by interlisting in the United States at minimal cost.

Box 1: ***Evidence on the Integration of Stock Markets***

Research on the integration of stock markets focuses on where risk is priced. Harvey (1991) tests the international version of the capital asset pricing model (CAPM)* for 17 countries, including Canada, using data from 1970 to 1989. He finds that the world CAPM adequately describes the cross-sectional variation in returns for all countries except Japan. Ferson and Harvey (1993) draw similar conclusions.

Chan, Karolyi, and Stulz (1992) investigate the US and world markets and find they are integrated. This is important to Canadian investors because if the two North American equity markets are integrated and if the US market is integrated with global markets, one can infer that Canadian equities are integrated internationally.

In a survey of the literature on global integration of markets in developed countries, Ito concludes the studies show that

> the behavior of asset returns across countries is consistent with the...returns implied by international asset pricing models. Since most tests of the international asset pricing models are a joint test of a model and market integration, evidence for the international pricing models also supports integration. (1997, 36.)

The seminal study of the Canadian market is Jorion and Schwartz (1986). Using fairly early data (1963–82), the authors conclude that their results are consistent with Canadian-US segmentation, although they find evidence of mild integration for Canadian stocks that were interlisted in both countries.

Mittoo (1992), using both a CAPM model and a more complex multifactor arbitrage pricing theory (APT) model on data from 1977–86, comes to two significant conclusions. First, she finds a noticeable movement toward integration from the first half of the period (1977–81) to the second half (1982–86). Results in the earlier subperiod support market segmentation, reflecting Jorion and Schwartz's results. However, both the CAPM and the APT indicate substantial integration of the Canadian and US markets during the later subperiod. Second, Mittoo finds a significant difference between stocks that were interlisted and those that were not. Interlisted stocks exhibit market integration in both subperiods. Non-interlisted stocks are segmented in the earlier period, but the later period yields ambiguous results: the CAPM indicates integration, the APT implies segmentation.

In a study using data from the 1969–88 period, Koutoulas and Kryzanowski (1994) conclude that Canadian stocks are only partially integrated with US stocks. Unfortunately, they did not test interlisted stocks separately, and though they split their sample period, their later subperiod (1978–88) corresponds closely with Mittoo's total period.

Bradley (1999) covers the 1990–97 period, and his results are broadly consistent with Mittoo's. For the overall sample and for interlisted stocks, the analysis is consistent with market integration; non-interlisted stocks exhibit mild integration. Following an argument by Roll (1992), Bradley also provides evidence that the test of non-interlisted stocks may be biased against finding full integration because of Canadian-US differences in industry composition.

* The CAPM, developed by Sharpe (1964) and Lintner (1965) is the standard, one-factor model of risk pricing used in financial theory.

in reality, the FPR has no beneficial effect on small business. One reason is that only a very small percentage of pension and retirement savings account funds ends up flowing toward small business. For example, of the $432 billion invested by the 100 largest pension plans in Canada, only 0.2 percent is invested in venture capital (Press 1999).

A second and even more compelling argument is that availability of funds is almost certainly not the key barrier facing small firms in Canada. Venture capital funding has grown rapidly over the past several years, increasing from $3.3 billion in 1992 to $8.4 billion in 1997 (Canadian Venture Capital Association 1998, 2). The largest single source of this funding in-

crease, courtesy of extremely generous personal income tax (PIT) incentives, is labor-sponsored investment funds (LSIFs).[6] Despite this explosive growth, LSIFs have been plagued by an embarrassing accumulation of money that they have been unable to invest. Indeed Working Ventures, one of the largest LSIFs, had to refuse new money for two years and pay $10 million in tax penalties because of this inability to find profitable investments (Ferguson 1998).

Furthermore, returns on most LSIFs have been extremely low. For example, in the three-year period ending April 30, 1999, the average LSIF had an annual return of 1.7 percent, in contrast to annual returns of 10.3 percent for the average Canadian equity mutual fund and 12.8 percent for the TSE 300.[7]

All this suggests, if anything, that there is *too much* money available for venture capital investment in Canada. Certainly, any constraints on small-firm financing have little to do with fund availability but must result from other causes.

Overall, there is little or no evidence that the FPR has any positive impact on business investment and job creation in Canada. Neither is there good reason to believe that it causes any significant reduction in the cost of capital for either large or small firms.[8]

The Impact on the Exchange Rate

Some people argue for the retention of the FPR, even if it does not achieve its primary objective, because they worry about the effects that discarding it would have on the balance of payments and the exchange rate.

Although no official statement outlines the exact nature of the concerns here, the rudiments of the issue are fairly clear. Eliminating the FPR, runs the argument, would lead Canadians to sell domestic assets and purchase foreign assets. This portfolio shift would represent a gross outflow of capital, which, other things being equal, could create downward pressure on the value of the Canadian dollar.

We note immediately that, even if the dollar's value did decline, we do not believe that the fall would be, in itself, a bad thing. If the FPR is keeping the dollar artificially high, this overvaluation is raising the cost of traded versus nontraded goods, reducing the size of the trade sector, and imposing an overall efficiency loss on the Canadian economy.

A variant of the argument, however, centers on a more serious concern: exchange rate instability. Proponents say that ending the FPR would create such massive capital outflows that foreign exchange markets would panic, triggering a flight from the Canadian dollar and Canadian assets, wild swings in the dollar's value, and potentially massive increases in domestic interest rates to restore stability.

The fear of exchange rate instability is not an argument in favor of the FPR *per se* but rather a concern that, given the existence of the FPR, its removal could have serious, unpleasant side effects. In short, it is similar to arguing that taking a heroin addict off drugs is unwise because doing so would trigger the acute physiological repercussions of withdrawal. The metaphor may be extreme, but it is useful for underscoring an important point. No one would really assert that the problem of drug withdrawal is a good reason for not helping victims

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6 LSIF investment represented 51 percent of the $8.4 billion total in 1997 (Canadian Venture Capital Association 1998, 2). Funds invested in LSIFs are 100 percent eligible for RRSPs and the resulting PIT deduction. In addition, the federal and provincial governments provide 15 percent PIT *credits* for annual investment amounts up to a maximum of $5,000. If a taxpayer withdraws funds from an LSIF within eight years of investment, there is a tax penalty equal to the original credit.

7 Data are from the GlobeFund website: www.globefunddb.theglobeandmail.com (June 5, 1999).

8 Even if the FPR has some small effect on the cost of capital, it is an incredibly inefficient way to increase business investment. Far more effective would be tax measures directly geared to investment expenditures.

Box 2: *Currency-Hedged Foreign Investment*

Hedging is a way of offsetting the risk of loss from changes in exchange rates (or commodity prices). The investor or trader buys futures contracts on an amount of the currency (or goods) equal to his exposure to risk. Any profit on the futures contract cancels any loss on the base item and vice versa.

Investment firms that trade internationally in large amounts often hedge their purchases against a fall in the relevant exchange rate, automatically inducing a capital counterflow of equal magnitude. For example, consider a pension fund manager who sells some of the fund's holdings of bonds and uses the resulting funds to buy US equities. If the manager hedges the currency through a financial intermediary, the latter is exposed to a US dollar currency risk (relative to its position before the transaction). To avoid this risk, the intermediary can either sell some of its US dollar assets and purchase Canadian dollar assets (for example, the bonds that the fund manager just sold) or it can borrow US dollar assets in the US market and use the proceeds to purchase Canadian assets. Both cases produce an inflow of capital that just matches the outflow initiated by the purchase of foreign property.

Thus, to the extent that purchases of foreign securities were fully hedged, removing the FPR would create no net reduction in funds available to Canadian enterprises.

to break the habit. Instead, the side-effects problem affects the decision on how to implement a withdrawal program.

Similar conclusions should apply to the FPR. If the only reason for retaining it is that its removal might trigger unpleasant but transitional side effects, then the discussion should focus on how, not whether, the FPR should be abolished. Concern about exchange rate instability is likely one, if not the principal, reason some critics of the FPR have called for an increase in its foreign content limit as a transitional step toward its eventual removal. Gradual weaning seems to be the idea.

All this discussion is, however, based on the presumption that exchange rate instability is a serious risk. We believe this concern is erroneous. Indeed, we believe that elimination of the FPR would have little or no impact on the exchange rate.

First, any effect on the exchange rate depends on net, not gross, balance of payments flows. Dropping the FPR would cause a gross outflow of capital as Canadians increased foreign diversification of their portfolios, but it would also result in greater international ownership of domestic assets. Only if these two gross flows were not equal at current prices would an impact on the exchange rate result.

Second, as Burgess and Fried demonstrate, no net exchange rate effect occurs when international capital flows are currency hedged (1998, 6–10). Only *net, unhedged* flows have an exchange rate impact (see Box 2).

Third, the magnitude of even the gross flows, while large in an absolute sense, would be small in the context of overall Canadian exchange rate activity. As a rough calculation, suppose $100 billion — 10 percent of the approximately $1 trillion in tax-deferred savings instruments in 1998 — was moved to foreign markets over a year. This movement over a relatively small period would be massive. Yet the average *daily* volume of Canadian-related foreign exchange transactions in 1998 was an estimated $54 billion. In effect, the amount of foreign exchange transactions that would be generated by the removal of the FPR would be less than 1 percent of the annual volume of foreign exchange transactions, or about two days' worth of trading. And these flows would be gross — the impact of net, unhedged flows would be far smaller. A trader who insisted on taking her coffee breaks might miss the action.

Fourth, removal of the FPR might set up expectations that would lead to a net capital *inflow*, instead of the feared outflow. This possibility follows from recent work by Bartolini and Drazen (1997). They analyze the effects of the removal of capital controls in a number of developed countries and conclude that, when controls on capital outflows were dropped or reduced, there was a measurable inflow of capital instead of the anticipated outflow. The reason, they argue, was that the removal signaled future liberal policies for taxation of capital, and the better a government treats its own citizens, the better it can be expected to treat nonresidents as well.

Fifth and finally, the cost-of-capital arguments given previously imply that little or no price effect would be necessary to assure offsetting capital inflows. World markets determine Canadian asset prices, so eliminating the FPR should have virtually no impact on them. If prices started to fall, international arbitrage would assure sufficient capital inflows to prevent drastic price changes.

In short, integrated world capital markets should assure that gross capital outflows will induce offsetting capital inflows without requiring significant changes in either asset prices or the exchange rate.

The Importance of Diversification

The FPR imposes a number of direct costs. The largest is the loss of diversification that comes from the effective limitation on the retirement portfolios of Canadians. This section details the principles involved. We subsequently look at the costs of violating those principles.

Achieving Diversification

Probably the best-accepted and most time-honored principle of modern investment theory is that investment portfolios should be well diversified. Investors want the highest returns on their investments with a minimum of risk. To achieve this objective, financial planners expend much effort on assuring that each client chooses the right mix of investments to satisfy her desire for greater return, given her individual risk tolerance and personal circumstances (age, family status, level of knowledge, and so on). Diversification, exemplified by the aphorism "never put all your eggs in one basket," is the great ally in the battle to increase expected returns while controlling risk. Securities that are very risky when held by themselves are substantially less so when combined with many other securities in a portfolio. Indeed, if investment outcomes are completely independent of one another, forming a portfolio of large numbers of risky assets can reduce risk almost to zero.

This law of large numbers is the basis of the risk-spreading services of life insurance companies. By selling large numbers of life insurance contracts, they can virtually eliminate the uncertainty surrounding life expectancy. The risk of taking a loss on any one policy is quite large; the risk of loss in 10,000 policies is vanishingly small. And for an investor, the more "spread out" his investments, the greater the reduction in risk.

Simply increasing the number of investments is not, however, a sufficient way of assuring the full gains from diversification. It is equally important to ensure that the outcomes on individual investments are relatively independent of each other. In statistical terms, the degree of interaction is called correlation (see Box 3). Diversification gains from adding securities to a portfolio are greatest when the new securities have negative (or low positive correlation) with those securities already in it.

The second key aspect of investment diversification, therefore, is combining assets that are subject to different types of risk or that at least have different susceptibilities to various risks. Practically speaking, this means that in-

Box 3: *Statistical Concepts*

Correlation and standard deviation are two concepts from statistics that are important to this study.

*Correlatio*n is the degree to which two or more attributes or measurements of the elements of a group, such as assets, tend to vary together. The measure of statistical correlation, which is called the correlation coefficient, ranges from 1 (in which outcomes on one element are perfectly positively linked to the outcome on another) through zero (implying there is no relationship between outcomes) to –1 (in which the outcomes are perfectly negatively linked).

For investments, the relationship between the correlation coefficient and the degree of risk reduction is as given in the table below.

Correlation Coefficient	Effect of Diversification on Risk
+1.0	No risk reduction is possible
+0.5	Moderate risk reduction is possible
0.0	Considerable risk reduction is possible
–0.5	Most risk can be eliminated
–1.0	All risk can be eliminated

Source: Malkiel 1999, 210.

Standard deviation is a measure of the dispersion (variation) in a frequency distribution. For investments, this spread of annualized returns is the most widely accepted indicator of the risk of a portfolio. For a normal distribution, roughly two-thirds of the observations lie within one standard deviation of the mean of the distribution and

vestments should be diversified by geographical location (to minimize the chance that any locationally specific adverse event will have a significant detrimental impact on portfolio returns). Investments should also be diversified by type of asset class (bonds, equities, and so on) and by economic sector. For example, a portfolio consisting of a large number of energy- producing stocks in one country may not be as well diversified as a portfolio with a smaller number of stocks spread over several economic sectors and countries.

In summary, diversification gains are the greatest when a large number of investments are spread across different economic sectors and country locations.

Violating the Principles

A binding FPR forces Canadians to violate these basic principles of diversification. The Canadian market for investable assets is small and unrepresentative of the total world market. Specifically, Canadian equities and bonds represent about 2 to 3 percent of the world supply of these assets,[9] yet the FPR implies that most Canadians must invest 80 percent of their retirement-oriented wealth in this tiny portion of world assets.

Worse yet, the small Canadian market is remarkably unrepresentative. Table 2 compares data from major stock indices worldwide:

for Canada, the TSE 300;
for the United States, the Standard and Poor (S&P) 500 index;
for Europe and Asia, the Morgan Stanley Capital International Europe, Australia, and the Far East (EAFE) Index;

9 The TSE 300 represents just under 2 percent of the total market equity value summarized in Table 2. Given that the TSE 300 represents at least as high a coverage of the total Canadian market as the table's other indices represent for their markets and also given that some countries are not covered by any of the indices, the Canadian equity market must be less than 2 percent of the world market. For bonds, Solnik (1996, as quoted in Bodie 1997) estimates that the Canadian market represented 2.4 percent of the world total at the end of 1993 (calculated in US dollars). Since the Canadian dollar has fallen by about 10 percent since then, the Canadian bond market is probably fractionally more than 2 percent of the world total.

Table 2: ***Economic Profiles for Major Stock Indices, March 31, 1999***

	TSE 300	S&P 500	EAFE	MSCI EM
Total market value *(US$ billions)*	377	10,482	7,613	825
Market value/book value *(US$ billions)*	2.08	4.93	2.77	1.55
Price/earnings, ex negative	16.70	28.48	25.02	14.29
Size[a]				
Large *(%)*	6.5	60.3	37.7	0.0
Medium *(%)*	67.4	38.5	58.1	68.2
Small *(%)*	21.6	0.4	3.7	26.8
Unclassified *(%)*	4.6	0.8	0.5	5.0
Ten largest/total *(%)*	37.0	21.6	14.4	16.2
Number of companies	299	500	1,026	940
Auto and transportation *(%)*	3.5	2.5	7.5	3.4
Energy *(%)*	9.6	5.7	6.2	7.0
Financial services *(%)*	22.6	16.2	24.1	21.6
Health services *(%)*	1.5	11.7	8.4	1.2
Materials processing *(%)*	15.1	3.4	8.5	17.2
Other consumer *(%)*	16.0	23.4	16.8	15.0
Producer durables *(%)*	3.1	2.6	3.9	2.8
Technology *(%)*	12.1	18.1	8.0	8.5
Utilities *(%)*	14.0	11.4	15.1	19.1

[a] Large = ≥ US$ 60 billion; medium = < US$ 60 billion; small = < US$2.3 billion.

Source: Frank Russell Canada Limited, personal communication.

for emerging markets, the Morgan Stanley Capital International Emerging Market Index (MSCI EM).

Notice that the Canadian index differs from the indices for the rest of the industrialized world in at least three respects. First, the price/book value and price/earnings ratios in the TSE 300 are significantly smaller than those of the S&P 500 and the EAFE. Second, the companies represented in the Canadian index are generally much smaller; only 6.5 percent are in the large category, compared with 37.7 percent of the EAFE index and 60.3 percent of the S&P 500 companies.[10]

Finally and perhaps most important, Canadian stocks have an economic sector mix quite different from that of US, Asian, and European equities. Almost half (47.3 percent) of the TSE 300 market value comes from stocks in the financial services, materials-processing (metals, minerals, forestry, and so on), and energy categories. These three sectors account for slightly more than a third of the EAFE index and only a quarter of the S&P 500 weight. The flip side is that the TSE 300 is underrepresented in some key sectors. For example, health services and technology (two high-growth sectors) account for only 13 percent of the TSE but 17 percent of EAFE and 30 percent of the S&P 500.

10 Notice, however, that Canada's ten largest companies dominate the TSE 300 index much more than the ten largest companies dominate either of the other two developed-country indices — a product of the Canadian firms' being moderate-sized fish in a small pond. This result also suggests that the amount of diversification one gets from the Canadian market does not provide that much diversification across firms.

In short, the small size and idiosyncratic industry structure of Canadian assets make a strong *prima facie* case that Canadian investors can significantly reduce risk through substantial international diversification. The optimal level of foreign investment is almost certainly well in excess of the 20 percent allowed under the FPR. Shortly, we will provide strong empirical evidence to support this inference. But there is one other point to be made first.

Insufficient diversification causes an unnecessary rise in risk. It also changes behavior as investors react to the higher levels of risk by choosing a more conservative asset mix. In other words, they tend to control risk at the cost of lower expected return. For example, if equities are more risky as an asset class than they would be if there were no restriction on the degree of international investment, then investors are likely to choose a lower proportion of equities (and a correspondingly higher proportion of fixed income investments) than they would otherwise. Investors are thus able to reduce their risk exposure but only at the sacrifice of the higher long-run expected returns that equities provide.

The Costs of Nondiversification

These issues become important as we estimate the costs of the loss of diversification entailed by the FPR. Our calculations have two components. First, we estimate the historical costs of the FPR under the assumption that it has been a binding constraint on investment behavior. Second, we estimate the annual costs to be expected in the future if a binding 20 percent rule remains in place.

The Historical Costs

For our historical analysis, we used quarterly data from the past 23 years for six asset classes:

1. 30-day government of Canada T-bills;
2. long-term government of Canada bonds (as reported in the ScotiaMcLeod Long-Term Government of Canada Bond Index);
3. Canadian equities (from the TSE 300 index);
4. US long-term bonds (as reported in a series from Ibbotson Associates);
5. US equities (from the S&P 500 index); and
6. international equities (from the Morgan Stanley EAFE index).

Table 3 summarizes the basic statistics on these asset classes and on Canadian inflation as measured by the consumer price index (CPI). A quick glance at these data reveals two reasons net gains have been available to Canadians from international diversification. First, over the period, Canadian equities yielded a compound return significantly lower than did either US or overseas stocks while exhibiting a risk level (as measured by the standard deviation of returns — see Box 3) roughly intermediate between the two. Second, Canadian assets have been poorly correlated with corresponding international assets, a point that underscores the potential diversification gains discussed earlier.

An Exercise in Alternatives

To gain additional insight into the benefits that international diversification could have offered Canadians over the period covered in Table 3, we modeled a variety of hypothetical portfolios, as set out in Table 4. For simplicity, half of each portfolio consisted of Canadian bonds (roughly the proportion Canadians have in existing pension plan assets). The other half was in equities, varying from entirely Canadian stock to entirely foreign shares. (In each case involving foreign stocks, we used 60 percent US stocks and 40 percent EAFE stocks.)

Table 4 makes it immediately evident that increased international diversification resulted

Table 3: ***Historical Statistics on Asset Class Performance, 1976:Q4–1999:Q1***

Return and Risk

Asset Class	Annual Compound Return	Annualized Standard Deviation
	(percent)	
Canadian T-bills	9.2	2.0
Canadian government long-term bonds	12.3	13.8
Canadian equities (TSE 300)	11.8	18.0
US government long-term bonds	11.6	13.9
US equities	18.3	15.8
International equities	17.1	19.9
Consumer price index	4.9	1.9

Correlation Coefficients

	Canada			United States			
	30-Day T-Bills	Government Bonds	TSE 300	Government Bonds	S&P 500	EAFE	CPI
30-day T-bills	1						
Long-term government bonds	–0.01	1					
TSE 300	–0.09	0.41	1				
US long-term government bonds	0.04	0.77	0.08	1			
S&P 500	–0.16	0.36	0.68	0.28	1		
EAFE	–0.16	0.25	0.48	0.26	0.57	1	
CPI	0.69	–0.13	0.04	–0.09	–0.1	–0.1	1

Note: All series are nominal quarterly data for total holding-period returns (price gains/losses plus reinvested dividends and interest payments) and exclude the impact of any taxation or transaction costs.

Source: Authors' calculations, based on data described in the text.

in *both* an *increase* in returns *and* a *decrease* in risk. Furthermore, these improvements in the risk/return relationship continued to occur even at foreign investment percentages well in excess of the 10 to 20 percent range.

In short, the long-term historical data support the prior reasoning that Canadians should be far more diversified than is permitted under the FPR.[11]

Another Exercise

Next, we considered more closely the decade of the 1990s, when debate about the FPR has been most prominent. To do so, we hypothesized two portfolios, both including 50 percent domestic bonds but differing in their equity diversification. The first, which we call the *constrained portfolio*, included the maximum degree of international diversification permitted in each year of the 1990s under the FPR. The second, the *internationally diversified portfolio*, split the equity component into 20 percent Canadian and 80 percent foreign — a 40 percent

11 Additional gains could have been obtained by diversifying the bond component of the portfolio. We focused on gains from greater equity diversification since that is by far the more common practice among both RRSP and pension investments. A possible reason is that, for defined-benefit pension plans at least, many of the liabilities of these plans are long-term, nominal Canadian dollar cash flows. Canadian bonds, therefore, represent a risk-free investment for such plans.

Table 4: ***Effect of Alternative Degrees of International Diversification, 1976:Q4–1999:Q1***

	Annual Compound Return	Annualized Standard Deviation
	(percent)	
50% Canadian bonds and		
50% Canadian stocks, 0% foreign stocks	12.4	13.3
40% Canadian stocks, 10% foreign stocks	13.0	12.8
30% Canadian stocks, 20% foreign stocks	13.7	12.4
20% Canadian stocks, 30% foreign stocks	14.3	12.1
10% Canadian stocks, 40% foreign stocks	14.9	12.0
0% Canadian stocks, 50% foreign stocks	15.5	12.0

Note: In all cases, the foreign stock component is composed of 60 percent US stocks and 40 percent EAFE stocks, as described in the text. All calculations are in Canadian dollars.

Source: Authors' calculations.

foreign equity exposure in the total portfolio. (Again, the foreign equity component consisted of 60 percent US stocks and 40 percent EAFE stocks.)

Figure 1 summarizes the cumulative performance of the two portfolios.

The superior performance of the internationally diversified portfolio is striking. An initial $10,000 investment in the constrained portfolio would have grown to $29,000 while the same amount invested in the diversified portfolio would have become $34,000, representing a gain of close to 2 percentage points a year. At the same time that return was improved, risk would have been reduced — an additional benefit of diversification.

Across the full gamut of tax-deferred savings instruments, the losses represented by being bound to the constrained portfolio are truly stupendous. We combined the data on asset amounts affected by the FPR (given in Table 1) with the differential portfolio performance embodied in Figure 1 to obtain estimates of the economy-wide impact of a binding FPR during the 1990s.

Specifically, we assumed that, on average, these assets were invested in the constrained portfolio. The resulting returns represented what would have been possible using the international diversification to the maximum extent permitted under the FPR. We then compared the resulting investment income to the year-by-year income that would have been obtained if the assets had been invested according the asset allocations specified in the internationally diversified portfolio. The results of this exercise are given in Figure 2, which reports the estimated cumulative loss from a binding FPR.

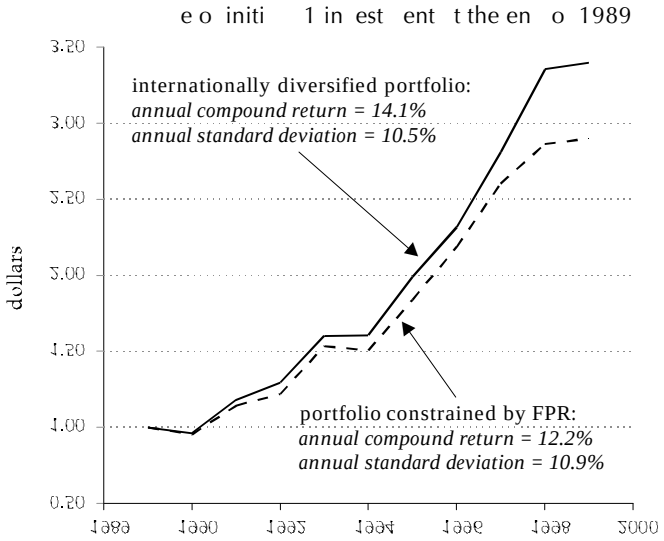
The picture is truly staggering. Cumulative losses trended up throughout most of the decade and then rose sharply in 1998. If Canadians had held 40 percent, rather than 20 percent (or less), of their tax-deferred retirement assets in foreign equities, their wealth would have been much greater than it is. Our exercise estimates the losses in wealth due to the FPR at more than $140 billion over the decade.

We emphasize that this figure is based on the assumption that the FPR was fully binding during the decade. As we argue later, the FPR was almost certainly not fully binding, so actual losses were fortunately lower than this estimate. Nonetheless, $140 billion represents what the cost of the FPR would have been if its impact had been as restrictive as the legislation intended.

The Prospective Future Costs

Much of the historical cost of the FPR has occurred directly as a result of the relatively weak performance of the Canadian equity market during the 1990s. This, of course, is the basis for the international-diversification argument in the first place: the diversified Cana-

Figure 1: ***Value of Constrained and Internationally Diversified Portfolios, 1990–99:Q1***



Source: See Table 4 and text.

dian investor is significantly protected against weak returns on domestic equities. Nonetheless, there is no particular reason to believe that Canadian equities will systematically underperform foreign stocks in the future. Underperformance in some years undoubtedly is likely to be offset, in whole or in part, by overperformance in other years.

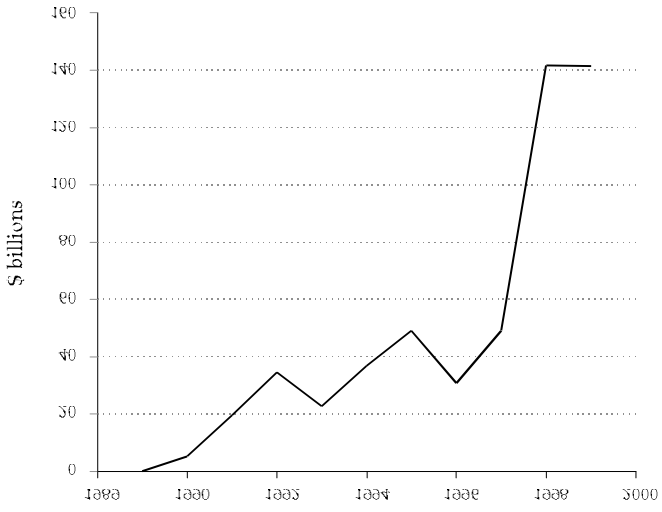
Even given this favorable outlook for domestic investments, however, diversification would still lead to a significant reduction in risk. Good and bad years would be smoothed, leaving at least an average performance and much-reduced risk for similar asset mixes. And Canadian investors would have the added benefit, described previously, that the reduction in the total risk of equities would allow them to increase the equity component of their portfolios and thereby improve their overall expected returns.

We examined these future-oriented issues and costs using *efficient frontier analysis,* which compares alternative portfolios on the basis of their expected returns versus their standard deviations (see Box 4).

For calculating the *prospective* efficient portfolio combinations of the six asset classes under consideration, we used estimates of the expected returns, standard deviations, and correlation coefficients. The obvious starting point was the historical experience described in Table 3.

For the standard deviations and correlation coefficients, using these historical estimates is not a bad proxy for the future. Despite significant variation from one period to the next, relative risk and the relationship among risks tend to remain reasonably consistent. (For example, equities almost always have higher standard deviations than bonds, which, in turn, are more risky than bills. Canadian asset returns are almost always more highly correlated with US assets than with overseas assets.) Furthermore, the estimate of efficient portfolios is significantly less sensitive to errors in these variables than to errors in estimating the asset-class expected returns, which are the principal challenge in implementing the efficient frontier analysis. (Using the historical returns themselves would embed the assumption of expected future underperform-

Figure 2: ***Cumulative Historical Cost of Binding Foreign Property Rule, 1989–99:Q1***



Source: See Table 4 and text.

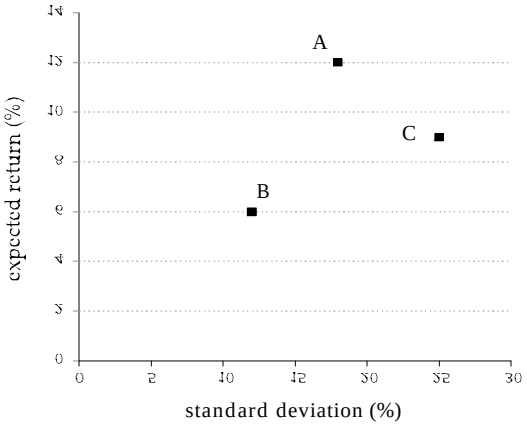
Box 4: ***Efficient Frontier Analysis***

In efficient frontier analysis a portfolio with a higher expected return and the same (or lower) standard deviation as another portfolio is said to dominate in the sense that any wealth-seeking, risk-averse investor would prefer it. Portfolios that are not dominated by any other available portfolio are considered efficient in the sense that the choice between them depends on the risk tolerance of the individual investor.

In the figure below, portfolios to the northwest are more efficient than those with lower expected returns (to the south) or greater risk (to the east). Thus, portfolio A domintaes portfolio C, which has less expected return and greater risk.

If we know the expected returns, standard deviations, and correlation coefficients for individual assets (or asset classes), we can calculate all the efficient portfolios constructed from these assets. This collection of efficient portfolios is the *efficient frontier.*

Choice among Portfolios



ance of the Canadian market, which, as we noted earlier, is likely unwarranted; at the same time, using any assumption other than the historical data is open to the criticism of being arbitrary and potentially biased.)

The approach we adopted was to base the expected returns on KPMG (1999), a survey of 27 economists and financial analysts on their expectations about the future course of key economic and financial variables. Among the variables forecast are the long-run expected returns (average returns from 2005 to 2014) on Canadian T-bills, the ScotiaMcLeod Universe Bond Index,[12] the TSE 300 index, and the S&P 500 and EAFE indices (both in Canadian dollars). In short, the survey is an excellent source of informed, unbiased consensus opinion about future expected returns, and therefore we used this data, with a few small modifications,[13] to estimate the expected returns of our six asset classes.

Overall, our assumptions for the efficient frontier analysis are summarized in Table 5.[14] With these estimates established, the calculation of the efficient frontier was relatively straightforward.[15] Table 6 gives our efficient frontier points and the corresponding asset allocations. Also given are the expected return and standard deviation of a typical constrained

12 The use of expectations about the universal bond index as a proxy for the long-term bond index is unlikely to create any significant distortions.

13 First, the KPMG survey has a forecast annual return of 8.0 percent for Canadian and for EAFE equities, but an 8.5 percent return for US equities. Yet it seems reasonable to assume that US equities are no riskier than Canadian equities, even for Canadian investors, so we lowered the expected return on US equities to 8.0 percent. Second, we raised the expected return on EAFE stocks to 8.5 percent because one can argue that, from the Canadian viewpoint, their relatively high standard deviation makes them more risky than Canadian or US equities. Finally, we had to arrive at an expected return on US Treasury bonds, a variable not forecast in the KPMG survey. We took the Canadian long-term bond return and subtracted 50 basis points to reflect what we consider to be the lower riskiness of US bonds.

14 To check on the robustness of our results, we ran the efficient frontier analysis using variants on the assumptions described, including the actual KPMG assumptions and the assumption that all expected returns of the same types of asset class (that is, bonds and equities) are the same. None of these alternatives made any significant difference to the general nature of our conclusions.

15 The macro-embedded spreadsheet from which the calculations were made is available from the authors on request.

Table 5: ***Statistical Assumptions for Our Efficient Frontier Analysis***

Return and Risk

Asset Class	Expected Return	Standard Deviation
	(percent)	
Canadian T-bills	4.60	2.00
Canadian government long-term bonds	5.70	13.80
Canadian equities	8.00	18.00
US government long-term bonds	5.20	13.90
US equities	8.00	15.80
International equities	8.50	19.90

Correlation Coefficients

	Canada			United States		
	30-Day T-Bills	Government Bonds	TSE 300	Government Bonds	S&P 500	EAFE
30-day T-bills	1					
Long-term government bonds	–0.01	1				
TSE 300	–0.09	0.41	1			
US long-term government bonds	0.04	0.77	0.08	1		
S&P 500	–0.16	0.36	0.68	0.28	1	
EAFE	–0.16	0.25	0.48	0.26	0.57	1

Note: All calculations are in Canadian dollars.

Source: Authors' calculations, based on data described in the text.

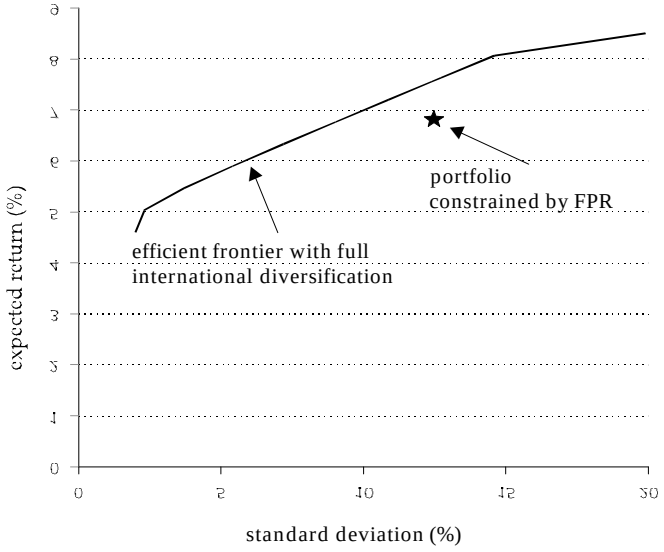
portfolio consisting of 50 percent Canadian bonds, 30 percent Canadian equities, 12 percent US equities, and 8 percent overseas equities. (For ease of comparison, the most efficient portfolio and the constrained portfolio are in bold italics in the table.)

Once again, it is clear that a binding FPR is and will continue to be costly to Canadian investors. The constrained portfolio's standard deviation of 12.41 percent and expected return of 6.89 percent are a combination well inside the efficient frontier (see Figure 3).

In fact, the efficient frontier point with an identical standard deviation has an expected return of 7.56 percent, which is 67 basis points higher than that of the constrained portfolio. The two portfolios have two notable characteristics in comparison. First and not surprisingly, the efficient portfolio has substantially more foreign content — almost two-thirds of the portfolio value. It also has a much higher equity component (a total of 83.0 percent). This outcome underscores the point made previously: if equity investment is well diversified internationally, it becomes less risky. The rational investor can, therefore, increase the equity component over that of the constrained portfolio without raising overall portfolio risk.[16]

16 Two objections can be raised to this estimate of the costs of the FPR; one would lower the estimate, the other would raise it. First, the 67 basis point estimate results from comparing an efficient unconstrained portfolio to an assumed actual constrained portfolio. Part of the gain in going from the latter to the former is a result of the fact that the assumed actual portfolio is not itself an efficient constrained allocation, given the expected returns, standard deviations, and correlation...

Figure 3: ***Canadian Efficient Frontier Using Domestic and Foreign Assets, 1999***



Source: See Table 4 and text.

Although this 67 basis points is a maximum estimate of the FPR's impact, it is worth taking a moment to consider the impact of an annual "free" increase of that size. Since most tax-deferred savings vehicles are designed to generate retirement income, one way to approach the point is to ask how much impact these extra points would have on the retirement income of a typical Canadian.

Assume, for example, that an individual saves $4,000 per year in his RRSP from the time he starts work at age 22 until he retires at 65. Investing in the constrained portfolio yields an expected final RRSP value of $961,000. Investing in the internationally diversified portfolio has an expected final value of $1,161,000 — an improvement of $200,000, which would fund a 28 percent higher retirement income.[17]

Another way of considering the impact is to look at the aggregate annual cost of a binding FPR. With well over a trillion dollars invested in tax-deferred savings instruments, a 67 basis point difference represents a current and future cost of $7 billion to $8 billion per year. This number is truly staggering.

Limits to the FPR's Effectiveness

Fortunately, there are good reasons to believe that the FPR is not 100 percent binding. The previous section estimated the adverse impact of the FPR under the extreme assumptions that it is completely binding and that without it portfolio asset allocations would be at optimal levels. These assumptions are much too strong, for two reasons.

The Offsetting Factors

The first limit on the FPR's complete effectiveness is a phenomenon known as the home-country bias. A considerable body of empirical evidence suggests that, even without regulatory interference, investment allocations in virtually every country have a smaller international component than standard portfolio theory predicts. Second, the FPR has a number of exemptions that allow investors to increase their international investment exposure beyond the notional 20 percent limit.

The home-country bias has been well documented for many years (for an overview, see Lewis 1994). For example, in 1989, the United Kingdom accounted for approximately 11 per-

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Note 16 - cont'd.

...coefficients of Table 5. In particular, with these assumed parameters, an investor would hold a smaller proportion of fixed-income assets and a larger proportion of Canadian equities. This efficient constrained portfolio is still quite inefficient compared to the situation in which the FPR restricts foreign investment at all, but the difference is about 28 basis points, rather than 67 basis points.

Second, on the other side of the ledger, the estimated effect of a binding FPR incorporates only the impact of the loss of diversification. There is also a direct regulatory burden of abiding by the FPR. This issue is discussed in the next section, where we crudely estimate the additional cost at roughly 7 basis points.

17 The 28 percent improvement is based on an expected life span of 25 years. A shorter life span would decrease this differential slightly, and a longer one would increase it.

Table 6: ***Efficient Frontier Points***

Portfolio		Asset Mix					
		Canada		United States			
Standard Deviation	Return	T-Bills	Long-Term Bonds	TSE 300	Long-Term Bonds	S&P 500	EAFE Equities
			(percent)				
			Unconstrained Portfolios				
2.00	4.60	100.0	0.0	0.0	0.0	0.0	0.0
2.31	5.03	87.9	0.0	1.7	0.0	6.3	4.1
3.71	5.47	75.7	0.0	4.5	0.0	11.9	7.9
5.41	5.90	63.5	0.0	7.3	0.0	17.4	11.8
7.20	6.33	51.3	0.0	10.0	0.0	22.9	15.7
9.03	6.77	39.2	0.0	12.8	0.0	28.4	19.6
10.88	7.20	27.0	0.0	15.6	0.0	34.0	23.5
12.41	***7.56***	***17.0***	***0.0***	***17.8***	***0.0***	***38.5***	***26.7***
12.74	7.63	14.8	0.0	18.3	0.0	39.5	27.4
14.60	8.07	2.6	0.0	21.1	0.0	45.0	31.2
19.90	8.50	0.0	0.0	0.0	0.0	0.0	100.0
			Constrained Portfolio				
12.41	***6.89***	***0.0***	***50.0***	***30.0***	***0.0***	***12.0***	***8.0***

Note: Because of rounding, the asset shares in some rows do not quite add to 100 percent. All calculations are in Canadian dollars
Source: Authors' calculations as described in the text.

cent of world equity markets but UK investors had 82 percent of their equity investments placed in domestic firms. This disparity existed despite the absence of foreign investment restrictions since 1970. In the same year, US equity value represented approximately 40 percent of the world total, but Americans held 94 percent of their equity investments in US firms (French and Poterba 1991).

Economists advance a number of explanations to explain the home-country bias, including taxation effects, the risk hedging of domestic liabilities by pension funds, lack of knowledge, and limits to easily accessible investment vehicles for international investing. Given the rapid increase in the accessibility of all types of investment information and the strong growth in international mutual funds and other investment vehicles, it is likely that the home-country bias has weakened and will continue to do so.[18]

A recent study of asset allocations in the pension plans of different countries (Griffin 1998) concludes that the most important determinant of international asset allocations is the importance of world trade to the country's economy. Highly trade-oriented countries, such as Canada, have much larger international investment allocations than more closed economies. The study also looks at the impact of regulatory restrictions on international investments and concludes that only South Africa and Canada have restrictions that reduce nationals' allocations more than would otherwise occur. In short, the home-country bias probably reduces, but does not eliminate, the extent of the adverse impact of the FPR.

18 Data from InterSec Research Corporation on the international asset allocation of pension funds in different countries support this conclusion. The average foreign content of pension plans worldwide increased from 8.2 percent in 1992 to 13.2 percent in 1997.

The effect of the FPR is also limited because Canadian investors have at least three ways in which to circumvent its restrictions. The first is stacking. A mutual fund that holds no more than 20 percent of its value in foreign assets qualifies as a domestic investment. By stacking such funds on top of the specifically directed foreign content of 20 percent, individuals can raise the effective foreign content of their RRSPs to 36 percent of their portfolio value.

The second way investors can circumvent the FPR is through the segregated funds that are insurance companies' analog of mutual funds. Because they come with insurance company guarantees, segregated funds are considered domestic content and are 100 percent RRSP-eligible even if they are invested in foreign assets. (This exception to the FPR is slated to expire on January 1, 2001.)

The third circumvention involves the use of derivatives. A mutual fund that holds Canadian T-bills and the same notional value of, say, S&P 500 index futures contracts has a risk/return profile equivalent to that of direct ownership of the S&P 500 stocks hedged against currency risk. The advantage of the derivatives approach is that futures contracts have no market value and hence do not use up any of the room for foreign property in the portfolio. Revenue Canada therefore looks only at the value of the T-bills and considers the Canadian content of the derivatives-based investment to be 100 percent.

Such use of derivatives has become more and more widespread among pension funds and mutual funds. For example, a recent survey of the 100 largest pension plans in Canada revealed that 20 percent of them use derivatives to increase foreign exposure (Press 1999, 20). Some pension plans use index-based futures very aggressively to achieve far greater foreign exposure than intended by the FPR.[19] In theory, nothing prevents a pension plan or an individual RRSP account from having a foreign investment exposure of 100 percent.

In short, the use of derivatives has been a godsend for Canadian savers who are trying to avoid the constraints on international diversification imposed by the FPR. The use of derivatives weakens both the impact and the cost of the FPR. Nonetheless, they are not a perfect solution to the difficulties it presents. A number of problems remain.

- *Information and regulatory impediments*: Stock index futures are not themselves a permitted investment in a self-directed RRSP, which means individuals must own them indirectly through a mutual fund. Furthermore, for both individuals and pension funds, derivatives are not always a comfortable investment as there remains widespread concern about the risks of using such exotic financial instruments.
- *Imperfect coverage*: Derivatives-based strategies generally require listed futures contracts with reasonable liquidity. Although most major markets now have such contracts, their availability is far from universal. Also, even the contracts that are available account for only 65 to 85 percent of the total stock market value in each country. Because of imperfect coverage of countries and companies within countries, the Canadian investor probably has access to about 60 percent of the world equity market (Burgess and Fried 1998, note 19).
- *No active management*: The use of index derivatives forces investors to have a specific mix of companies for each country. Active security selection is impossible. Of course,

19 For example, the Ontario Teachers' Pension Plan, the largest pension plan in Canada, had a foreign exposure of 31.5 percent in 1995 (noted in Burgess and Fried 1998). The pension plan of the University of Western Ontario, one of the largest defined contribution plans in the country, has a foreign exposure in its equity fund of 70 percent but only 15 percent foreign property.

many investors may prefer a passive investment strategy, but others may not.[20]

- *Additional costs*: Index investing using futures contracts requires that these contracts be rolled over roughly every three months. Over a long time horizon — which presumably is the case for both RRSP and pension investments — these rollover costs make using derivatives more expensive than direct ownership of the underlying stocks. Over 30 years, for example, the cost difference is estimated at nearly 1 percent, or about 3 basis points per year (calculations based on Frank Russell Canada Limited 1997).

The Size of the Offsets

Given the existence of the home-country bias plus the various methods of circumventing the rule, how serious a constraint on international investing is the FPR? Burgess and Fried (1998) address this question by comparing the foreign content of mutual funds inside and outside RRSPs. Under the assumption that the latter represents the desired level of international diversification, they calculate that the FPR has a *maximum* impact of lowering foreign content by 12 percentage points. They further assume that this differential also applies to pension funds. Finally, they consider this estimate to be an upper bound since they recognize that an individual might target her international content on her combined holdings of RRSP and non-RRSP funds, offsetting the constrained lower foreign content in RRSPs with a higher content in non-RRSP funds. Of course, such an option is only available to those individuals who have significantly large non-RRSP investments. Nonetheless, the argument does suggest that 12 percentage points is an upper-bound estimate of how much foreign content would increase if the FPR were eliminated.

A recent survey by the *Canadian Investment Review* (1998) provides another estimate of the impact of the FPR on asset allocations. The survey asked major Canadian pension plan sponsors what their foreign asset allocations would be on January 1, 2000, with and without the FPR restriction. The response was that average foreign content would increase from 25.4 percent to 29.0 percent if the FPR were eliminated — a rise of 3.6 percentage points.

We believe this estimate is the lower bound of what would happen. The experience when the FPR was raised from 10 to 20 percent suggests that investment decisions adjust only gradually to the loosening of restrictions — that is, foreign content increases slowly as comfort levels with higher exposure increase. Thus, the 3.6 percent rise would be an initial effect that would become larger over time.

Moreover, large pension plans are probably among the best informed and most sophisticated investors affected by the FPR. Today they are likely to be using derivative instruments to minimize the impact of the FPR and, therefore, would be less affected by its removal. Smaller pension funds and many individuals managing their own RRSPs would probably make larger shifts in their allocations to foreign investments.[21]

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20 In a recent innovation, a number of mutual fund companies have started to offer RRSP-eligible funds that are "cloned" to actively managed foreign investment funds. The clone funds hold Canadian money market instruments to maintain RRSP eligibility and use over-the-counter derivatives to mirror the performance of the underlying foreign investment fund. Like index-based derivative products, these clone funds allow investors to fully circumvent the 20 percent FPR rule. But the act of cloning is costly; it currently averages 50 or more basis points. This is the price Canadian investors must pay to circumvent the FPR and have active professional management. For example, see the description of the Mackenzie funds at Internet website www.mackenziefinancial.com / RSPfunds / RSPfunds5. html (September 21, 1999).

21 This argument suggests that investors with relatively small current allocations to foreign investments would be likely to experience the largest increase with the removal of the FPR. The survey of the *Canadian Investment Review* (1998) provides a small hint that supports this surmise. It reports the range of foreign...

Summary of the Calculations

Overall, we estimate that the FPR reduces foreign asset allocation by between 3.6 and 12.0 percentage points. This range can be used with the efficient frontier inputs to calculate the cost of the loss in diversification. Specifically, we used the following procedure.

We assumed that the FPR is binding on some but not all investors, with overall foreign content constrained to 20 percent of portfolio value.[22] In particular, we assumed that the FPR-constrained portfolio is composed of 50 percent Canadian bonds, 20 percent foreign equities (split 60:40 between US and overseas equities), and 30 percent Canadian equities. From these asset allocations, we calculated the portfolio's expected return and standard deviation using the statistical assumptions of Table 5.

For the unconstrained portfolio, we added a further 3.6 to 12.0 percentage points to the foreign equity allocation (again with a 60:40 split between US and overseas equities). The remaining investment was split between Canadian bonds and Canadian equities, with the proportion adjusted to ensure the identical standard deviation as the corresponding FPR-constrained portfolio. This adjustment resulted in the equity allocation's rising to between 53 percent (lower bound) and 59 percent (upper bound). As we have noted several times before, this additional equity investment is one of the gains from increased international diversification. With the same risk levels, the difference between the two portfolios is simply a matter of a difference in expected returns.

The result of these calculations is that the FPR causes an annual reduction in expected returns of 8 basis points (lower bound) to 23 basis points (upper bound) per year. To this cost from the loss of diversification must be added the costs associated with efforts to avoid the FPR. For example, as discussed previously, the use of derivative indexing, rather than direct stock ownership, raises implementation costs by about 3 basis points per year. In addition are costs associated with the fact that country and company coverage are imperfect. (Of course, these additional costs apply only to derivatives-based investments.) Overall, these and other avoidance problems may raise costs by 1 to 2 basis points.[23]

Finally, there are direct regulatory burden costs. For instance, suppliers of RRSPs are required to maintain two sets of accounting systems, one for market values and the second for book values (since the FPR binds the book value of foreign investment). Also, there are added legal requirements about what types of trust arrangements can be entered into to meet the FPR requirements as well as what institutions are eligible to offer registered plans.

Estimating the magnitude of this regulatory burden is difficult. One hint that it is not trivial can be gleaned from the difference between the average management expense ratio (MER) for international equity funds sold in Canada (1.79 percent) and that for similar funds sold in the United States (1.05 percent) (see Clemens and Mihlar 1999, 40). Although other factors are undoubtedly also at work, if only

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Note 21 - cont'd.

> ...investment allocations under the FPR as 18 to 36 percent; without the FPR, this range becomes 20 to 36 percent. In other words, the fund with the highest foreign content component did not increase it at all in adjustment to the hypothetical disappearance of the FPR.

22 This assumption seems roughly consistent with the finding of the *Canadian Investment Review* (1998) survey, which reports that major Canadian pension plan sponsors currently have an average foreign content of 25.4 percent. For the reasons previously given, we believe that this amount represents an upper bound on the foreign content of the average investor using tax-deferred savings. In any case, our estimate of the cost of the FPR is not very sensitive to the assumed foreign content under the FPR. The critical issue is how much this foreign content would rise if the FPR were removed.

23 These costs of using derivatives could rise substantially if they are used to provide active management. See the discussion in note 20.

one-tenth of the excess MER is attributable to the FPR, an additional cost of slightly more than 7 basis points is imposed.

In total, then, we estimate that the FPR imposes costs of 16 to 32 basis points, which is substantially less than the 67 basis points given previously as the estimate of a fully binding FPR versus an equivalent efficient frontier point. This reduction represents the combined impact of the home-country bias, the cost of the several available methods of circumventing the FPR, and the estimate of the direct regulatory costs.

In short, simply because the FPR is relatively ineffective, the costs of the regulation are less than they might otherwise be. Yet the FPR does entail significant costs. Consider again the example cited earlier of an individual who is saving for retirement. Even with the many means available to reduce its adverse effects, the FPR causes a reduction in retirement income of 6.3 to 12.9 percent. On an aggregate basis, the cost is $2 billion to $4 billion annually, considerably less than the impact that would have occurred if the FPR were fully effective but still a very considerable sum of money.

Conclusion

In summary, the FPR does not restrict foreign investment in the way it was intended to do. A binding FPR would be extremely costly, creating losses of billions of dollars per year for Canadian investors. But, for various reasons, the FPR is an increasingly ineffective constraint on international diversification. This fact reduces, but certainly does not eliminate, the rule's adverse costs but also completely negates any of its supposed beneficial effects. Moreover, that more and more individuals and institutions openly and proudly circumvent the spirit of the FPR can hardly increase respect for the regulatory and legal systems generally.

Government Revenue

The FPR is structured as a tax, but because the rate is prohibitive, the regulation essentially has no direct revenue effect. In fact, the FPR creates indirect effects that, on net, adversely affect government revenue. Thus, eliminating the FPR would likely increase government revenue in the longer run. At least three effects would be at work. The first might have a negative impact on revenue, but the others would unambiguously increase revenue.

First, by making tax-deferred savings instruments more attractive, removal of the FPR might increase the amount of saving that goes into these programs. This rise could cause tax revenue to decrease in the short run (although revenue would increase on withdrawal of these additional savings). On the face of it, the potential expansion in RRSPs appears quite large. For instance, in 1995 only 29 percent of taxfilers contributed to RRSPs, suggesting that the remaining 71 percent could take advantage of this tax expenditure if it were more attractive.

However, as the Association of Canadian Pension Management (ACPM) (1997) points out, using RRSPs would be uneconomic for many of the nonparticipants. Those who have retired and continue to file taxes have little use for this saving vehicle. The young also have less need of this income-averaging mechanism because they are typically at income levels below their expected lifetime average; it often does not pay to defer taxes when the current marginal rate is relatively low but the eventual rate is expected to be high. Canadians in RPPs have little need of RRSPs because they have an alternative vehicle for retirement saving. Finally, individuals with low expected lifetime incomes do not find it economic to use RRSPs because of the relatively generous income support programs for the elderly; if they increase their savings while working, they would be better off in retirement than they are now. (The objective of saving is generally to enable

smoothing consumption over the individual's lifetime. Saving in this case would lead to uneven consumption and thus be welfare reducing.)

The ACPM study suggests that, if the calculation of RRSP participation omits those groups over age 65, under age 25, in RPPs, and with incomes of less than $20,000, then the participation rate rises from 29 to 77 percent. Therefore, it is doubtful whether dropping the FPR would have much, if any, impact on RRSP participation rates.

The second aspect of eliminating the FPR that would affect government revenue — one with far less ambiguous implications — is that it would raise future tax revenue because of the portfolio reallocation toward higher-yielding securities. As we argued earlier, removing the FPR would permit a more efficient portfolio choice, which means that, for any given level of risk, the expected return would be greater. When the funds were eventually withdrawn from the tax-deferred vehicle, the higher returns would represent a pure revenue gain to the government. Every dollar of *increased* return would generate an increase in taxable income, a decrease in the payouts on income-tested programs for the elderly, or both. But if a binding FPR remains in place, both Canadians and their government would lose.

Finally, as we detail below, to the extent that the removal of the FPR increased employment, current government revenue would rise because of the increase in profits and earned income enjoyed by Canadians as well as the decrease in welfare and employment insurance (EI) payments to the unemployed.

Distributional Issues

The FPR does not meet its implicit objectives of increasing Canadian business investment and job creation. Nor does it stabilize the exchange rate. It creates efficiency losses and reduces government revenue. But perhaps it helps some disadvantaged groups even if it has an overall negative economic impact. Thus, we examine of the redistributional issues in this section.

A Payroll Tax on Workers

As already noted, the FPR is structured as a tax. Its rate is so high that no one undertakes to pay it directly. Yet, like any tax, it forces choices that make individuals worse off relative to their situation had no tax been imposed. There is, in other words, a tax burden over and above the revenue paid. The question then is, on whom does the burden from the FPR fall?

We believe that the bulk of this burden falls on workers and the unemployed. In effect, the FPR can be seen as a tax on labor income.

To see this, note first that eligibility for RRSPs and RPPs depends directly on earned income. Anything that detracts from the return on the savings in these plans impinges directly on the benefits individuals receive from earned income. Because the FPR reduces the returns on these plans, it can be regarded as a tax on those entitled to them — namely, workers. Consequently, the FPR can be treated as a tax on earned income broadly defined to include benefits as well as money wages, and those "taxed" are the primary losers from the rule.

The losses to labor can occur in one of two ways. Consider first individuals who have no company pension plan at all and save for retirement using an RRSP or who work for companies with defined-contribution pension plans or group RRSPs. In these cases, the worker's choice about how to allocate her savings is directly limited by the FPR. It forces her to accept a lower return on her savings or to assume greater risks. In effect, the FPR reduces the real value of her earned income relative to what it would be otherwise.

Second, for workers who have company-provided, defined-benefit pension plans, the tax burden is less transparent but just as real. The FPR raises the cost of providing a given

level of retirement income. The sponsoring firm responds by reducing the benefits package it offers its workers, offering a lower money wage, or hiring fewer workers. In short, by increasing the effective cost of employing a worker, the FPR can decrease employment.

Indeed, the FPR operates almost identically to EI premiums in providing a disincentive to employment. Both increase the amount employers must pay to offer the worker a given *net* wage and benefits package. This cost is not insubstantial. As a case in point, the Morgan Stanley Global Index for 1998 reported a rate of return more than 35 percent greater than the return on the TSE 300. Had Canadian households and pension funds held 10 percent more of their $1 trillion of RRSP and RPP money in foreign assets, their wealth would have been $35 billion greater at the end of that year. That amount is roughly twice the *total taxes* paid in EI premiums that year. And that money would have been taxable when working Canadians ultimately retired.

RRSPs and Low-Income Canadians

A possible redistribution concern is that eliminating the FPR might be disadvantageous to lower-income groups. Presumably, the basic argument would assert that RRSPs (and perhaps RPPs) are tax expenditures that are little used by lower-income groups; removal of the FPR would benefit the rich at the expense of the poor.

We can offer three responses to such an argument. The first challenges its implicit assumptions, the second questions whether RRSPs and RPPs should be considered tax expenditures, and the third argues specifically that the FPR is harmful to all Canadians, including the poor.

First, consider the assumptions. One is that what matters is relative income, not absolute income — in other words, the claim is not that removing the FPR would actually hurt the poor, only that the rich would benefit more. Another assumption is that it really is the rich who benefit from RRSPs and RPPs. In fact, because of the contribution limits, these programs tend to be of most use to the middle class.[24] The rich receive relatively little benefit as a proportion of their income.

Second, we think that RRSPs and RPPs should not be considered tax expenditures but a limited means of moving toward a consumption-based tax system, rather than one based on income[25] — in other words, a system of taxing people on the basis of what they take out of the economic system instead of what they put into to it. Economists have been drawn to the idea of consumption-based taxes for some time. One attraction is that an income-based tax system tends to distort consumption-savings decisions since these decisions are based on after-tax, not before-tax, rates of return. Also, taxing consumption instead of income increases horizontal equity because consumption reflects lifetime expected average income more closely than does current income. Consumption-based taxes, therefore, would not punish individuals

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24 Historically, RPPs represented a government incentive for firms to fund pension benefits. Ottawa added RRSPs as a mechanism to provide equitable treatment for workers in firms that do not have company-sponsored plans. The current limits on contributions levels become binding at roughly $75,000 of earned income, significantly limiting the proportion of income that the wealthy can put in tax-deferred accounts.

25 Even if the reader chooses to regard RRSPs and RPPs as tax expenditures, the Canadian Institute of Actuaries questions the Department of Finance's estimate of their magnitude. The institute examines the department's methodology and concludes that, for the year examined (1991), a more appropriate estimate of the tax expenditures for tax-deferred savings plans would be 26 to 36 percent of the government's estimate (1995, 44–56). This calculation does not take into account the change in expenditures on income-tested programs provided to seniors that would be increased if these tax-deferred plans did not exist. Finally, it should be noted that more than 60 percent of the tax expenditures were due to the RPP program and less than 40 percent to RRSPs.

with volatile year-to-year incomes to the same degree that the income tax system does.

We believe that RRSPs and RPPs can be viewed as a step in the direction of a consumption-based tax system. Certainly, these mechanisms do not go all the way in that direction (because ceilings on contribution rates and other restrictions imply that, for many individuals, incremental savings decisions continue to be based on after-tax, rather than before-tax, rates of return). Nonetheless, RRSPs and RPPs do permit a significant amount of income smoothing, especially between pre- and postretirement.

Of course, consumption-based taxes face counterarguments, many of which are based on the belief that an income tax system has lower collection costs and can more easily implement progressive tax rates. However, these problems are the very ones that the use of RRSPs and RPPs completely avoids. In short, RRSPs and RPPs should be seen as a means of allowing users to smooth their taxable incomes more efficiently over their lifetime while progressivity and low collection costs for the tax system continue.[26]

What impact does the FPR have on these issues? It reduces the income-smoothing benefits of RRSPs and RPPs because of the imposed loss of diversification. But it also indirectly harms lower-income groups. Under current plans, the new, expanded CPP fund will be rigidly bound to a 20 percent foreign content rule paralleling that of the FPR. The CPP, therefore, will suffer the same partial lack of diversification; thus, contribution rates will have to be higher or benefits lower than they would be without such a restriction, with a serious adverse effect on lower-income Canadians. Moreover, since the FPR acts an indirect employment tax, it reduces wages and job creation, harming lower-income Canadians.

In short, the removal of the FPR is likely to benefit virtually all Canadians, including lower-income groups.

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The Financial Industry

If, in the aggregate, firms, households and governments lose from the continued existence of the FPR, opposition to its removal must arise either from a lack of understanding of some basic economics or from agendas that are directed toward special interests. Our view is that ignorance rather than venality is the primary reason for those advocating the continued existence of the FPR.

There are some candidates whose narrow self-interest might lead them to argue for its

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26 Additional income-smoothing mechanisms for lower-income groups are the public pension support programs, Old Age Security, and the Canada and Quebec Pension Plans.

continued existence. For instance, the existing suppliers of RRSP products might have an interest in the FPR's maintenance as a mechanism to reduce competition. Canadian brokers and mutual funds probably have a comparative advantage over nonresidents in evaluating Canadian securities. Removing the FPR would mean that more foreign mutual fund companies, which are better acquainted with foreign markets, might decide to set up shop in Canada, cutting into the profits of existing, actively managed, Canadian-owned fund companies. As well, more Canadian securities would be held by nonresidents and purchased through non-Canadian brokers. The FPR thus serves as a way to limit demand for funds that are not Canadian-run and, therefore, to reduce the incentive for these foreign companies to enter the Canadian market, as well as to increase the demand for Canadian brokerage services.

The higher MERs of Canadian mutual funds noted earlier provide some support for this argument. This excess MER could represent monopoly rents that are sustained through the use of the FPR to keep out potential entrants. Yet this self-interest argument remains unconvincing since the Investment Funds Institute of Canada (IFIC), the industry association for mutual funds in Canada, strongly supports the elimination of the FPR.[27] Furthermore, foreign-owned mutual funds already have a substantial presence in Canada.

A more reasonable interpretation is the infant-industry argument. The FPR served to give Canadian mutual funds a competitive advantage over foreign suppliers at the outset, but it has now outlived its usefulness. The high Canadian MER now represents the cost of the excess regulatory burden borne by the Canadian industry relative to its US counterpart.

Since both the United States and Canada regulate to maintain prudential behavior, it seems likely that the excess burden in Canada is linked to the monitoring requirements of Revenue Canada to enforce the FPR, as we argued earlier. In consequence, some of the scale economies available to the US industry cannot be realized in the Canadian market.

Finally, two groups of fund suppliers currently have major exemptions from the FPR. These are labor-sponsored venture capital firms and insurance companies offering segregated funds. As an incentive to use the former, government permits them to double the foreign property content of an individual's RRSP accounts.[28] The latter sells a claim on its own portfolio, and there are no restrictions on where it can invest those funds.

To the extent that other funds cannot contain these higher levels of foreign property, the products of these two groups are relatively more attractive. These organizations, plus those individuals directly involved in monitoring the FPR — lawyers, accountants, and regulators themselves — may be the only ones who gain from the continued existence of the FPR.

Conclusions

It is hard to conceive of a less defensible regulatory intervention than the foreign property rule. To an ever-increasing extent, it is widely circumvented, chiefly through the use of financial derivatives. A central tenet of legal theory is that laws should not be made if they cannot be effectively enforced. The ever-weakening ability of the FPR to control Canadian ownership of foreign assets makes it, from this viewpoint alone, a singularly unattractive legal statute.

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27 For example, see the discussion on the issue given on the IFIC Internet web site: www.ific.ca/eng/frames.asp?l1=Regulation_and_Committees, September 21, 1999.

28 That such an incentive should be used makes clear that the FPR is not imposed to insure that Canadians avoid excessive risk. If that were the reason, the government could argue that, given the very risky nature of venture capital, households ought to hold fewer risky foreign assets.

Even if the FPR were completely binding, the evidence is overwhelming that it would accomplish nothing of its supposed objectives. An increase in domestic capital expenditures and employment could occur only if the FPR lowered the cost of capital to Canadian firms. Yet general observation as well as direct empirical tests support the conclusion that the Canadian equity market has become well integrated with US and world markets, especially since the mid-1980s. The key implication is that the FPR does not significantly decrease the cost of capital for listed Canadian companies.

About the only possible way for the FPR to have an impact on domestic business capital expenditures and job creation is by lowering the cost of capital for small, unlisted Canadian companies that cannot easily access international capital markets. Yet, at most, the FPR has a very small effect on the availability of venture capital. And the experience of labor-sponsored investment funds suggests strongly that any financing problems that small Canadian firms face have to do with factors other than the sheer availability of funds. In short, the FPR has essentially no beneficial effect on business capital expenditures or employment. In fact, since the FPR acts as an indirect tax on labor compensation, it may well reduce total employment in Canada.

The FPR is ineffective with regard to other objectives as well. It has no significant effect on the value of the Canadian dollar, so there is no reason to believe that its removal would create exchange rate instability. The FPR generates no beneficial effects on the horizontal or vertical equity of the income tax system. And most ironic of all, although it is formally instituted as a tax, its prohibitive nature and its adverse efficiency effects mean it actually reduces government revenue.

In addition to being widely circumvented and ineffective, the FPR also causes significant unintended costs, the most important of which follows from the loss of diversification. By worsening the risk-return relationship available to Canadians who are saving for retirement and by inducing them to use expensive methods of evading the constraints, the FPR imposes estimated costs of $2 billion to $4 billion *annually*. For the average Canadian, it lowers retirement income by 6.3 percent to 12.9 percent per year. (In one sense it is fortunate that the FPR is widely avoided; if it were fully binding, it would impose costs considerably larger than these estimates.) Finally, the FPR has an adverse impact on labor markets as it acts as an indirect tax on employment income and benefits.

Given all these considerations, we strongly urge that the foreign property rule be abolished. Furthermore, we see no reason why this change should be either partial or phased. Delay or halfway measures would simply mean that adverse costs would continue to mount. In any case, portfolio adjustment of retirement-oriented savings is almost always a gradual process. The sooner a clear signal of the new, improved rules of the game was sent to both Canadian and international investors, the better would be the result. The FPR is an ill-conceived, costly regulation. It is high time to rid Canadians of its burden.

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