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Lessons in Harmony:

What Experience in the Atlantic Provinces Shows About the Benefits of a Harmonized Sales Tax

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In this issue...

Provincial retail sales taxes are remarkably high on business inputs, including purchases of capital goods that spur growth in productivity and employment. Evidence from Eastern provinces with a Harmonized Sales Tax (HST) suggests that harmonizing provincial sales taxes with the federal GST would eliminate most of this distortion, without leading to an increase in consumer prices.

presumably long-run and permanent. However, my empirical methodology, discussed below, does not allow these long-run effects to be estimated directly.

The necessary implication of high taxes on business inputs under RSTs is that if reform were to be revenue-neutral, then the taxes paid by consumers on their personal expenditures would rise substantially. The analysis of effective tax rates shows that if the GST base were to be adopted, this would be achieved through the broadening of the base to include new homes and, to a lesser extent, some goods and services, rather than through increases in the headline statutory rate of the provincial sales taxes.

This shift in burdens from business to consumers is usually regarded as a major obstacle to such a reform. But all taxes are ultimately paid by some people, somewhere — and never by businesses. That is, we must distinguish between the “statutory burdens” of a tax — who the tax law says must pay the tax — and the true “economic burdens” of a tax. True economic tax burdens depend on how taxes levied on businesses are shifted forward to consumers through higher prices, or shifted backward to factors of production, like labour, capital, and land, through lower wages and rental prices. Estimating true economic burdens is difficult, but it is the key to understanding the ultimate impact of a tax on consumers and on the distribution of real income in the economy.

To give some sense of the true economic distribution of burdens under the RSTs, I examine the relationship between changes in consumer prices and changes in effective tax rates in the harmonizing provinces in the years following the 1997 reform. Again I use comparisons with the non-reforming provinces to control for economic and especially monetary factors that otherwise affected consumer price inflation at the same time. The results show that the pattern of relative price changes among broad categories of consumer expenditures was quite similar to the pattern of relative changes in taxes and business costs induced by the reform — that is, each 1 percent increase in costs induced by taxes leads to approximately a 1 percent increase (or perhaps more) in the price paid by consumers.

Indeed, overall, consumer prices in the harmonizing provinces fell with the 1997 reform, although prices rose somewhat for shelter and for clothing and footwear, so that the reform was slightly regressive. The pattern of tax changes today would presumably be different if harmonization were extended to the remaining RST provinces, since their current tax systems differ from those replaced in the 1997 reform. What is important is that the results are consistent with the notion that taxes are fully shifted forward (or even “overshifted”) in most sectors, so that the change in statutory burdens would not result in large distributional effects.

The rest of the paper is organized as follows. The second section describes the sales tax systems of the provinces and discusses the presumed deadweight costs of the RSTs. The third section presents an accounting analysis of the changes in revenues and statutory tax burdens resulting from a hypothetical reform in which RST provinces adopted the federal GST base but without changing their tax rates. Estimates of the effect of the 1997 HST tax reform on investment are presented in the fourth section, and on consumer prices in the fifth section. The sixth section concludes my analysis.

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and Territories**Tax Expenditures and Evaluations 2007 : 4**[- Table of Contents -](#) [- Previous -](#) [- Next -](#)**Part 2
Research Report****Corporate Income Taxes and Investment:
Evidence From the 2001–2004 Rate Reductions****Introduction**

Business investment in plant and equipment is a key driver of Canada's prosperity. It promotes innovation and growth, which generate more and better jobs at higher wages for Canadian workers. The decision to invest is sensitive to the rate of return, which is in turn affected by the taxes imposed on business investment. Business tax reductions therefore contribute to improved living standards of Canadians.

Despite the strong theoretical link between taxation and investment, and a substantial body of empirical studies supporting this link, some skepticism has been expressed about the effectiveness of corporate income tax rate reductions in stimulating business investment.^[1] At the theoretical level, tax rate reductions have been criticized for not being cost-effective, since they provide financial benefits to all profitable businesses, not just those that invest. Furthermore, a cursory examination of trends in investment and taxation does not lead to a clear-cut conclusion, since there have been times when rate reductions were followed by increased investment, as well as times when investment did not increase.

This study provides a non-technical summary of empirical analysis undertaken in the Department of Finance that examined the impact of the corporate income tax rate reductions announced in the 2000 budget and implemented over the 2001 to 2004 period.^[2] The results are consistent with other studies,^[3] providing strong evidence that lower corporate income tax rates result in additional business investment.

The next section describes the tax reductions, providing more detail on their timing and the industries affected. This description is followed by a qualitative discussion of the determinants of investment, an explanation of the methodology used in this study and a review of the empirical results.

The 2001–2004 Corporate Income Tax Rate Reductions

The February 28, 2000 budget announced that the federal corporate income tax rate would be cut from 28 to 27 per cent effective January 1, 2001. It also promised further reductions over the next four years to reduce the rate to 21 per cent by 2004, but did not provide a timetable.

The October 18, 2000 *Economic Statement and Budget Update* spelled out the timing of the subsequent rate reductions as:

Investment is found to be strongly influenced by the tax reductions. The estimated coefficient on the tax component of the UCC is large and highly significant by the usual statistical standards (see Annex 1). It implies that a 10-per-cent reduction in the tax component of the UCC would raise the real capital stock by approximately 7 per cent over a five-year period. This estimate is well within the range found in other studies of taxation and investment in Canada and the United States (Table 1 and Annex 2).

Comparison of the Two Approaches

As noted above, a weakness of the regression using annual data is the stylized modelling of the response over time of investment to changes in the tax component of the UCC. A more complete model would include adjustment costs and allow investment to respond over several years to a tax change. Given the relatively small number of annual observations available, it was not feasible to include these features in this study. As a result, the annual approach likely understates the true impact of tax changes on investment. In contrast, the DD approach circumvents the need to model the adjustment process by estimating the investment response over the entire 2000–2004 period, and therefore likely provides a better estimate of the impact of corporate income tax rate reductions on investment.

Table 1
The Sensitivity of Investment to Tax Changes—Summary of Empirical Results

Study	Change in Investment From a 10-Per-Cent Reduction in the Tax Component of the User Cost of Capital
This study	
Annual regressions	3-per-cent increase
Difference-in-differences	7-per-cent increase
Range from other studies ¹	3-per-cent to 11-per-cent increase

¹ See Annex 2 for detailed results of other studies.

Conclusion

The belief that lower corporate income tax rates should lead to more investment is intuitively appealing. It is one of the reasons that tax reductions are considered an important step towards improving Canadian competitiveness. Proving the existence of a relationship between taxes and investment with real-world data is, however, a challenge. Investment is influenced by numerous factors, many of which are also in flux as tax rates change. Identifying and untangling the contributions of the tax and non-tax influences is a demanding process.

A characteristic of the 2001–2004 tax reductions—the fact that some sectors were affected by the reductions and others were not—created an opportunity to conduct an empirical examination of the effects of the rate reductions on investment. The work described in this study took advantage of that opportunity to test the proposition that lower tax rates boost investment.

Using real-world data from Canadian industrial sectors, the study applied two different statistical tools to investigate the investment–tax rate link. Both provided clear evidence that investment was strongly and positively influenced

by the 2001–2004 corporate income tax rate reductions. A 10-per-cent reduction in the tax component of the user cost of capital is associated with an increase in the capital stock in the 3-per-cent to 7-per-cent range, with the latter being the preferred estimate since it is obtained using a more robust methodology.

The results summarized in this study are consistent with empirical work undertaken by other researchers. As shown in Annex 2, studies undertaken since the early 1990s find a strong link between the user cost of capital, which is directly affected by taxes, and business investment in plant and equipment.

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