

requires higher marginal tax rates. With universality, those higher tax rates are shared between those with children and those without. With targeted benefits, the higher tax rates are only experienced by families with children.

In general, universal benefits, which create a single effective marginal tax rate, are superior to targeted benefits, which lower effective tax rates for some and raise effective tax rates for others. The reason is, as any textbook in public finance will show, that the efficiency losses from taxation increase with the square of the marginal tax rate. For example, if the efficiency costs of a 10 per cent tax are 10 per cent of revenue raised, the efficiency costs of a 20 per cent tax will be 40 per cent of revenue raised, all else being equal. This means that the efficiency gain from reducing taxes on people with children from, say, 45 per cent to 35 per cent, is greater than the efficiency costs of raising tax rates on similarly situated people without children from perhaps 25 to 35 per cent. Moreover, because families with children are in the minority, reducing the current 20 per cent tax back rate faced by modest income families to 10 or 5 per cent would require only a small — perhaps three or four per cent — increase in overall tax rates over the same income range.

There are some conceivable circumstances where the inconsistent tax treatment of those with and without children would make economic sense. First, suppose that people with dependent children respond less to economic incentives than people without children. Suppose, in other words, they have a less elastic labour supply and so the amount they choose to work is less affected by high marginal tax rates. If this were true, it would make sense to make them face a higher effective marginal tax rate than people without children, because the distortions and efficiency losses would be less in their case. Yet all empirical evidence suggests that women with children under 16, the primary group receiving child benefits, have *higher* labour supply elasticities than other population groups, which suggests that they should be subject to particularly low, not particularly high, marginal tax rates. Indeed, labour supply elasticity considerations argue for lowering marginal tax rates on women by giving *increasing* child benefits with income. This could be accomplished through a child deduction, or French-style system, which allows income splitting between parents and children.

Second, suppose that paying benefits to those in need created a “moral hazard” problem. For example, Canada’s universal health insurance may cause overuse of medical resources as people visit doctors

unnecessarily or fail to take adequate care of themselves. If true, this would mean that everybody should have to pay some portion of the cost of health care. But the only way to justify abandoning universality would be to argue that this moral hazard problem is more severe for the rich than for the poor, so that the rich should co-pay, but the poor should receive universal coverage. This is scarcely plausible for health care, and even less plausible for children.

Many debates about tax and benefit policy are in fact debates about the relative importance of equity and efficiency. For example, a policy of increasing taxes to pay for higher welfare benefits would buy more (vertical) equity at the expense of reduced efficiency, due to disincentive effects. But going from targeted benefits to universality improves both equity and efficiency. We think of it as “parallel equity.” In our view, the difference in tax/benefit treatment between those with and without children, between the sick and the healthy, between the young and the old, should be the same at every income level. Similarly, the efficiency benefits of universality are subtle. We are not talking about lowering effective marginal tax rates for everyone, which would promote efficiency but reduce vertical equity. Instead we are talking about equalizing effective marginal tax rates between those who do and those who do not need medical care, support for their old age, or recognition of the costs of dependent children. Once this is understood, universality deserves support from all ranges of the traditional political spectrum — from those who emphasize equity to those who emphasize efficiency. Many public policies are advertised by their supporters as being “win-win.” Universality really is.

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Favourite StatsCan headlines

FARMERS LOSING INTEREST IN FIELD PEAS

Statistics Canada, The Daily, 23 March 1999.

DON'T SELL HYDRO SHORT

The Ontario government thinks Ontario Hydro's assets are worth just \$17.1 billion, compared to its debt of \$38 billion. In fact, Hydro's value may be as high as \$51.2 billion, depending on the outcome of a three to five year program to increase the efficiency of its nuclear plants. Before selling off much of the province's electricity industry to foreign multinationals, who, motivated only by profit, would raise electricity prices to their level in neighbouring US states, the government should wait to see the results of the efficiency drive.

Le gouvernement ontarien croit que les actifs d'Hydro Ontario ne valent que 17,1 milliards \$ alors que la dette de cette dernière s'élève à 38 milliards. En fait, selon les résultats que produira le programme mis en place par le gouvernement pour accroître l'efficacité de ses centrales nucléaires et s'étendant sur une période de trois à cinq ans, la société d'État pourrait valoir jusqu'à 51,2 milliards \$. Le gouvernement ontarien devrait donc attendre de mesurer les résultats de ces efforts, avant de vendre une part importante de l'industrie électrique de la province à des multinationales étrangères.

Ne cherchant que le seul profit, celles-ci auraient tôt fait de hausser les tarifs d'électricité au niveau de ceux que l'on pratique dans les états américains voisins.

M.J. Gordon

With the passage of the *Energy Competition Act* in 1998, the Harris government has begun the process of privatizing Ontario Hydro and deregulating the energy industry in Ontario. Its hope in doing so is that the proceeds from the sale will cover Hydro's \$38 billion debt, for which the province has a contingent liability, and that electric power rates will not be increased.

Fortunately, the process of privatization and deregulation has only just begun — “fortunately” because there is no way in which the government's hopes can be realized. The cost to the people of Ontario of completing the process may well prove to be enormous. Hydro's plants would be sold at prices far below their value, so that as much as half of its \$38 billion debt could become a direct liability of the province. The substitution of private ownership for a crown monopoly would end Hydro's exemption from NAFTA's pro-

curement rules and see ownership of the industry pass to foreign multinational corporations.

With deregulation and foreign ownership, profitability would become the sole criterion for investment and pricing decisions. Reserve capacity would disappear and the reliability of service would decline. The price of electricity is at least 40 per cent higher in the states that border on Ontario, and the profit motive would eliminate that difference by raising the price in Ontario, not lowering it south of the border.

Anyone who looks on these predictions as baseless speculation should consider what has already taken place. The Ontario Financing Authority under the minister of finance has drawn up a financial plan for the privatization of Hydro. The Market Design Committee under the energy minister has created the “design” for a competitive market to replace the crown monopoly.

Nuclear plants in the US, Germany, France, and other industrialized countries regularly operate at an above 80 per cent capacity utilization rate.

On April 1, 1999, the Authority announced that Hydro's \$38 billion debt would be recovered as follows: On the advice of Bay Street and Wall Street bankers, a value of \$8.6 billion was assigned to the transmission assets and \$8.5 billion to the generation assets. Another \$13.1 billion is to be recovered through "dividends and payments in lieu of taxes," but that would require continued crown ownership for a long time. Finally, \$7.8 billion is to be obtained through higher electricity rates.

The generating assets include Niagara Falls and other hydro assets as well as 20 nuclear power stations and a substantial investment in fossil fuel plants. They represent one of the largest, finest and most diversified collections of assets employed in the generation of electric power in North America. I was shocked by the large gap between the cost of these assets, which is about \$26 billion, and the \$8.5 billion market value assigned to them by the government, for which the Authority provided no explanation. That led me to investigate what they are worth.

I found that a fair estimate of their worth to the people of Ontario under continued crown ownership is much more than \$8.5 billion; it is even more than their cost of \$26 billion. In fact, it is \$40.7 billion — \$51.2 billion when we add \$10.5, a reasonable figure for the value of the transmission asset. How did I arrive at this amazing figure of \$40.7 billion — amazing, at least, when compared to the \$8.5 billion Authority figure?

A conservative figure for the value of Niagara Falls and the other hydro assets to the people of Ontario is \$16.7 billion. The calculation is very simple. The annual output of the hydro assets fluctuates in a very narrow range, about 36,365 million kwh. With an average delivered price of 7.2 cents per kwh, and an average price of 10.2 cents in the US states adjoining Ontario, generation is worth at least 4.0 cents per kwh. Operating costs are no more than a minuscule 0.32 cents per kwh. Combining these figures results in

an annual operating income of \$1.339 billion. This annual cash flow will be realized as long as the water flows, and it has a present value of \$16.7 billion when discounted at an interest rate of eight per cent.

The value of the nuclear assets is a more difficult problem because of their history of mismanagement over the last 10 or more years. In August 1997, William Farlinger, the chairman of Ontario Hydro, broke with the past and decided to bite the bullet. He acknowledged the sorry state of the nuclear plants, he replaced the home-grown president of Hydro with a utility executive from private industry, and he employed a group of American consultants to carry out a plan to move the efficiency of the nuclear plants from the lowest to the highest quartile among the world's nuclear operations. Concretely, that means moving Ontario Hydro nuclear from a range of 50 per cent to 60 per cent capacity utilization to over 80 per cent. The plan is called the Nuclear Asset Optimization Plan (NAOP).

Ontario Hydro has 20 nuclear plants with a total capacity of 14,084 MW, over three times that of its hydro plants and more than any other nuclear operation in North America. In 1997, the nuclear plants operated at only 58.5 per cent of capacity, with some running at below 50 per cent. In 1998, eight of the 20 were shut down temporarily in order to economize on the resources needed to improve worker and management performance. That was part of the NAOP.

If the NAOP fails, the 12 plants now in operation may well sink to the operating level of the eight that were laid up, and all 20 could be retired within a decade. In that event, the nuclear plants' value may be as little as \$5 billion.

But the NAOP is intended to stabilize the 12 plants in operation at an above 80 per cent utilization rate and train a management that can maintain that performance. The other eight would then be brought back into production at the same level over the next five or so years. There is good reason to believe that the NAOP will succeed. Nuclear plants in the US, Germany, France, and other industrialized countries regularly operate at an above 80 per cent rate. Practically the same problems were experienced in many US plants, including the Tennessee Valley Authority plants, which are owned by the US government. They had been among the world's worst performers, and are now ranked among the world's best. New Brunswick Power had problems with its Candu reactor similar to Ontario Hydro's problems, and has managed to restore excellence to its operation.

Will the NAOP succeed? Success does not require knowledge and technology that Ontario Hydro

Once the crown monopoly ends, it will not be possible to discriminate against foreign corporations in the sale of the generating plants.

Nuclear does not have. The technology of the Candu reactor is among the world's best and the technological knowledge at Ontario Hydro is excellent. No, the main obstacle to NAOP's success is commitment to it at the highest level of government.

The next three to five years will tell whether the system's efficiency really can be increased to the target level of 80 per cent or higher utilization. My conservative estimate of the value of the nuclear plants to the people of Ontario if the NAOP succeeds is \$21 billion. Add that to the \$16.7 billion for the hydro assets, the \$10.5 billion for the transmission and distribution system, and a modest \$3 billion for the fossil fuel capacity, which is needed for peak loads, and we have \$51.2 billion as the value of Ontario Hydro assets.

In other words, the crown corporation can service and retire its debt and still have left over annually a substantial profit to put toward rate reduction or the payment of dividends to the province to fund health, education or other services. In 1998, Ontario Hydro earned a profit of \$1.8 billion. That could easily rise to \$3 billion over the next three to five years. In fact, the profit potential of Ontario Hydro is simply enormous. If NAOP succeeds, coal purchases will decline and exports will rise. The decline in debt and therefore in interest payments will also contribute to the rise in profitability. No wonder that Bay Street and Wall Street want to privatize Ontario Hydro.

While the minister of finance wrestles with privatization, the Market Design Committee under the energy minister has written regulations to privatize, deregulate and integrate Hydro with the electric power industry in the US. The crown monopoly that Hydro has long enjoyed and that continues in Quebec, BC, and other provinces is scheduled to end next year. Foreign companies will be free both to export to Ontario and to produce here. In fact, in order to encourage foreign generators to come into Ontario, a wide range of restrictions are to be imposed on Hydro's freedom to compete. These restrictions

can be expected to reduce its profitability.

Finally, the Committee has forced Hydro to agree that 2/3 of its Ontario generating capacity will be sold to private companies over the next decade. In a letter to the minister of finance dated October 8, 1998, the chair of the MDC reported having reached an agreement with senior Hydro officials under which Ontario Hydro will sell some generating capacity in a few years, and enough over the next 10 years so that it "will control 35 per cent or less of Ontario's electricity supply." The 10-year time frame probably reflects reluctance on the part of Ontario Hydro to privatize a substantial fraction of its capacity, perhaps because Mr. Farlinger recognizes how costly it would be.

Once the crown monopoly ends, the industry will become subject to the free trade and investment provisions of NAFTA, like any other industry. It will not be possible to discriminate against foreign corporations in the sale of the generating plants. Furthermore, these plants will no longer be required to follow the policies, including a 25 per cent reserve, that maintain reliable service. The only criterion for their decisions will be profit maximization.

Foreign owners of our generating plants will see a price of 7.2 cents per kwh in Ontario and prices of 10.2 cents per kwh or more across the border. Only an increase in the Ontario price would persuade them not to export their power.

To justify privatization and deregulation of Ontario's electricity industry, the Market Design Committee cites benefits that exist only in theory. In the US, the *Energy Policy Act* passed in 1992 mandated the establishment of wholesale competition in generation. Under it, a reseller of electricity is free to buy from any supplier. For example, Guelph Hydro would be free to buy from Detroit Edison. The transmission system would be made a common carrier like the railroads. However, the vertically integrated electric power companies in the US refused to sell their transmission systems. After years of "consultation," the Federal Energy Regulatory Commission (FERC) issued Orders 888 and 889, each about 1,000 pages long, which established the regulations under which, it is hoped, vertically integrated utilities will operate their transmission systems as if they were common carriers. Each utility submits and obtains approval for a compliance plan, and its compliance is then monitored. In short, wholesale competition has involved a massive increase in regulation.

Quebec Hydro and BC Hydro are among the crown corporations that have been approved for wholesale competition in the US by the FERC. Approval has come at no cost and some benefit to them. They are

the only wholesale buyers in their provinces, and they are no longer restricted to selling at the border in exporting power. However, in Ontario, municipal electric power companies are also wholesale buyers and distribute a large fraction of the power in the province. Hence, compliance with the FERC would put Ontario Hydro at a competitive disadvantage vs. US power companies in the region.

At best, the jury is still out on the consequences of wholesale competition in the US. There has been no reduction in electric power rates on average, and there has been a massive increase in mergers and acquisitions, so that the industry there is falling under the control of 15 to 20 conglomerates at most. Energy now moves over transmission systems in response to profits, not reliability, and fears are widespread as to the consequences for service reliability. Most important, we don't know the consequences for price and service reliability of having profitability instead of regulation — which has required 25 per cent excess capacity — motivate investment in generation and transmission.

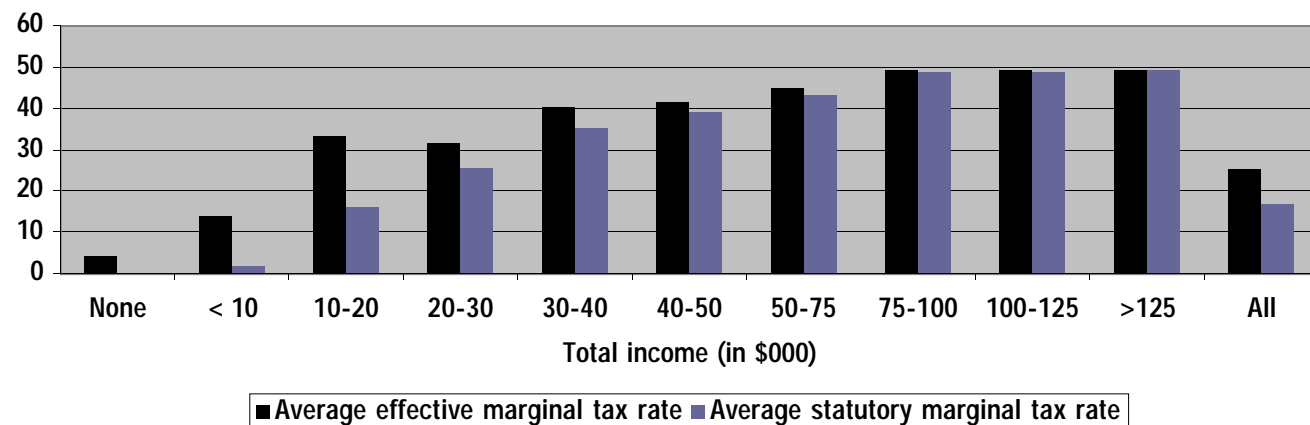
As if this weren't enough, retail competition, which allows residential and business con-

sumers to buy power from any supplier, is to be introduced next year. In the United States such competition is regulated by the states, and it raises problems that are horrendous by comparison with wholesale competition. By the end of 1998, only three states had taken the first steps towards actually introducing retail competition. In spite of this, the Market Design Committee's objective is to achieve a competitive market next year, even with over 90 per cent of the generation in the province still owned by Ontario Hydro. If the Committee gets its way, and both wholesale and retail competition are fully established in 2000, Ontario will become the North American leader in this respect.

The province has nothing to lose and everything to gain by doing nothing about privatization and deregulation over the next five years. Privatization and deregulation are an irreversible process. If the NAOP fails, the sale of Hydro won't generate any less money five years from now. If it succeeds, the best way to enjoy the fruits of that success can be debated then.

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Statutory and actual marginal tax rates, 1999
Taux marginaux d'imposition statutaires et réels, 1999



Editor's note: The effective marginal tax rate includes the influence of 19 different tax-back, clawback and phase-out measures in the federal and provincial tax and transfer systems, though not the influence of social assistance payments. The statutory rate is the rate taxpayers see on their tax forms. Source: Alan Macnaughton, Thomas Matthews and Jeffrey Pittman, Canadian Tax Journal, December 1998, Table 6.

BOOK REVIEW

Maxwell A. Cameron *et al.* (eds.), *To Walk Without Fear: The Global Movement to Ban Landmines* (Toronto: Oxford University Press, 1998).

Reviewed by Alexander Moens

To walk without fear." Without fear of landmines, that is, and even that will take a long time and will certainly not be guaranteed by the treaty signed with such fanfare in Ottawa in December, 1997, which this book celebrates. Treaties are words but landmines are difficult to detect and easy to produce. All the self-congratulation and jubilation coming out of this book should be carefully checked against reality. But first the content.

The book has over 30 contributors but is seldom repetitive. In the first of its three parts, the non-governmental organizations and the various advocacy groups explain their cause and sudden success. Jody Williams and Stephen Goose tell the story of how the "International Campaign to Ban Landmines" was launched and how this international coalition set the agenda for the treaty. Valerie Warmington and Celina Tuttle explain that Mines Action Canada was itself a national coalition of social justice, development and disarmament groups. This non-governmental coalition "led a media campaign" and helped persuade the Canadian government to drop the existing and more traditional approach to disarmament embodied in the *Convention on Certain Conventional Weapons (CCW)*. Philippe Chabasse and Noel Stott describe similar processes of advocacy in France and South Africa. Stott proudly notes how the latter transformed itself from a major producer and exporter of landmines to a strong advocate for the treaty. Stuart Maslen gives an overview of the actions of the International

Committee of the Red Cross, while Jerry White and Ken Rutherford, both victims of landmines themselves, describe the involvement of the Landmine Survivors Network in the treaty process. The last two chapters in this section provide historical background to the problem on landmines. Alex Vines explores the

proliferation of these weapons since 1940 and retired Lieutenant General Robert G. Gard, Jr. (USA) explains the evolution of the use of landmines.

In the book's second part, government officials and academics explain the international response to the ban-the-landmines advocacy. Several officials from the Department of Foreign Affairs and International Trade Canada explain "that there were good reasons to be sceptical about this bold venture," though they appear to have become "true believers" very quickly. Brian Tomlin follows with a careful analysis of how Canada's policy developed. Mary Wareham, a senior advocate with Human Rights Watch does a terrible job trying to analyze the American reaction, providing little more than a diatribe. She cannot see anything positive in

what the United States said or did, even though, objectively speaking, the US has been one of the largest financial contributors to the cause of landmine clearing. David Long and Laird Hindle describe the European Union's attempt to deal with the issue. Though the EU started out ahead of Canada, the usual struggles between enthusiasts and hold-outs slowed it down.

The next three chapters in this section do not real-

