

The Alberta GPI Accounts: Gambling

Report # 15

by

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About this Report

This is one of 28 reports that provide the background for the Genuine Progress Indicators (GPI) System of Sustainable Well-being Accounts. It explains how we derived the gambling index published in "*Sustainability Trends 2000: The Genuine Progress Statement for Alberta, 1961 to 1999.*" The research for this report was completed near the end of 2000. The appendices provide further background and explanation of our methodology; additional details can be obtained by contacting the authors. Appendix A includes a list of all GPI background reports.

This report examines the trends in gambling in Alberta, particularly problem and pathological gambling, from 1961 to 1999, although most of the data are only available from the early 1970s. Gambling in the GPI accounting system is considered as a regrettable cost to human health and social capital. Although such activities contribute to economic growth (GDP), they often lead to the degradation of quality of life and genuine well-being of households and communities. GDP and national accounts do not distinguish between expenditures that contribute to genuine progress and improved quality of life and those that detract from it. Gambling is one of 22 societal and human health indicators accounted for in the Alberta GPI accounts.

This report also examines the full costs associated with gambling in terms of the estimated monetary losses of problem and pathological gamblers, who represented nearly five percent of Alberta's adult population in 1999. Gambling opportunities have exploded in Alberta, particularly with Government licensing of video lottery terminals and casinos. Gambling can be highly addictive, leading to real costs to family well-being, financial stress, direct health costs, the cost of law enforcement, corrections and the loss to labour productivity. This report and the GPI accounting system attempt to measure these impacts in a more holistic way than GDP accounting. The incidence of gambling is used, with other indicators, as a proxy for the health of communities and households. This report is a first step toward a more complete and holistic full impact analysis of gambling on household and societal well-being. We welcome further research and input.

About the Author

Mark Anielski is Director of the Green Economics team, and has considerable experience in public policy analysis including natural resource, energy, royalty and fiscal policy issues in both the public (Alberta Government) and private (GPC – Government Policy Consultants) sector. He also serves as Senior Fellow to the U.S. economic policy think-tank Redefining Progress in Oakland, California and authored the 1999 U.S. GPI report with journalist Jonathan Rowe. He currently advises the National Round Table on Economy and the Environment’s Sustainable Development Indicator Steering Committee on the development of indicators for measuring sustainability in Canada. Mark teaches business and the environment in the University of Alberta’s School of Business. His expertise is varied and broad including accounting for sustainable development, natural resource accounting, public policy analysis, business planning and performance measurement. Mark pioneered the development of natural capital accounts for Alberta’s timber, oil, gas, coal and other natural capital as well as having experience in the development of performance measurement systems, land use planning and non-market resource valuation, royalty policy analysis (forestry, oil and gas), and analysis of subsidies for both government and private forestry, energy and financial service industries. He holds a Masters degree in forest economics, plus bachelor degrees in economics and forestry.

Acknowledgements and Disclaimer

The author acknowledges Harold Wynne (Wynne Resources) and Art Dyer for their invaluable contributions to this report through their research and insights into gambling. Their research has been used extensively throughout this document to provide a longitudinal portrait of gambling activities and to estimate the full costs of gambling in Alberta.

The high quality of the data compiled by Statistics Canada and analysis of gambling trends in Canada enabled us to undertake a much more thorough analysis than would otherwise have been possible. We also thank Kim Sanderson for her editing assistance. Finally, the Pembina Institute appreciates the vision of Western Economic Diversification in supporting this project—the first of its kind for Alberta, if not internationally

The contents of this report are the responsibility of the Pembina Institute and do not necessarily reflect the views and opinions of those who are acknowledged above or the opinions or positions of Western Economic Diversification who helped fund the research.

We have made every effort to ensure the accuracy of the information contained in this document at the time of writing. However, the authors advise that they cannot guarantee that the information provided is complete or accurate and that any person relying on this publication does so at their own risk. Given the broad scope of the project and time constraints, it has not been possible to submit the entire report for peer review. The material should thus be viewed as preliminary and we welcome suggestions for improvements that can be incorporated in any later edition of the work.

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1 Executive Summary

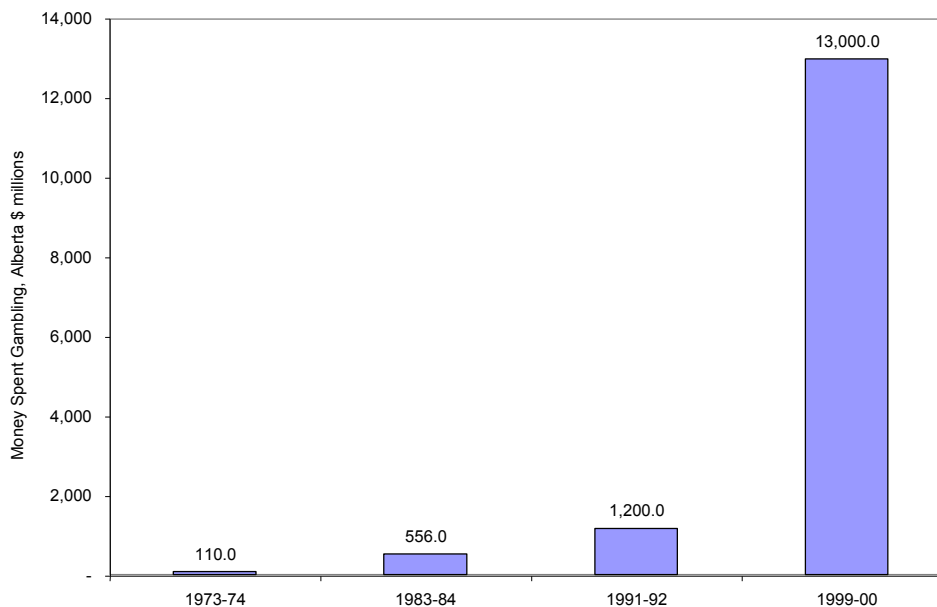
Gambling is big business in Alberta and is one of the most explosive growth industries in Canada. According to Alberta Gaming statistics, Albertans spent or wagered about \$13-billion on all forms of legal gambling in 1999-2000. This is 3.1 times more than the \$4.15-billion in net oil and gas royalties and fees collected in 1999-2000, or the equivalent of 77.2 percent of all Alberta government revenues in 1999-2000. In 1973-74, Albertans wagered a mere \$110-million on all forms of legal gaming activities, mostly bingos and lotteries. By 1999-2000, the amount wagered had grown an astronomical 11,700 percent.

While \$13-billion leaves the pockets of Albertans (see the figure below), most of it is paid back in winnings and prizes to gaming operations and to charities. In 1999-2000, for example, the Alberta government netted \$857 million, which represents 6.6 percent of the total amount wagered. Most of the government's net gaming revenue went to charities. While an estimated 87 percent of Albertans participate in some form of gambling, only 4.8 percent of the gambling population is considered to have moderate to severe gambling problems.

Noteworthy

- Of the \$13-billion wagered in 1999-2000 by Albertans, \$857-million was retained by the Alberta government. \$525-million (61%) came from video lottery terminals.
- It is estimated that 111,955 adult Albertans, or 4.8% of the gambling population, are considered to have a moderate to severe gambling problem.
- We estimate that these problem gamblers contributed roughly 17% of the total \$13-billion wagered in 1999-2000, or about \$145.7-million of the Alberta government's \$857-million in net gambling revenues.
- Based on the above figures, we estimate that each problem gambler wagered roughly \$19,360 of his or her disposable income on gambling activities; this is approximately 96% of average real disposable income per Albertan.
- Put another way, problem gamblers contributed an estimated \$1,300 each (from their after-tax disposable income) to Alberta's net gambling revenues in 1999-2000.

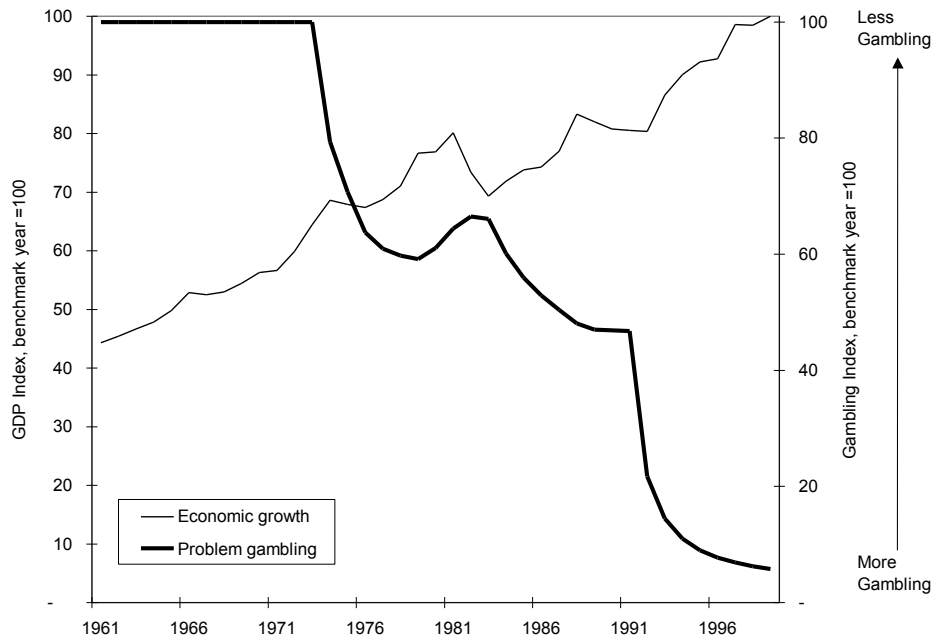
Money Wagered by Albertans on Gambling Activities, 1973-1974 to 1999-2000 (\$ millions)



Source: Alberta Lotteries and Gaming, July 1993; 1999-00 figure is from www.gaming.gov.ab.ca

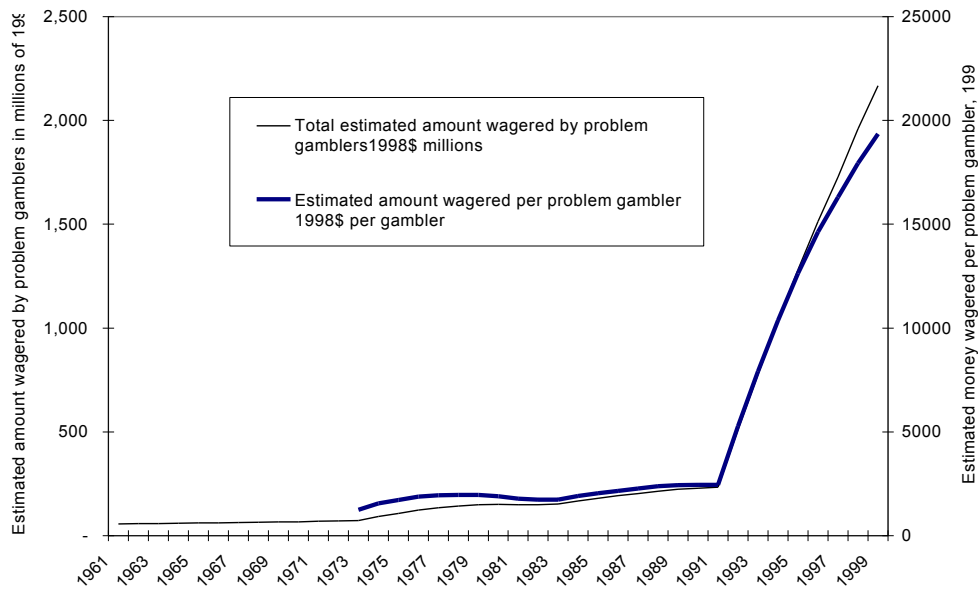
Does gambling contribute to genuine improved well-being? Is the rise in gaming expenditures a sign of an unhealthy society that has nothing better to do with its time and money? Or are we so financially stressed that many of us resort to the lure of a “get-rich-quick” activity? While recreational gambling may not be a problem for most Albertans, problem gambling (as an addiction) can erode the financial and personal well-being of individuals, households or whole communities. The figure below shows the substantial increase in problem gambling between 1961 and 1999. The GPI accounts identify problem gambling as detracting from genuine well-being and progress. The estimated net amount of financial losses is used as a proxy for the problem gambling index; the same financial estimates are used as a “cost” in the GPI income statement and are deducted from GDP. As an index, problem gambling in 1999 scored 5.7 points on a scale of 0 to 100, where 100 is the lowest level of problem gambling recorded in 1961 to 1973.

Alberta Gambling Index: Where are we today?



Legalized gambling (casinos, video lottery terminals, bingos) is effectively a means of taxation, redistributing disposable income from gamblers to others by government. Money wagered on gambling activities might otherwise have gone to more genuine improvements in personal, household or societal well-being. The figure below shows the amount of money wagered by Alberta problem gamblers. The time spent on gaming activities can take time away from family or friends or from productive time at the office. These are real costs. Gambling viewed through this lens, while a boon to the economy and to government coffers, imposes real financial stress on individuals and their families, along with quality of life “deficits.” We estimate the cost of problem gambling to all of Alberta society on the basis of the proportion of all gambling money wagered by the problem gamblers—that is, 17 percent of the total wagered. This equates to an estimated \$19,360 (1998\$) per problem gambler, or a total of \$2,167-million (1998\$).

The Amount of Money Wagered by Alberta Problem Gamblers, 1973 to 1999 (1998\$ millions and 1998\$ per problem adult gambler)



Source: Derived by author from Alberta Lotteries and Gaming, July, 1993; The 1999-00 figure is from www.gaming.gov.ab.ca

2 Gambling is Big Business

Gambling is big business in Alberta and Canada. But does gambling activity contribute to genuine well-being of society or does it impose regrettable social, economic and human health impacts? GPI accounting considers gambling through the wider lens of total social and economic impacts of households and individuals who play games of chance—whether purchasing lottery tickets, playing VLTs, betting on horse racing, playing blackjack at the casino, or even stock market speculative investment, which may be considered a form of gambling. GPI accounting acknowledges the economic benefits of gambling to the economy, already accounted for in the GDP figures. It attempts to identify and deduct the costs that gambling, particularly problem and pathological gambling, imposes on overall economic and social well-being.

Gambling is one of the fastest growing sectors of the Alberta and Canadian economies and contributes increasingly more to Alberta's GDP growth. According to Statistics Canada's Katherine Marshall, "Between 1992 and 1997, GDP in the gambling industry increased by 125% compared with just 14% in all other industries." From 1992 to 1997, total gambling revenue in Canada rose from \$2.7 billion to \$6.8 billion (152%), with provincial government profits rising from \$1.7 billion to \$3.8 billion (106%)."¹

In the 2000 edition of *Perspectives*, Marshall² stated that "revenues from non-charity gaming rose from \$2.7-billion in 1992 to \$7.4-billion in 1998, a 170% increase." She noted that "since 1995, quarterly revenue from gambling has increased steadily; in the third quarter of 1999, it surpassed \$2 billion for the first time." She also observed that in two short years, the growth of the gambling industry has outstripped most other industries.

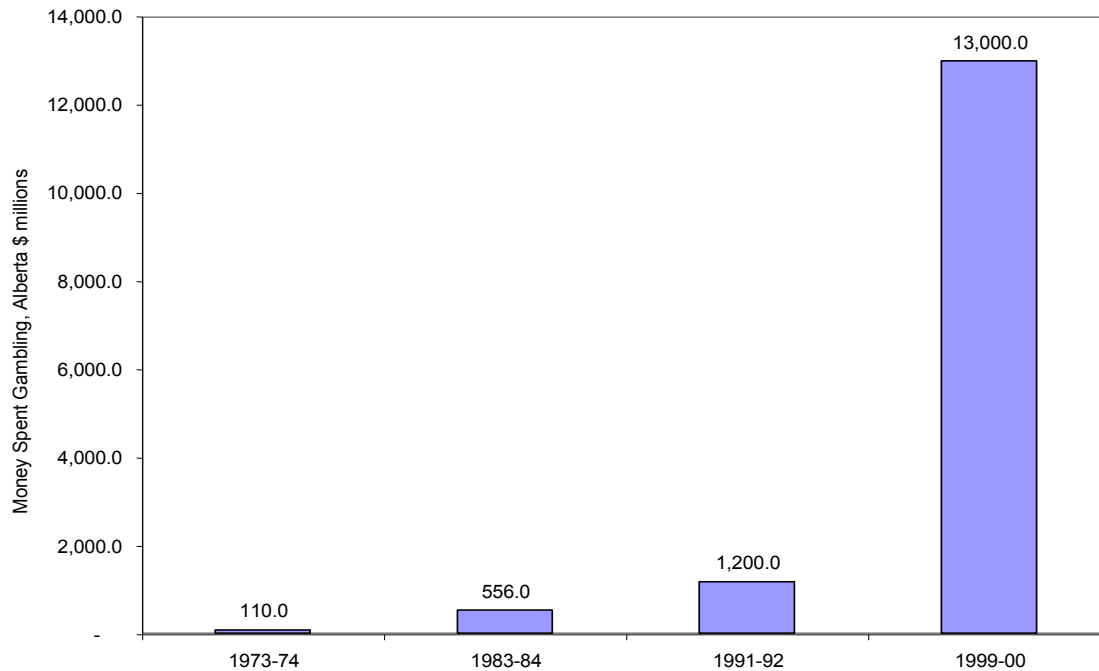
In Alberta, gambling is even bigger business. According to the Alberta Gaming ministry, “In 1999-2000, Albertans spent about \$13-billion^a on all forms of legal gambling.” This is a staggering amount of money and may be high. For example, Australia’s 19 million people³ wagered an estimated A\$11-billion on gambling, according to the Australian GPI report.⁴ If the \$13-billion figure is accurate, then the money that came out of people’s pockets for the chance to win more money exceeded spending by persons and households on housing and utilities (\$11.7-billion), food and clothing (\$9.9-billion) and personal goods and services (\$11.0-billion) in 1999.⁵ The \$13-billion is about 3.1 times the \$4.15-billion in net oil and gas royalties and fees collected in 1999-2000. This amount is also equal to 22.8 percent of the \$55.6-billion in total 1999 personal consumption expenditures by Albertans,⁶ or 81.4 percent of all taxes paid (\$15.6-billion) by Albertans in 1999! It represents 77.2 percent of total Alberta Government revenues in 1999-2000.

The Alberta Government’s share of this \$13-billion is estimated by Alberta Gaming at roughly 6.6 percent, or \$864-million. The other 93.3 percent went to licensed charities and gaming operations, with most being paid back to players as prizes. The exact “net” loss to gamblers is uncertain. Alberta Gaming does report net revenues to charities of \$163-million, leaving roughly \$700-million retained by licensed gaming operations and lost by gamblers. We did not have statistics on the net loss to gamblers nor did we have revenues retained by gaming operations. GPI accounting focuses on the net loss to Alberta’s problem and pathological gamblers. We estimate (see below) that problem and pathological gamblers contributed roughly \$145-million of their disposable income to the Alberta Government in the form of gambling losses.

The growth in the gambling business is best exhibited by the dramatic increases in the amount wagered by Albertans (see Figure 1). In 1973-74, a mere \$110-million was wagered; in 1983-84, it was \$556-million, and by 1991-92 the amount was \$1,200-million. Comparing the 1999-2000 government estimate of \$13-billion wagered with 1973 the amount of money spent on gambling by Albertans has increased more than 11,700 percent.

^a This figure of \$13-billion is reported on www.gaming.gov.ab.ca website. However, gambling researcher Harold Wynne (Ph.D.) notes that this figure reported by Alberta Gaming seems inflated (personal conversation December 21, 2000). More scrutiny is required around these estimates.

Figure 1: The Amount of Money Albertans Spent on Gambling 1973/74 to 1999/2000, \$ millions



Source: Alberta Lotteries and Gaming; July 1993; 1999-00 figure is from www.gaming.gov.ab.ca

After payouts for prizes, administration and other costs, the Alberta Government (Alberta Lottery Fund) netted roughly \$857-million (\$864-million reported by Alberta Gaming),⁷ or 6.6 percent of the money wagered. Combine this figure with liquor sale revenues to the Alberta Government of \$470.6-million and you arrive at \$1,327.6-million in gambling and liquor revenues. Alberta Gaming's reported net revenues of \$864-million from gambling break down as follows:

- VLTs \$ 525.3-million
- Slot machines \$ 174.5-million
- Ticket lotteries \$ 156.0-million
- Lottery fund interest \$ 8.2-million
- TOTAL \$ 864.0-million

To place these figures into context, net gambling revenues represented roughly 4.3 percent of total government revenues of \$20.2-billion in 1999-2000; when liquor sale net revenues are added, the total comes to 6.6 percent of government revenues. The \$857-million net revenue from gambling compares with \$1.1-billion in school and property taxes, \$1.1-billion in crude oil royalties, \$568-million in fuel taxes, \$653-million in health care premiums, and \$339-million in tobacco taxes in 1999-2000.⁸

In 1998 an estimated 87.4 percent of adult Albertans (2,038,522) participated in some form of gambling activity for a chance to win money and prizes, down from a high of 90.3 percent in 1993.⁹ The most common gaming activities are purchasing of lottery and scratch and win tickets and participating in raffles and fundraisers; however, the bulk of gaming revenues to the Alberta Government comes from VLTs at \$525.3-million or 61 percent of net gaming revenues.

Most Albertans were social, non-problem gamblers who participated less than weekly in gaming activity according to the Alberta Alcohol and Drug Abuse Commission (AADAC) report.¹⁰ About 4.8 percent of the population (111,955 adult Albertans) is considered to have moderate to severe gambling problems.¹¹ According to AADAC, the prevalence of problem gambling declined from four percent of the gambling population in 1993 to 2.8 percent in 1997, while pathological gambling rates increased from 1.4 percent to two percent over the same period.¹² Alberta's overall prevalence of gambling is slightly higher than the national average. Roughly 67 percent of teens (12-17 years) reported gambling in 1995; of these, eight percent were problem gamblers and 15 percent were at risk of developing a gambling addiction.¹³ Prevalence of problem gambling among Aboriginal Albertans is twice the general population.¹⁴

A study by Wynne Resources Ltd in 1998 for AADAC showed that, although problem and pathological gamblers are a small portion of the total gambling population, they contribute a disproportionately large percentage (17 percent) of the total self-reported gambling amount wagered. If this is the case, then roughly \$145.7-million of the Alberta Government's net gaming revenues came from 111,955 Albertans, or 4.8 percent of Alberta's adult, taxpaying population. These numbers equate to roughly \$1,301.32 in government gambling revenues from each problem gambler. Put another way, 4.8 percent of Alberta adults contributed 0.7 percent of total Alberta government revenues in 1999-2000, or an amount equivalent to 11.6 percent of corporate income taxes, or 2.9 percent of provincial personal income taxes paid that year.

3 The Benefits of Gambling

There are of course economic benefits associated with the gambling industry. Here are some of the facts (see www.gaming.gov.ab.ca):

- The \$864-million in net revenues to the Alberta Government in 1999-2000 helped to support over 8,000 not-for-profit, community and public initiatives.
- Net revenues earned by charities from licensed gaming activities totaled \$163-million in 1999-2000.
- Gaming revenues are approximately four percent of 1999-2000 Government of Alberta revenues.
- The industry provides 11,000 full and part-time jobs, according to a 1998 KPMG study estimate.¹⁵

Unlike the United States and Australian federal governments, neither the Canadian nor Alberta government has undertaken a study of the social and economic impacts of gambling. However, Professor Francois Vaillancourt and graduate student Alexandre Roy¹⁶ of the University of Montreal recently released a national gambling costs/benefits study on behalf of the Canadian Tax Foundation. This is the only Canada-wide study conducted to date.

Vaillancourt and Roy reviewed the literature on gambling costs and benefits. They examined the societal and government benefits and costs of gambling activities in Canada, comparing the two benchmark years of 1990 and 1995. In terms of gambling benefits, they considered that "From a societal perspective, the benefits of gambling are consumer surplus, government gambling revenue (GGR), and additional standard tax revenues. From a governmental perspective, only the last two items are relevant."¹⁷

In a similar vein, Vaillancourt and Roy considered gambling costs attributable only to problem and pathological gamblers and they counted four types of costs: crime-related costs, health care costs, job-related costs, and costs incurred by the families of pathological gamblers.

The Vaillancourt and Roy study identified the economic benefits of gambling activities as largely employment creation, government revenues, and an estimate of the consumer surplus associated with gambling demand and activities. They noted that roughly 80 percent of Canadian adults gamble and 20 percent do not; five percent of gamblers are estimated to be problem gamblers. That means that roughly 19 out of 20 Canadian adult gamblers do it for fun and entertainment. Their study estimated net benefits to Canadian society of \$3,044-million and net benefits to government of \$2,330-million. They estimated gross societal benefits to be \$5,486-million and government gross benefits to be \$3,557-million. Gross societal costs were estimated at \$2,442-million and government costs at \$1,227-million.

Vaillancourt and Roy make the following conclusions about the net benefits of gambling in Canada: “In both 1990 and 1995, the gambling policies in place in Canada resulted in net benefits for both government and society at large and the benefits were greater in the more permissive gambling environment of 1995 than they were in 1990.”¹⁸ Using the societal perspective calculation methodology, the net benefits of gambling in Canada rose from \$526-million in 1990 to \$3.04-billion in 1995. Similarly, using the governmental perspective calculations, net benefits rose from \$674-million in 1990 to \$2.3-billion in 1995.

Smith and Wynne,¹⁹ commenting on the Vaillancourt and Roy study, raise the following concerns about the only net benefit-cost study to date:

“Vaillancourt and Roy admit that ‘our results appear to be reasonable insofar as one accepts (1) the methodology of welfare analysis that underlies our cost-benefit analysis, and (2) our conversion of Australian and U.S. figures into Canadian benefits and costs.’ Clearly, the absolute value of net benefits of gambling to Canadian society as reported by these researchers should be taken with a ‘liberal grain of salt,’ to quote Walker and Barnett (1999, p. 208), given the assumptions the researchers admit must be made before accepting their analysis.”

Vaillancourt and Roy conclude by adding their voices to the growing number of gambling researchers who advocate that more gambling costs/benefits research should be undertaken to better inform gambling policy decisions: “The second point [above] emphasizes the need for either a Canadian study or at least a set of provincial/regional studies of the costs and benefits of the current gambling policy that would help answer the question, ‘Should provinces expand gambling?’ raised by Henriksson and Lipsey (1999).”²⁰

4 The Costs of Problem Gambling

The GPI accounts for Alberta, like the Australian GPI accounts,²¹ consider the regrettable societal costs of gambling as equivalent to the financial losses incurred by problem and pathological gamblers. Gambling can be viewed as a voluntary form of taxation in that governments license gambling activities and control the “take” from gambling activities. While Albertans voluntarily participate in gambling activities—many as recreational “games of chance”—a small cohort are problem gamblers. The costs to both individual and societal well-being are a complex issue; however, GPI accounting considers as a first approximation the amount that problem gamblers

lose in their betting as the societal cost and a deduction against personal consumption expenditures and the GDP of Alberta.

This is consistent with the Australian GPI estimates for the cost of gambling. Dr. Clive Hamilton of the Australian Institute estimated the GPI for Australia for 1999 and estimated the cost of gambling using “expenditures” by problem gamblers as a proxy for societal costs. This gross expenditure figure is then deducted from personal consumption expenditures in the GPI net income calculations. Australian estimates show that around 290,000 people are considered to be problem gamblers (2.1 percent of the adult population). This group lost \$3.5-billion (Australian dollars) in 1999—approximately one-third^b of the total expenditure on gambling.^c The cost of gambling in the Australian GPI is thus estimated as the amount lost by problem gamblers—A\$3.5-billion in 1999-2000 or A\$578.95 per Australian.

Hamilton notes that using expenditures by only problem gamblers may conservatively estimate the full societal and personal costs of gambling activities. We are also concerned with attributing the gross expenditure (before winnings) by problem gamblers instead of estimating the net losses incurred by problem gamblers. Hamilton notes that future work is required to estimate the full costs of gambling.

Applying the Australian GPI methodology to Alberta, we could attribute 17 percent of gross money wagered on gambling to 4.8 percent of the adult Alberta population as the cost of problem and pathological gambling in 1999-2000. Using Alberta Gaming’s estimate of \$13-billion wagered on gaming^d we estimate the “cost” of problem gambling at a maximum of \$2,167-million in 1999-2000. We can then apply the same methodological assumptions over the time period 1973-1999 for which gambling revenues are available.

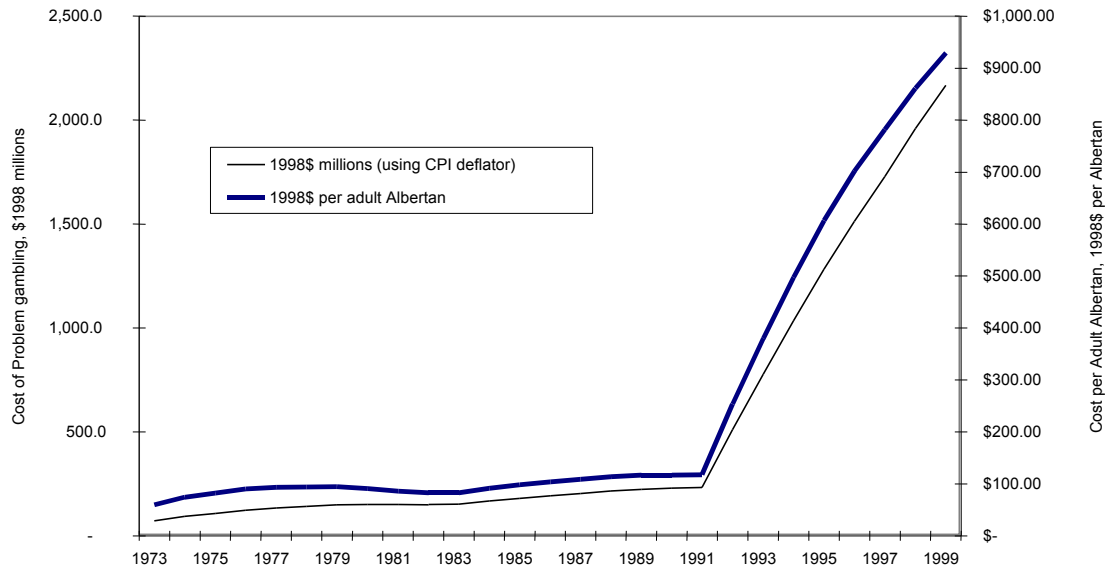
Assuming that problem gamblers represent the same proportion (4.8 percent) of the adult population through time, we applied this proportion to our earliest estimate of the amount wagered on gambling in 1973-74 of \$110-million as well as 1983-84 and 1991-92 estimates of \$556-million and \$1,200-million, respectively. Thus we estimated the regrettable cost of problem gambling from 1973 to 1999 (see Figure 2).

^b The Australian Productivity Commission estimates that in 1999, problem gamblers in Australia contributed 33 percent of net revenues or losses equivalent to A\$3.5-billion. Over 2.1 percent of the adult Australian population is considered to be problem gamblers while 80 percent of Australians gamble.

^c It was estimated that a total of A\$11-billion were lost on gambling.

^d We believe this estimate is too high, compared with the Australian figures for a much larger population of 19 million.

Figure 2: The Amount of Money Wagered by Alberta Problem Gamblers, 1973 to 1999, 1998\$ millions and 1998\$ per Adult Albertan



Source: Alberta Lotteries and Gaming; July 1993; 1999-00 figure is from www.gaming.gov.ab.ca

We extrapolated missing data points from 1973-1974 to 1981-1982, from 1981-1982 to 1991-1992 and from 1991-1992 to 1999-2000. Figure 2 shows the estimated amount of money wagered per Alberta problem gambler between 1973 and 1999. With the introduction of VLTs, casinos, and other forms of gambling, this amount grew dramatically, from \$72.6-million in 1973-74 (1998\$) to \$2,167-million by 1999-2000 (in 1998\$), or from \$59.82 per adult Albertan in 1973-74 to \$929.30 per adult Albertan in 1999-2000 (expressed in 1998 dollars). Assuming 17 percent of all money wagered is from problem gamblers, we estimate that in 1999-2000 the per capita amount wagered by adult problem gamblers at \$19,360 per problem gambler. This is a remarkable amount of money when considering that the average real disposable income per Albertan in 1999 was \$20,147.08 (in 1998\$). Thus the amount of money spent by problem gamblers on VLTs, casinos, lottery tickets and in bingo halls amounted to 96 percent of real disposable income. While a rough estimate, it shows the extraordinary financial stress that problem gambling may impose on individuals and families. While much of the money wagered is paid back in the form of prizes and winnings, we have no idea how much is retained at the end of each year by problem gamblers.

This analysis does have a major shortcoming by attributing the full amount of money wagered as the “cost” of problem gambling. Intuitively, the real cost to problem gamblers is first the net losses they incur after any prizes and winnings. Unfortunately such detailed data were not available for our analysis. In addition, personal (health and well-being), family, and societal costs can be attributed to the problem gambler’s activities that have not been considered and require more research.

Attempting to isolate the portion of Alberta Gaming net revenues that can be attributed to the net losses of problem gamblers and all gamblers is a challenge. One approach is to use the 1999-2000 government figures for net gaming revenues that are represented by problem gamblers as an estimate of the net losses to these gamblers. This would amount to \$145-million in net losses to problem gamblers in 1999-2000, or \$1,302 per problem gambler, assuming 17 percent of the

money wagered on gambling comes from problem gamblers. We would have to confirm these figures through more rigorous analysis.

The second approach is to estimate the costs of gambling by taking 17 percent of the \$13-billion wagered by problem gamblers as a proxy for the total societal cost of all gambling (both problem and non-problem). This would equate to \$2,167-million in 1999-2000 in “cost of gambling” (17 percent of \$13-billion wagered), or the equivalent of \$19,360 of disposable income wagered per problem gambler.

We have opted for the second, higher estimate in the absence of full information on the financial burden imposed by losses of both problem and non-problem gamblers. We have no idea what the financial burden on individuals and families would be from problem gamblers wagering virtually their entire disposable income, if they are average Albertans, earning an average real wage. In our opinion, both estimates of the cost of problem gambling, ranging from \$145.7-million to \$2,167-million, likely underestimate the full societal and private costs of gambling, either for problem gamblers or for the total gambling population. These figures were then used to derive our GPI index for problem gambling by dividing the total estimated problem gambling cost by the Alberta population to yield an estimated loss per Albertan. Opting for the higher cost estimate would imply that the full cost of gambling to all Alberta gamblers is significantly higher than the net revenues of \$857-million collected by the Alberta Government in 1999-2000.

Without more rigorous analysis of the real extent of the financial burden imposed on individuals and families due to increased access to legalized gambling activities, our estimates remain as rough benchmarks for future research. The newly established Alberta Gaming Research Institute could explore these issues in greater detail.

We have only scratched the surface of the total societal and private costs associated with problem gambling. Numerous health, personal financial, household, family and community costs are still unaccounted for. This is a critical area for public policy analysis as the prevalence of gambling and access to gaming activities continues to increase. The Alberta GPI accounts for gambling are an important first step in this inquiry.

5 Problem Gambling as an Index

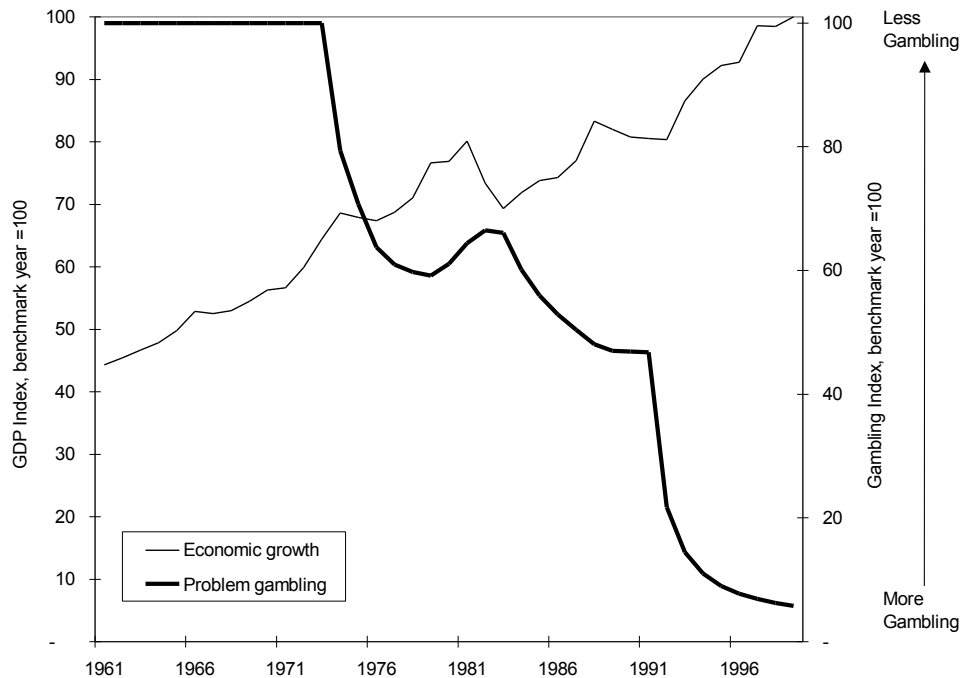
The GPI accounting system converts raw data to an index for comparison with other indicators and for aggregation with other indicators to create composite indices such as the Societal GPI Index (containing 22 social and human health indicators) and the aggregate GPI (containing all 51 indicators in the GPI accounts).

The gambling index is based on the estimated monetary losses (real cost) of problem and pathological gamblers per problem gambler population. Raw cost estimate data (Appendix B) are converted to an index on a 100-point scale. The raw data for the problem gambling index are calculated by first estimating the amount wagered by problem and pathological gamblers from 1973 to 1999. For the period 1961 to 1972 we assumed a constant rate at 1973 levels, which would seem reasonable in the absence of data. The amount wagered by problem gamblers is assumed to be a rough proxy for the full societal and human well-being costs of gambling in society. Lacking more detailed studies on the real cost of gambling in Alberta and Canada, we feel that our approach is a reasonable first step towards more comprehensive full impact accounting for gambling.

The amount wagered by problem gamblers is estimated based on the assumption that 17 percent of the money wagered on gambling was wagered by problem gamblers.²² Applying this 17-percent estimate to the government gambling revenues generated in the periods 1973-74, 1983-84, 1991-92, and 1999-2000 yields our estimate of the costs of problem gambling. The next step involves converting the cost estimate to 1998 constant dollars and then calculating on a per capita basis. A benchmark year is chosen for indexing the raw data set. In the case of problem gambling, the lowest cost associated with problem gambling losses was in 1973 (\$52 per capita in 1998\$), and is also applicable to the years 1961 to 1972, assuming the same cost of gambling from 1973 levels. The 1961 to 1973 cost figure is then established as the 100-point benchmark, and the entire raw data time series is divided through by the benchmark figure to yield an indexed time series for problem gambling.

Indexing is useful for comparing social indicator trends—for example, with Genuine Progress Indicators or composites of indices that would otherwise not be comparable. Figure 3 shows the cost of problem gambling (as an index) increasing dramatically as the GDP (as an index) grows over 40 years.

Figure 3: Problem Gambling Index vs. Economic Growth (GDP), Alberta 1961 to 1999



6 Next Steps in Impact Analysis of Gambling in Alberta and Canada

In September 1998, Dr. Harold Wynne participated in round table discussions held in Washington, D.C. as part of the U.S. national gambling study. He observed that many participating researchers identified gaps and methodological shortcomings in the research into the costs and benefits of gambling to society. As a senior research associate at the Canadian Centre on Substance Abuse (CCSA) in Ottawa, Dr. Wynne discussed with CEO Jacques Lecavalier the need for “best practice” guidelines for conducting gambling cost/benefit research. The CCSA had recently implemented a successful “international symposium” approach whereby leading researchers and policy makers met to discuss issues and develop guidelines for assessing the cost of substance abuse to society, and Wynne and Lecavalier considered that a similar approach would be useful in developing guidelines for measuring the economic impacts of gambling.

In September 1999, the CCSA convened a meeting in Winnipeg of Canadian provincial addictions agency representatives and this inter-provincial planning group developed a preliminary plan to hold the *First International Symposium on the Economic and Social Impacts of Gambling*. During the next year, this group planned the Symposium, which was ultimately held in Whistler, British Columbia from September 24-27, 2000. The Symposium was funded by provincial addictions agencies, government gaming departments and lottery corporations, and private gaming industry donations. Eminent gambling researchers and economists from Canada, the United States, Australia, the United Kingdom, and Europe were invited to interact with public policy makers to discuss and debate various perspectives, definitions, and methods for assessing the social and economic impacts of gambling to society. In total, about sixty people participated in the Whistler Symposium.

The specific objectives of the Symposium included:

- To describe recent attempts to estimate the socio-economic impacts of gambling in various settings.
- To identify gaps in methodology and data required for impact estimation and to outline critical research required to address those issues.
- To develop guidelines for estimating benefits and costs.
- To promote the implementation of the guidelines.
- To identify what other steps are required to expand the concept of using impact studies as a means to inform decision making.

To stimulate discussion and move the Symposium towards achieving its stated objectives, leading researchers and academics were contracted to write the following scholarly papers:

Collins, David and Helen Lapsley. 2000. *The Social Costs and Benefits of Gambling: An Introduction to the Economic Issues*.

Walker, Douglas. 2000. *A Simple Model to Explain and Illustrate the Definition of “Social Cost.”*

Eadington, William. 2000. *Measuring Costs from Permitted Gaming: Concepts and Categories in Evaluating Gambling Consequences*.

Single, Eric. 2000. *Estimating the Costs of Substance Abuse: Implications to the Estimation of the Costs and Benefits of Gambling*.

Korn, David, Roger Gibbins, and Jason Azmier. 2000. *Framing Public Policy: Towards a Public Health Paradigm for Gambling*.

While the ultimate goal of the Whistler Symposium was to derive “best practice guidelines” for conducting future gambling cost/benefit impact studies, all participants realized that developing a full understanding of the impacts of gambling will be a work-in-progress initiative. Moreover, the Symposium showed that there is still little consensus on (1) the most salient philosophical perspective, or conceptual framework, that should underpin research into the social and economic impacts of gambling; (2) definitions of “private costs” versus “social costs” attributable to gambling; (3) what costs and benefits should be counted in socio-economic impact analyses; and (4) the best methods for measuring gambling benefits and costs.

7 So What?

The key issue in gambling is that it is an intentional introduction of a form of recreation by government. The increased supply of gambling opportunities was an intentional policy of government, in part as a means of increasing tax revenues and in part to “keep up with the Joneses” (other governments). The outcomes of gambling are increased access for those who view gambling as a form of recreation, whether healthy or unhealthy. It stands to reason that a government, as a monopoly power, can ensure that a net economic benefit accrues to the public purse given that they set VLT machine and payouts as well as regulate other gaming revenues.

The outcomes also relate to the impacts on family well-being. Critical issues, as yet unaddressed in the research literature, relate to equity; what proportion of the gambling population are problem gamblers, and what is the net contribution to government gambling revenues. For example, how much of the \$13-billion wagered in 1999-2000 in Alberta was lost by what segment of the population? How do these losses compare with personal disposable income and household expenditures of the problem gambler and his or her household? What are the other household impacts and costs, such as family breakdown, financial stress, human health impact and time-use deficits?

The issue of the transfer of revenues (disposable income) from a segment of the population to the government and redistributed by government to public program spending is also critical. We need to address the fundamental ethical issue: Is gambling an effective form of taxation of the population to raise revenues for public programs and services? Vaillancourt would argue that based on \$0.30 per \$1 tax revenues, it is a costly investment relative to the collection costs of other taxes (e.g., the GST).²³ That said, it leaves as one of the benefits the entertainment value and economic benefits (jobs), which one could argue are poor investments in forms of entertainment. This also raises the issue of how people spend their time. While use of free time should not be dictated by moral edicts, we nevertheless should be assessing how the use of time by households is shifting due to greater access to gambling venues.

Estimating the full impact of gambling on society will ultimately be resolved from solid economic analysis, qualitative research, scientific analysis, and public health models. We need to address the issue of whether we would have as many social costs without the access to publicly-supported gambling.

Clearly there are more costs (and, yes, more tax revenue benefits) than a scenario without gambling access. To some extent, we are arguing about what kind of bolt to use on the door after the horse is out of the barn. Ultimately the gambling business undertaken by government represents a large-scale social experiment, the consequences of which we are only beginning to realize. We are at the earliest stages of research in this area. Another key issue is that gambling is being used by governments as a tax instrument, then government is redistributing the tax revenues through nozzles to selected programs and communities. Are the net revenues to government and the benefits redistributed to the community the most efficient and effective public policy approach? Would we be better off introducing a sales tax or increasing personal income taxes to raise the same level of revenues? What are the total health, social, and economic impacts from gambling relative to the revenues being raised? Is this a desirable return on investment given the costs? As a society are we willing to accept gambling as both a form of entertainment and a tax instrument, following the path of bingos and lotteries in the past? We need to be sensitive to the most addictive types of gambling—VLTs. If a VLT terminal can collect an average \$500 per hour of play, is this a desirable tax instrument that affects only a small group of adults? We need to examine the pervasiveness of gambling and get a better understanding of who the typical gambler is.

Gambling raises thorny ethical and philosophical issues that cannot be resolved in this preliminary GPI analysis. Suffice to say there is considerable scope for research into this area.

Appendix A. List of Alberta GPI Background Reports

A series of Alberta GPI background reports accompanies the *Alberta Sustainability Trends 2000* report and this report. These documents are being released in late 2001 and early 2002 and will be available on the Pembina Institute's website at www.pembina.org.

Alberta GPI Background Reports and Sustainability Indicators

GPI Background Reports	GPI Accounts Covered by Report
1. Economy, GDP, and Trade	<ul style="list-style-type: none"> • Economic growth (GDP) • Economic diversity • Trade
2. Personal Consumption Expenditures, Disposable Income and Savings	<ul style="list-style-type: none"> • Disposable income • Personal expenditures • Taxes • Savings rate
3. Money, Debt, Assets and Net Worth	<ul style="list-style-type: none"> • Household debt
4. Income Inequality, Poverty and Living Wages	<ul style="list-style-type: none"> • Income distribution • Poverty
5. Household and Public Infrastructure	<ul style="list-style-type: none"> • Public infrastructure • Household infrastructure
6. Employment	<ul style="list-style-type: none"> • Weekly wage rate • Unemployment • Underemployment
7. Transportation	<ul style="list-style-type: none"> • Transportation expenditures
8. Time Use	<ul style="list-style-type: none"> • Paid work time • Household work • Parenting and eldercare • Free time • Volunteerism • Commuting time
9. Human Health and Wellness	<ul style="list-style-type: none"> • Life expectancy • Premature mortality • Infant mortality • Obesity
10. Suicide	<ul style="list-style-type: none"> • Suicide
11. Substance Abuse; Alcohol, Drugs and Tobacco	<ul style="list-style-type: none"> • Drug use (youth)
12. Auto Crashes and Injuries	<ul style="list-style-type: none"> • Auto crashes
13. Family Breakdown	<ul style="list-style-type: none"> • Divorce
14. Crime	<ul style="list-style-type: none"> • Crime
15. Gambling	<ul style="list-style-type: none"> • Problem gambling
16. Democracy	<ul style="list-style-type: none"> • Voter participation
17. Intellectual Capital and Educational Attainment	<ul style="list-style-type: none"> • Educational attainment
18. Energy (Oil, Gas, Coal and Renewable)	<ul style="list-style-type: none"> • Oil and gas reserve life • Oilsands reserve life
19. Agriculture	<ul style="list-style-type: none"> • Agricultural sustainability
20. Forests	<ul style="list-style-type: none"> • Timber sustainability • Forest fragmentation

The Alberta GPI Accounts: Gambling

GPI Background Reports	GPI Accounts Covered by Report
21. Parks and Wilderness	<ul style="list-style-type: none">• Parks and wilderness
22. Fish and Wildlife	<ul style="list-style-type: none">• Fish and wildlife
23. Wetlands and Peatlands	<ul style="list-style-type: none">• Wetlands• Peatlands
24. Water Resource and Quality	<ul style="list-style-type: none">• Water quality
25. Energy Use Intensity, Greenhouse Gas Emissions and Air Quality	<ul style="list-style-type: none">• Energy use intensity• Air quality-related emissions• Greenhouse gas emissions
26. Carbon Budget	<ul style="list-style-type: none">• Carbon budget deficit
27. Municipal and Hazardous Waste	<ul style="list-style-type: none">• Hazardous waste• Landfill waste
28. Ecological Footprint	<ul style="list-style-type: none">• Ecological footprint

Appendix B. Gambling Data

Gambling data, index and cost of problem gambling

Year	Estimated cost of problem gambling (\$1998 per capita)	Problem Gambling Index Benchmark year is lowest loss per capita over study period (1973)	Cost of problem gambling (\$ millions, 1998\$)
1961	42.08	100	56.18
1962	42.08	100	57.77
1963	42.08	100	59.21
1964	42.08	100	60.22
1965	42.08	100	61.06
1966	42.08	100	61.65
1967	42.08	100	62.82
1968	42.08	100	64.25
1969	42.08	100	65.73
1970	42.08	100	67.20
1971	42.08	100	70.09
1972	42.08	100	71.29
1973	42.08	100.00	72.60
1974	53.02	79.37	93.02
1975	59.51	70.71	107.64
1976	65.99	63.77	123.35
1977	69.06	60.94	134.50
1978	70.44	59.74	142.41
1979	71.09	59.19	149.12
1980	68.91	61.06	151.09
1981	65.34	64.40	149.89
1982	63.27	66.51	149.84
1983	63.65	66.11	152.15
1984	69.97	60.14	167.23
1985	75.18	55.97	180.66
1986	79.51	52.92	193.28
1987	83.45	50.42	203.24
1988	87.52	48.08	214.83
1989	89.52	47.00	223.43
1990	89.74	46.89	228.62
1991	89.91	46.80	233.08
1992	193.68	21.73	510.23
1993	291.15	14.45	777.57
1994	382.50	11.00	1,034.63
1995	468.07	8.99	1,282.44
1996	544.13	7.73	1,513.04
1997	609.24	6.91	1,728.53
1998	674.01	6.24	1,959.25
1999	731.11	5.76	2,167.50

Note: We assume that the real cost of problem gambling remained constant from 1961 to 1972 at \$73-million (1998\$), in the absence of data prior to 1972.

Appendix C. Australian GPI Methodology for Cost of Problem Gambling

This appendix outlines the Australia GPI methods for estimating the cost of problem gambling described in *Tracking Well-being in Australia The Genuine Progress Indicator 2000*. Appendix A of that report contains a complete set of Australia GPI data organized into a series of columns. Thus, references to “columns” in the description below relate to the columns as presented in the above mentioned publication. For complete details see *Tracking Well-being in Australia: The Genuine Progress Indicator 2000* prepared by Clive Hamilton and Richard Denniss, Australia Institute, 2000.²⁴ The following outlines their methodological approach to costing problem gambling and is instructive for future GPI accounting in Canada.

The Costs of Problem Gambling in the Australia

In 1999, more than 80% of Australians gambled at least once, with 40% doing so regularly. In total, more than \$11 billion were spent (lost) on gambling (Productivity Commission 1999). While such a high rate of participation in gambling indicates that it is considered to be enjoyable by the majority of people, problem gambling causes enormous harm to both addicted gamblers and their friends and families

Around 290,000 people are considered to be problem gamblers. While accounting for only 2.1% of the adult population, these gamblers lost around \$3.5 billion in 1999, approximately one-third of the total expenditure on gambling (Productivity Commission 1999).

That 2.1% of the population can be responsible for over 30% of gambling losses indicates the existence of a major social problem. For the purposes of the GPI, expenditure on gambling by problem gamblers is assumed to provide no improvement in well-being to the addicted individual. We therefore deduct the proportion of expenditure on gambling attributable to problem gamblers.

While such an approach goes some way to capturing the costs of problem gambling it does not include other costs, such as counselling, that problem gamblers may incur. Similarly, it does not include the costs that problem gamblers impose on their friends and families. The estimate of the costs of problem gambling used in the GPI is therefore likely to be an underestimate of the actual costs.

While good time series data are available on the amount spent on gambling, this is not the case for the number of problem gamblers. In constructing a time series of the costs of problem gambling, we have assumed that some proportion of gambling has always been a problem. We have assumed arbitrarily that in 1950 10% of gambling spending was associated with problem gambling, and we have increased this proportion over time to the Productivity Commission (1999) estimate of 33% in proportion to the growth in gambling expenditure on gaming machines (the form of gambling favoured by problem gamblers).

Data for this column came from the Tasmanian Gaming Commission (1999) and Productivity Commission (1999). Total expenditure on gambling (the difference between the amount wagered and the amount won) was sourced from Table 109 of Australian Gambling Statistics for the period 1972-73 to 1997-98. These data were projected back to 1950 by assuming that gambling as a percentage of GDP (which was stable through the 1970s) remained constant. Estimates for 1999 and 2000 were similarly derived by inflating real expenditure on gambling by the rate of growth of GDP.

Endnotes

- ¹ Marshall, K. 1999. *The Gambling Industry: raising the stakes*. Ottawa: Statistics Canada, Service Industries Division
- ² Marshall, K. 2000. "Update on gambling," *Perspectives*. Ottawa: Statistics Canada, Service Industries Division. Spring. p. 29.
- ³ <http://www.abs.gov.au/Ausstats/ABS%40.nsf/dddcf05472f88677ca2568b5007b8615/6250c12f5e6334cbca2568a900136348!OpenDocument>
- ⁴ Australian 1999 GPI; see www.gpionline.net
- ⁵ Alberta Treasury. *Alberta Economic Accounts 1999*. Alberta Treasury, November 2000
- ⁶ Alberta Treasury. *Alberta Economic Accounts 1999*. Alberta Treasury, November 2000
- ⁷ Government of Alberta. 2000. *1999-2000 Annual Report*. p. 29, Schedule to the 1999-2000 Consolidated Financial Statements; note Alberta Gaming (www.gaming.gov.ab.ca) reports net revenues of \$864.0-million, a small discrepancy from the Alberta Government's Annual report figures.
- ⁸ Government of Alberta. 2000. *1999-2000 Annual Report*. p. 29, Schedule to the 1999-2000 Consolidated Financial Statements.
- ⁹ Alberta Alcohol and Drug Abuse Commission (AADAC). 1999. *Adult Gambling and Problem Gambling in Alberta, 1998*.
- ¹⁰ Alberta Alcohol and Drug Abuse Commission. 1999. *Alberta Profile: Social and Health Indicators of Addiction*. June 1999. Edmonton.
- ¹¹ Wynne Resources Ltd & AADAC. June 1998. *Adult gambling and problem gambling in Alberta*. Edmonton: AADAC, p. 70
- ¹² Wynne Resources Ltd & AADAC. June 1998. *Adult gambling and problem gambling in Alberta*. Edmonton: AADAC
- ¹³ Wynne Resources Ltd. 1996. *Adolescent gambling and problem gambling in Alberta*. Summary report. Edmonton: AADAC
- ¹⁴ Canada West Foundation. 1997. *Gambling and the public interest*. Calgary.
- ¹⁵ see www.gaming.gov.ab.ca
- ¹⁶ Vaillancourt, F. and A. Roy. 2000. *Gambling and Governments in Canada, 1969-1998: How Much? Who Plays? What Payoff?* Canadian Tax Foundation: Toronto, Ontario.
- ¹⁷ Vaillancourt, F. and A. Roy. 2000. *Gambling and Governments in Canada, 1969-1998: How Much? Who Plays? What Payoff?* Canadian Tax Foundation: Toronto, Ontario. p. 45.
- ¹⁸ Vaillancourt, F. and A. Roy. 2000. *Gambling and Governments in Canada, 1969-1998: How Much? Who Plays? What Payoff?* Canadian Tax Foundation: Toronto, Ontario. p. 48.
- ¹⁹ Smith, Garry and Harold Wynne. 2000. *The Economics of Gambling: A Literature Review*. Alberta Gaming Research Institute. October 1, 2000; p. 18.
- ²⁰ Vaillancourt, F. and A. Roy. 2000. *Gambling and Governments in Canada, 1969-1998: How Much? Who Plays? What Payoff?* Canadian Tax Foundation: Toronto, Ontario.
- ²¹ The Australian GPI for 1999 www.gpionline.net
- ²² Alberta Alcohol and Drug Abuse Commission. 1999. *Adult Gambling and Problem Gambling in Alberta, 1998*.
- ²³ Based on personal conversation with Francois Vaillancourt at Whistler, B.C. International Symposium on "The Social and Economic Impact of Gambling," October 2000.
- ²⁴ Hamilton, Clive and Richard Denniss. 2000. *Tracking Well-being in Australia The Genuine Progress Indicator 2000*. The Australia Institute.