

2004 BRITISH COLUMBIA PROVINCIAL ECONOMIC MULTIPLIERS AND HOW TO USE THEM

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BCStats



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Chapter 1: Introduction

The British Columbia government has maintained a provincial Input-Output Model for many years. This model was developed and is updated periodically by BC STATS using data supplied by the Input-Output Division of Statistics Canada. The first model that BC STATS developed had 1974 as its base year. Subsequently, there were models based on data for the years 1979, 1984, 1990, 1996, 1999, 2000, 2001 and 2003. The model described in this report is based on preliminary 2004 data. Future updates are expected to occur on an annual basis with the annual release of data from Statistics Canada.

During this period the model has been used for hundreds of studies, including the impacts of the 2010 Vancouver Olympics, the Vancouver Convention Centre, the Kemano Completion Project, and land use planning studies for LRMP's throughout the province. Although economic impacts are not the only reason for undertaking projects or developing specific policies, those impacts are often important considerations and their estimation should play some part in any review of those projects or policies.

Indeed, as government requires its programs to become more accountable for results¹, those programs that claim to produce economic benefits will need to estimate them. Ascertaining whether or not the predicted benefits were achieved may not be easy, but defining their value in an economically valid and systematic way is at least a first step.

In recent years Statistics Canada has been gradually changing its industry classification system from SIC (Standard Industrial Classification) to NAICS (North American Industrial Classification System). The model and results described in this report use data allocated according to this new classification system.

The estimation of economic impacts is often a complex and technically challenging task and may involve significant amounts of judgement on the part of the analyst. BC STATS often gets calls from practising economists or consultants with the question "What is the multiplier for"? The purpose of this publication is to try to respond to that question in a way that is helpful and instructive, and yet fair to the discipline, the situation under study, and the ultimate recipients of the information generated. The fact is that sometimes a simple multiplier *is* all that's required, though even in these cases there are subtle

1 *Guidelines for Ministry Service Plans*, Ministry of Finance, 2005.

nuances and traps that analysts ought to be aware of and avoid. This report provides information generated from the 2004 Provincial Input-Output model, and this data can be used to calculate more than 4500 different multipliers² for the BC economy. (Small wonder that we instinctively wince when we get a request for *the standard multiplier*.) This report also provides explanatory information and example analyses that should promote the correct selection and application of those multipliers.

There are many situations, however, when the best approach to economic impact estimation is not to use a multiplier, but to make use of the input-output model in a project-specific way. A secondary purpose of this report is to help analysts to recognize such situations and to invite them to contact BC STATS to request use of the model for their application.

Chapter 2 of this report provides an overview of the structure of the model and discusses some of the issues and limitations associated with its application. As much as possible we have tried to present the relevant information in non-technical terms, with some technical details provided in Appendices.

Chapter 3 describes the multipliers provided in this report. It is emphasized that different situations call for different multipliers, and the onus is put on the analyst to use the information provided to calculate the most appropriate one for their application. A number of examples are provided to assist this process.

Finally, there is a concluding section that describes a number of situations where use of the input-output model itself is much more appropriate than any of the multipliers found in this report.

Chapter 2: The Input-Output Model

Even those of us who are total klutzes in the kitchen know that to make a cake we need a recipe and the appropriate ingredients: flour, eggs, butter, milk, sugar, chocolate, etc. We also need a source of energy (electricity, natural gas, wood,

2 This estimate was arrived at by considering about 89 industry groupings, 3 model configurations, 6 different measures (employment, GDP, etc.) and 3 different ways of combining the information into multipliers depending on the question asked.