THE BRITISH COLUMBIA MACROECONOMIC MODEL

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BRITISH COLUMBIA

Ministry of Finance and Corporate Relations

Occasional Working Paper

TABLE OF CONTENTS

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1. Introduction

The Ministry of Finance and Corporate Relations developed and maintains the British Columbia Macroeconomic Model to provide medium-term economic forecasts and policy simulation capabilities. The purpose of this paper is to provide information on the history, design and application of the BC Macroeconomic Model in government economic forecasting, responding to the Auditor General's recommendation that more information about the model be made public.[1]

The paper is structured as follows. The first two sections provide a brief history of economic forecasting in the BC government and a description of the forecast process. The third section provides a high-level perspective on the model for non-specialists. Due to the technical nature of macroeconometric models, the remaining sections of the paper delve into the model in detail and are largely aimed at academics/specialists with an interest in developing and using provincial economic models.

2. A Brief History of Economic Forecasting in the Government of British Columbia

Until the mid-1970s, the Ministry of Finance prepared budget forecasts of revenue and expenditure using assumptions and extrapolative methods. Some assumptions were made about the economic variables driving the various revenue sources and some expenditure categories, but there was no consistent economic framework or tools used for developing fiscal forecasts.

Around 1977, the government decided to construct a large-scale econometric model of the British Columbia economy that was to be used for economic forecasting, policy and project analysis. Such models, by this time, were being used in other finance ministries.

The then-Ministry of Economic Development's Central Statistics Bureau contracted with Data Resources Canada[2] (DRI) to build a British Columbia-specific macro model. DRI delivered the model to the Ministry of Economic Development in the late 1970s where it resided at the Central Statistics Bureau (CSB). CSB staff were responsible for maintaining, updating and running the model for clients.

At about the same time, the government established a new Economics and Policy Division in the Ministry of Finance to provide additional capacity for fiscal and economic analysis and advice. Existing Ministry staff responsible for fiscal and economic analysis and forecasting became part of this new unit. With the new econometric model in place at the Central Statistics Bureau of the Ministry of Economic Development, staff of the two ministries worked jointly to produce the government's economic forecast. Generally, these forecasts were produced for internal budgetary planning purposes, although during

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[1] See the Auditor General's 1998/99 Report 4 "A Review of the Estimates Process in British Columbia," February 1999, p. 133.
[2] Data Resources Canada was a subsidiary of Data Resources Inc., one of the first U.S. economic consulting firms to employ large-scale macro-econometric models for economic forecasting.

the late 1970s the Ministry of Finance began publishing its economic forecast in the budget document.

From 1978 through the early 1980s, the Ministry of Economic Development also used the model to produce its own forecasts and analyses of major capital projects and other economic developments for itself and other clients inside government (for example, long-term economic forecasts were used in long-term energy supply and demand forecasting).

In 1983, the government decided that the Ministry of Finance would have sole responsibility for producing the provincial government's economic forecast. This did not change the working relationship between it and the Ministry of Economic Development. Staff continued to work together using the model to develop economic forecasts.

By the mid-to-late 1980s, new developments in economic theory and in computer hardware and software meant that the econometric model had become obsolete. Staff had less confidence in the model's forecasting ability as a result. With limited in-house resources to build a new model, Treasury Board Staff and CSB, now part of the Ministry of Finance, decided that the best course was to again engage an outside organization with expertise in building econometric forecasting models. In 1989, the Ministry sent out a request for proposals to several Canadian economic consulting firms with relevant expertise. Following the submission of detailed proposals, WEFA Canada was selected by a panel of Ministry economists to develop the new model.

In mid-1990, WEFA Canada delivered the new BC econometric model to the Ministry, following several months of testing and evaluation by the contractor and Ministry staff. The BC Macroeconomic Model currently consists of about 300 behavioural equations, 250 identities and 300 exogenous variables. The model is closely linked to the WEFA Canadian model, which provides forecasts for approximately 80 of the exogenous variables, enabling national trends and policies (eg. interest and exchange rates) to be fed through to the provincial level. Since the original prototype was delivered the model has evolved considerably to take its present form.

As the model has evolved, it has generally been recognized that there is a trade-off between having a model with theoretical simulation properties that reflect the most recent trends in economic theory and one that both performs well in forecast mode and is grounded in accepted economic theory.[3] The current design of the BC Macroeconomic Model strikes a balance between theory and practicality according to its purpose of providing medium term forecasts and policy simulation studies of economic activity in BC. The simulation properties of the BC Macroeconomic Model exhibit accepted theoretical results along the lines of "Neoclassical Synthesis" which represents a combination of Keynesian and Neoclassical theories.

Since 1990, the econometric model has been in constant use in the economic forecasting process and to conduct policy and scenario analyses. Equations are reviewed after each

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[3] See Robidoux, Benoit, and Bing-Sun Wong (1998) "CEFM96:Part1 Model Structure," Department of Finance Canada working paper

forecast in terms of performance, and at a minimum are re-estimated annually.[4] In addition, regular reviews of the model's structure and dynamics are held and revisions made to ensure that the model remains up to date relative to new economic thinking and research. Throughout, the focus is on ensuring that, regardless of the innovations made, the model remains a practical, usable tool for economic forecasting.

3. The Economic Forecast Process in the Government of British Columbia

Timetable: The Ministry of Finance and Corporate Relations generally has produced three medium-term (five-year) economic forecasts per year. The typical schedule has been:

- Budget (March)
- Summer (August)
- December

With the government's announced commitment to release a mid-(fiscal) year economic and fiscal forecast update, the schedule will change. The December forecast will likely be moved up to mid-November to coincide with the release of the mid-year forecast update in the July-September *Quarterly Report*. Consideration is also being given to continuing the summer forecast update for internal government planning purposes.

In the past, a long-term (20-year) forecast was produced once a year, usually in July. Currently, this is no longer done, due to a combination of limited staff resources and reduced demand from government clients.

Responsibility: The Fiscal and Economic Analysis Branch (FEA) of Treasury Board Staff (TBS) is responsible for economic forecasting in the provincial government. The forecast is produced jointly by the Economic Analysis (EA) section and the Macroeconomic Modelling (MM) sections of FEA. The Minister of Finance and Corporate Relations provides direction on published government forecasts, since it is the Minister who is ultimately responsible for them.

How The Forecast is Done: The forecast is produced using the econometric model of the BC economy maintained and run by the MM section of FEA. Model runs are then fine-tuned by EA staff, with various adjustments reflecting recent economic intelligence or more up-to-date monthly data, or where staff judge that the model-generated results are out of line with likely trends to the end of the year. This review produces the final forecast, which is documented and published in the *British Columbia Economic Review and Outlook*, and summarized in other government documents such as the *Budget Reports*.

The econometric model requires assumptions to be made by staff about the outlook for key external factors that will affect the British Columbia economy, including:

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[4] Staff are also continuously engaged in the time consuming task of data management.

- economic growth in the rest of Canada and other major trading partners;
- interest rates and exchange rates;
- export prices; and
- government fiscal policy.[5]

The process begins with review by FEA staff of external forecasts of these factors. Branch staff consult a wide variety of outside experts, other divisions of the Ministry such as Provincial Treasury, and other government ministries such as Forests and Employment and Investment. Much of the on-going gathering of economic intelligence by FEA helps in this process. FEA also routinely hold an "economic roundtable" with several groups external to government (more on this in the "External Review" section below).

Once the review of external assumptions is complete, they are incorporated in the econometric model and an initial model forecast is produced. MM and EA staff then review and discuss the results. Typically, three or four model runs will be required before everyone is satisfied with the broad framework of the model's forecasts. EA staff may make further adjustments, based on their professional judgement, to arrive at the base case forecast. For example, additional actual monthly data may be available beyond the latest quarterly data used by the model. EA staff would compare year-to-date retail sales data with the model's output for a comparable category of consumer spending to check that the model's predictions for the current year are reasonable in light of actual year-to-date data. Staff are careful not to over-adjust the model's results.[6]

EA then produces a written document and a set of forecast tables that are reviewed by senior management, and the Minister of Finance. Occasionally, a committee of deputy ministers will review the forecast.

Once the forecast has been reviewed, the document becomes the Ministry's official economic forecast. (While this last step is underway, EA and MM may also develop alternate high and low growth scenarios. These usually incorporate different assumptions about the key external variables, and typically focus on alternate growth paths for the next 12 to 18 months.)

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[5] Incorporation of government fiscal policy assumptions: The model requires assumptions to be made about total government expenditures and provincial government expenditures over the five-year forecast horizon. The practice generally followed has been to adopt the publicly-announced plans of the provincial government. In the case of spending by other levels of government, the practice has been to adopt assumptions that are in line with those employed by national forecasting organizations such as WEFA Canada, the Institute for Policy Analysis at the University of Toronto and the Conference Board. The model can generate forecasts of provincial government revenue. These estimates are approximate since they are derived on a national accounts/economic accounts basis rather than the public accounts basis used in revenue forecasting, and the formulas used are broad in nature. The actual revenue forecasts are generated separately by the Fiscal Forecasting and Analysis section of FEA using more detailed analysis, and are consistent with provincial accounting policy.

[6] Research shows that forecasters have a tendency to excessively over-adjust model forecasts with their own judgements. See Steven K. McNees, "Man vs. Model? The Role of Judgment in Forecasting", *New England Economic Review*, (Boston: Federal Reserve Bank of Boston, July 1990) , pp. 41-52.

Staff Resources Used:

From start to finish, the whole forecast process usually takes about six weeks (less when the economic environment is not changing very much). Three staff from EA and three from MM are typically involved in the process, although not all of them are working full-time on the forecast.

Each forecast directly uses about 25 person-weeks, not counting the time spent gathering economic intelligence and monitoring economic developments between forecasts (this would be done even if no forecasts were being prepared).

Econometric model updating, re-estimating, and maintenance is a constant process involving all staff in the MM section when they are not occupied with the forecast. This involves incorporating the new economic accounts that come out each year and making methodological refinements. These are necessary to ensure that the model is an accurate, current, and operational representation of how the BC economy works.

External Review of Forecasts:

The Ministry's economic forecast is publicly available in print and on the Internet. The documentation and tables are extensive, provided more public information than most other provincial governments.

Additionally, since the mid-1980s, FEA has been holding twice-yearly economic roundtables with people in the economic communities in Vancouver and Victoria. These meetings constitute an additional forum providing external feedback on the economic forecast.

The purpose of these meetings has depended on when the meetings are held relative to our forecast cycle. Generally, there have been two purposes to the meetings:

- to get feedback on already-released forecasts; and

- when staff are preparing the new December forecast in the fall, to get participants' views on the outlook for areas of the economy they are involved in.

The second external element in the economic forecast process is an innovation introduced in 1997. This is the pre-budget economic outlook conference hosted by the Minister of Finance. Economic experts from the private sector and academia are brought together prior to the budget to meet with the Minister to discuss the economic outlook. Participants are polled on their forecasts and their opinions on the key issues that will affect the outlook.

The proceedings and survey findings from the conference are published in the budget with the Ministry's economic forecast. The Ministry continues to produce and publish its own economic forecast, taking the survey results into consideration. This permits the

public to compare the Ministry's forecast to the survey results. This annual conference has recently been made a mandatory process, further to changes to the Financial Administration Act in spring 1999.

The Ministry has been providing the economic forecast to the public on request since the mid-1980s. The detailed forecast, *British Columbia Economic Review and Outlook*, is provided on a request basis free of charge to members of the public and the media. A mailing list of about 500 people is maintained by the Fiscal and Economic Analysis Branch. Since 1997, the forecasts have been posted on the Ministry of Finance and Corporate Relations Web site.

4. BC Model Overview

The technical portion of the paper is structured as follows. Section 4 provides an overview of the model. This is followed by a description of each sector of the model in sections 5 through 14, containing the underlying economic theory as well as general forms of the equations. Section 16 notes data issues relevant to the operation of the model. Appendix A provides the mnemonics structure of the model in alphabetical order.

The BC model reflects British Columbia's small open economy, one that produces a number of goods and services and consumes domestic and foreign-produced goods and services. The domestic goods are produced by eight private industrial sectors and two government sectors. Domestic producers are assumed to be price takers in foreign and domestic markets, while foreign goods and services are assumed to be imperfect substitutes for domestic goods and services.

In the model, the economy is separated into four broad sectors, firms, households, governments, and the external sector. Figure 1 shows the interactions among three of these sectors (firms, households, and government) that make up the domestic economy.

Figure 1: Domestic Economy
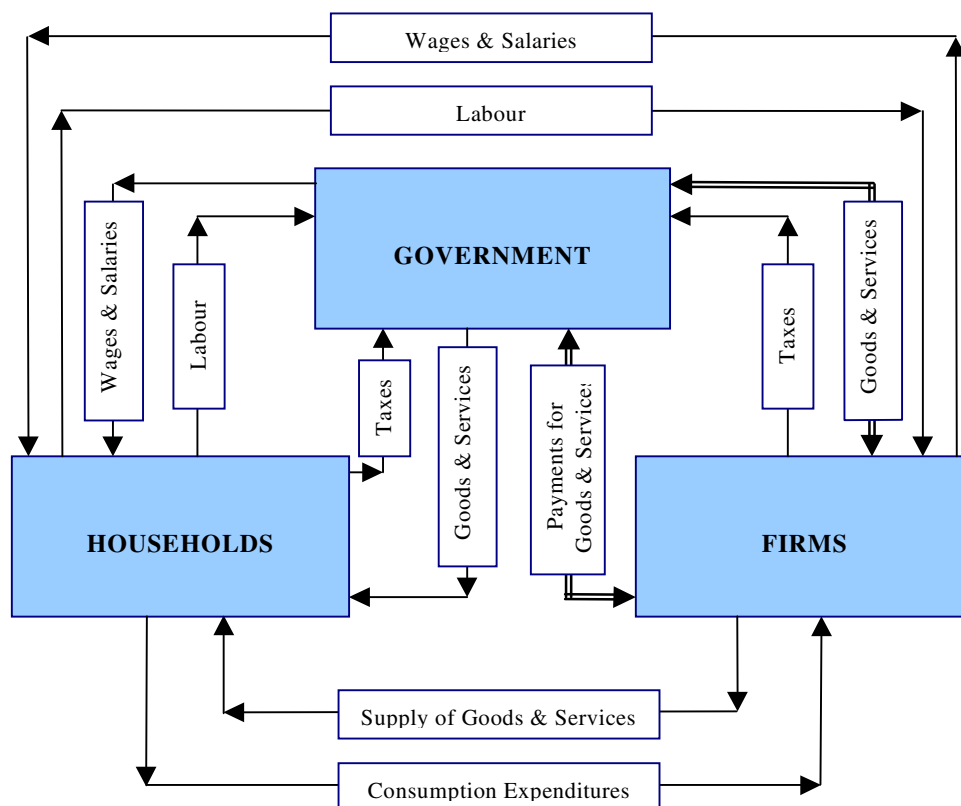
Firms employ capital and labour to produce profit-maximizing outputs under a Cobb-Douglas[7] production function with constant-returns-to-scale technology. Households consume domestic and foreign products and supply labour under the assumption of utility maximization. Governments collect taxes, purchase domestic and foreign products, and produce output. The external sector purchases domestic products and supplies imports.

There are a number of markets represented in the model; the market for goods and services (also referred to as products), the labour market and financial markets. The market for goods and services include those corresponding to the various industries in the model. Each of the private sector markets determines demand, supply and price for its products. Although government products are not sold in the marketplace, the income generated from the supply of these products, and their impact on the economy, are fully integrated into the model. Financial markets are not modelled explicitly. Figure 7 located at the end of this section provides a schematic description of the structure of the model.

Market for Goods and Services

The domestic and foreign goods and services are incorporated in a number of different ways in the model. These goods and services can be consumed, used as residential and non-residential investments, held as inventories, or purchased by governments and foreigners. The demand for products stems from these uses. The supply of products originates from production, imports and inventory change. Market clearing (supply and demand balance) in the model comes via both quantity and price adjustments. However, quantity adjustment plays the more important role in this regard. In the short run, this is due to the assumption that prices adjust slowly. Economic agents (particularly consumers) in BC are considered to be price takers in the long run.

Demand

Final demand is disaggregated into personal expenditures, government expenditure, gross fixed capital formation, the value of physical change in inventories, and BC net exports (Figure 7, block C).

Consumption

Consumer demand is derived from a modified version of the permanent income model.[8] Figure 2 shows the variables that determine consumer expenditures on the left and the types of consumer expenditures on the right. Consumer expenditures depend on short-term (transitory) income, longer-term (permanent) income, liquidity constraints, relative prices, and consumer confidence. A distinction is made in the model between durable

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[7]The Cobb-Douglas production function is of the form:

$Y=AN^{\alpha}K^{1-\alpha}e^{\lambda t}$, $0<\alpha<1$ where N is the amount of labour and K is the amount of capital used to produce a given amount of output (Y), and λ is a total factor productivity growth coefficient.

[8] The general premise of the permanent income model is that households determine their annual consumption expenditures based on what they earn on average over a number of years. This means that a spike in income in a particular year will cause a much smaller change in annual consumption expenditures.

and other types of consumer expenditures (non-durables and services). Unlike the other categories of consumption, durables are modelled as a flow of services of a given capital stock. Thus each durable equation contains a desired capital stock, actual capital stock, plus a user cost of capital.

Figure 2: Consumption
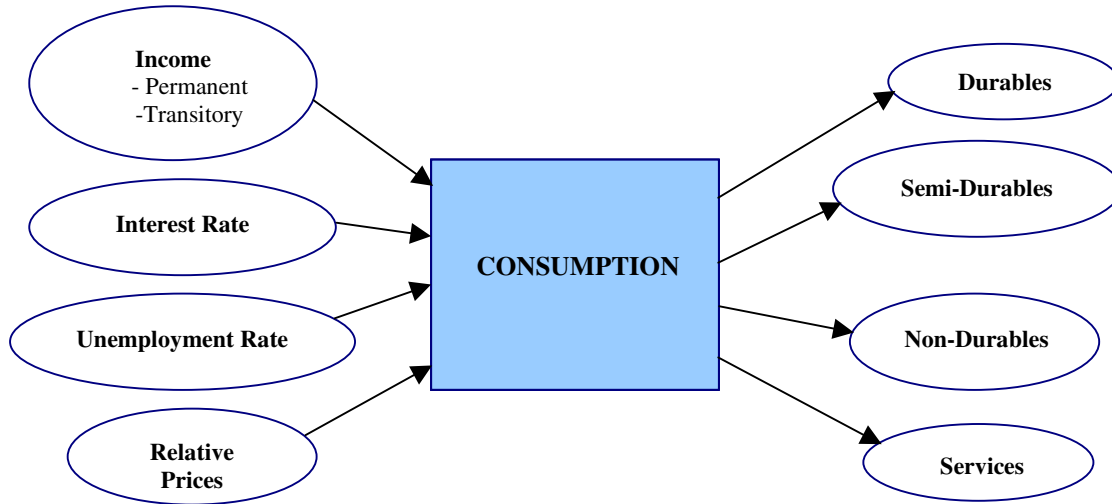
Investment

Investment consists of residential investment, non-residential construction and machinery and equipment investment. The latter two categories combined are referred to as non-residential investment.

Residential construction expenditures are separated into those for new housing and other (transfer costs and alterations and improvements). Figure 3 shows the factors that influence residential investment in terms of new construction (housing starts) and other (alterations, improvements, and transfer costs).

Figure 3: Residential Investment
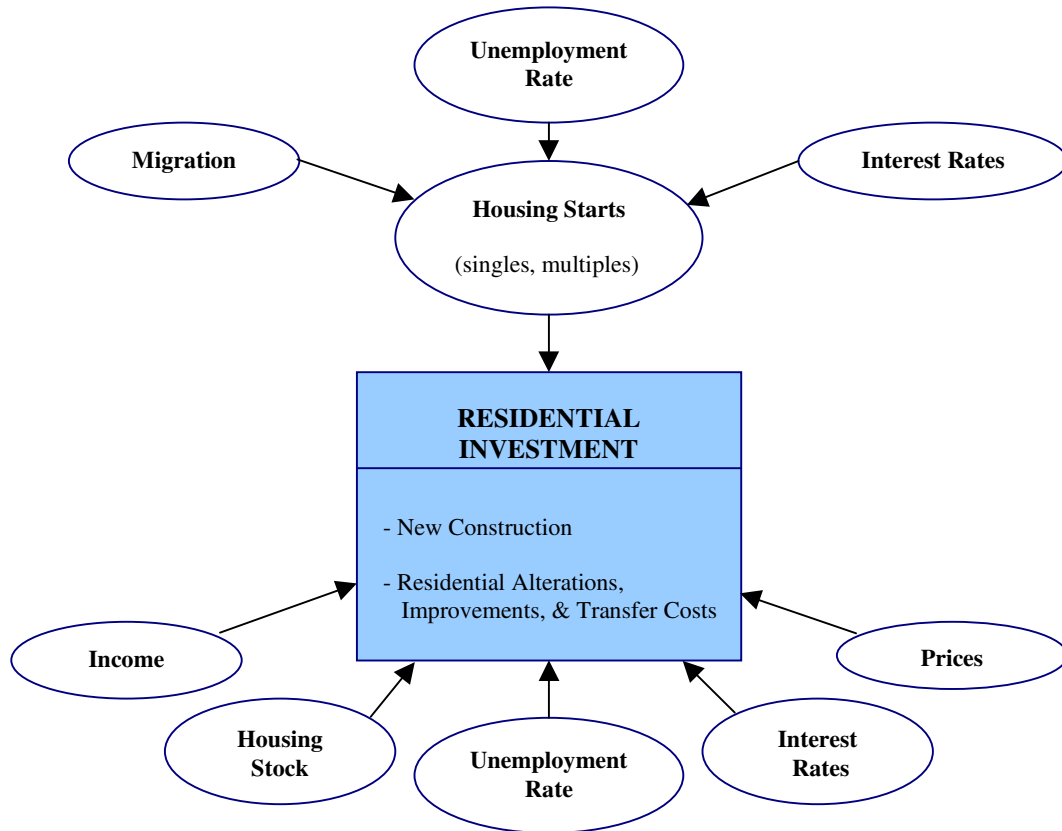
The desired stock of housing is dependent on those factors that determine the consumption of housing services, which are essentially the same as those for consumption above. Demographic trends in migration play an important role in the determination of new housing. A stock adjustment model[9] is employed for housing starts where the actual stock adjusts via housing starts to its desired level.

Non-residential investment demand is based on firms' factor demands. The demand for capital and thus investment is derived from the assumption that firms seek to maximize profits. The long-run desired capital stock in the case of profit maximization is dependent on expected output, the expected price of the product, and the expected user-cost of capital. The expected level of these variables is represented by a distributed lag of past levels. The movement of capital stock towards its desired level -- investment -- is assumed to follow a stock adjustment process.

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[9] For an example of a stock adjustment model applied to inventories see Hung-Hay Lau, "The role of inventory management in Canadian economic fluctuations", *Bank of Canada Review*, Spring 1996, p. 36.

Government

Government demand is determined outside the model and is discussed in more detail below.

Exports

Exports are broken down by commodity and by broad market area (rest of Canada and to the rest of the world). As seen in Figure 4, the sector explicitly models exchange rate effects. Other factors that influence exports are external demand, relative prices and industrial output. External demand factors include housing starts, GDP, and industrial production indices for Japan, Europe, and the U.S.

Figure 4: Exports
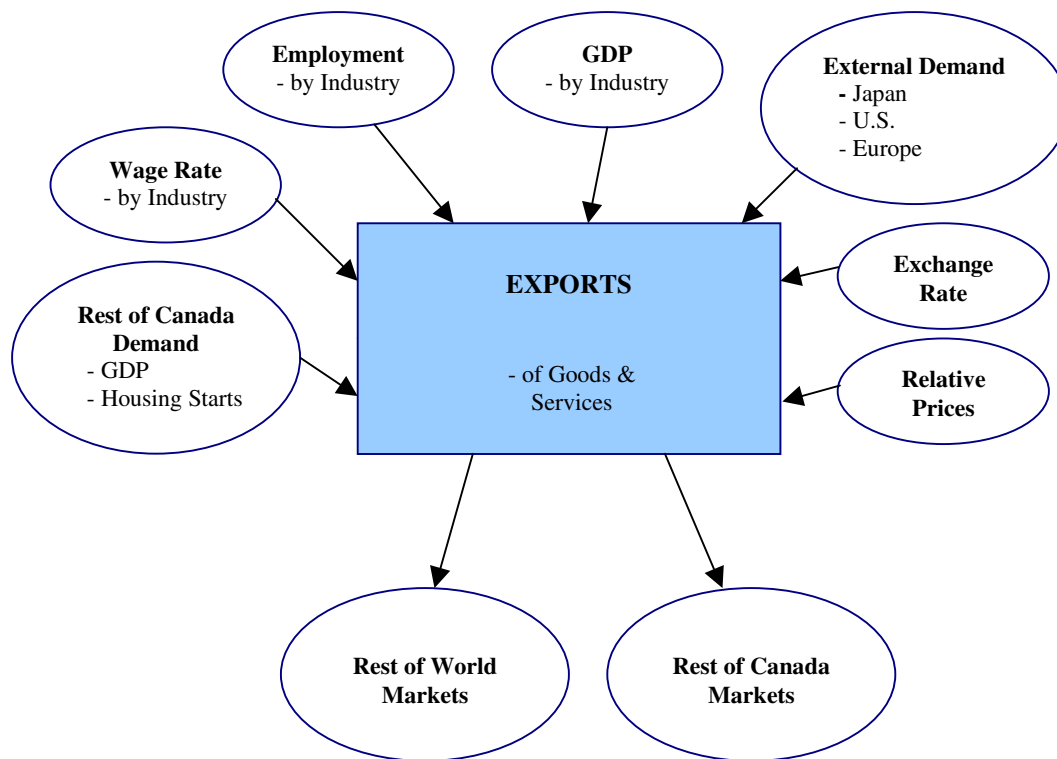
Imports

Aggregate imports are modelled using an input/output content approach. Import shares are applied to all final demand categories in the model to determine domestic import demand. Along with domestic import demand, the effects of exchange rates and relative prices influence imports of goods and services from the rest of Canada and the rest of the world (Figure 5).

Figure 5: Imports
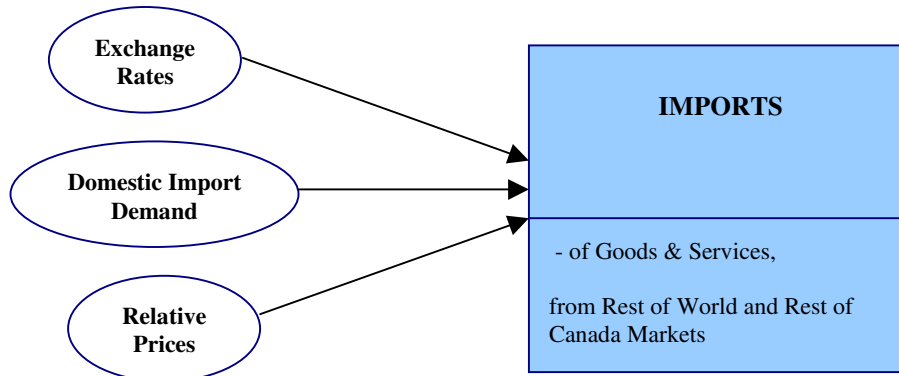
Supply

The model has ten industrial sectors. For eight of these (forestry, other primary, wood, paper and allied, other manufacturing, construction, other services, and transportation, communications, and utilities) there is a consistent integration of output (Figure 7, block F), factor demands (block G), output prices and factor prices (block E). A Cobb-Douglas production function is specified for each sector, and corresponding factor demands are derived under an assumption of profit-maximizing behaviour on the part of firms. These factor demands respond to output prices and factor prices. For the other two sectors (public administration and defence, and hospitals and schools) wages and salaries in the respective industry determine output.

A key assumption regarding the supply side of the model is that factors of production are quasi-fixed due to adjustment costs; for example, as a result of high training requirements in certain occupations, labour shortages in some areas can exist in the short run but disappear with the passage of time. Firms are assumed to maximize profits subject to the production function. This production structure is expected to hold on average and not on a period-to-period basis.[10] In addition, marginal conditions associated with profit maximization are expected to hold on average and not in each period.

With quasi-fixed factors of production, firms are assumed to design their production process to enable them to produce over a range of feasible operating rates. They will then choose factor quantities to maximize profits at the chosen point within the expected range of operating rates.

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[10] This type of model is outlined in Helliwell, J.F. and Chung, A. "Aggregate Output with Operating Rates and Inventories as Buffers Between Variable Final Demand and Quasi-Fixed Factors", UBC Discussion Paper, (1984).

The values of output computed from the production function are defined as normal output. This represents the level of output that firms would produce if they were operating on their production function at an average level of factor utilization.

While firms are generally assumed to be price-takers in the model, it is assumed that profit margins in some non- tradable industries[11] will vary somewhat under conditions of excess demand or supply. Firms will also adjust inventories in line with market conditions thus leading to changes in output. Changes in demand will be met by changes in inventories, output, imports and prices with almost all of the adjustment coming through quantities rather than prices in the short run.

The output of domestic products is determined from an integrated input/output model. Output thus depends on demand, but there is feedback through prices, costs, and inventory changes that influence the level of output.

Inventory changes are based on a flexible accelerator model. According to this model, firms have a desired stock of inventories that depends on the real cost of inventories and expected sales. Inventories will change in response to changes in these factors.

Labour Market

Figure 6: Labour Market
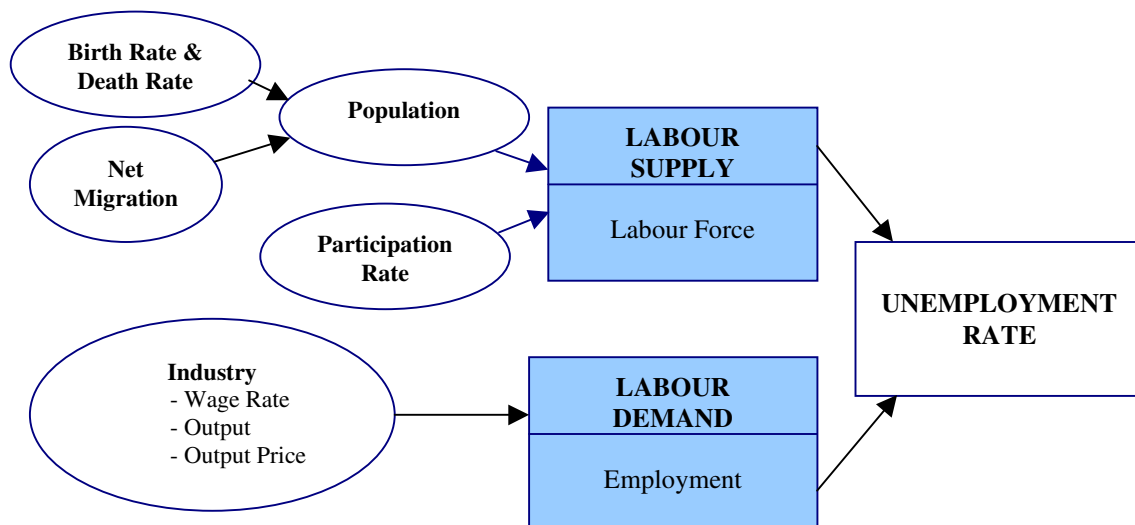
As shown in Figure 6, the determinants of the demand for labour in the model include wages, prices, and output. The demand for labour comes from firms and government producing the domestic products. In the case of the government products the demand is assumed based on demographic and budget factors. For private firms, the demand is based on the profit maximization decisions as discussed above.

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[11] for example, the market for housing services

The labour force, which is the measure of labour supply in the model, is determined from source population and the participation rate. Population is determined from birth and death rates and net in-migration. Net in-migration consists of international and inter-provincial migration. International migration is exogenous and inter-provincial net migration is determined endogenously as a function of BC-Alberta and BC-Ontario unemployment rate differentials as well as BC-Canada GDP differentials. The participation rate is derived from an equation relating this rate to the real after-tax wage rate, the unemployment rate and a time trend reflecting changing socio-economic factors.

The impact of real wages on labour supply is also incorporated in the wage rate equations. These equations are augmented Phillips curve formulations relating the percentage change in the economy's wage rate to expected inflation, the change in the unemployment rate, and trend labour productivity.

Labour supply and demand are not expected to balance in the short-run which gives rise to some involuntary unemployment. In the long run, however, the labour market is assumed to clear with real wages growing at the trend rate of labour productivity

Financial Markets

The small open economy assumption for BC extends to financial markets, the same as for markets for goods and services. In goods and services markets this assumption manifests itself as price-taking behaviour. In terms of the financial market, it means that interest and exchange rates are determined outside of the model. Economic agents in BC take interest rates and exchange rates as given and they are consequently exogenous variables in the model. Therefore, unlike models of the Canadian economy, where interest rates and exchange rates are determined internally, the BC Macroeconomic Model does not have a full monetary sector.

As a result, for simulations involving the effect of changing monetary conditions on British Columbia, impacts from a national model such as WEFA Canada's can be input into the BC model to generate province-specific impacts.

Government Sector

This sector of the model incorporates the impact of government fiscal activity on the BC economy. The government sector is broken down into revenues and expenditures for federal, provincial, and local government. The income statement of the provincial government is considered in detail in the model. For the other levels of government, only those aspects of the government necessary to determine the major economic relationships such as personal disposable income are included.

The major categories of expenditures considered refer to total government spending on current goods and services, and gross capital formation. Transfer payments refer to those for persons, businesses and non-residents. These expenditures are either determined outside the model or modelled using simple simulation rules.

The main types of revenues included in the model are personal direct taxes, business direct taxes, indirect taxes and investment income. These revenues are modelled using synthetic tax bases and tax rates. The latter are exogenous variables. Revenues are forecast on a system of national accounts basis, as opposed to the public accounts basis used in provincial budgeting. Therefore, the model's revenue forecast cannot be used directly for revenue forecasting on a public accounts basis. However, they do provide "ballpark" growth rates for analyzing the effects of policy changes.

FIGURE 7: BC ECONOMETRIC MODEL

Exogenous Factors (B)

Interest Rates
Exchange Rates
International Prices

GDP (C)
Expenditure Side
(Constant 1992 $)

Consumption
- Goods
- Services

Investment
- Residential
- Non-Residential
- Machinery & Equipment

Government Spending

Exports
   Rest of World
   - Goods
   - Services
   Rest of Canada
   -Goods
   - Services

Imports
- Goods
- Services

Value of Physical
Change in Inventories

Gross Domestic Product (D)
(Current $)

Housing Market (J)

Housing Starts
Housing Stock

Government Revenue (I)
System of National
Accounts Basis

Prices & Wages (E)

Industry Wages
Rates
Expenditure Prices
CPI
Output Prices
Residential Prices
User Cost of Capital

Income Distribution (H)

GDP (Income Side)
Corporate Profits
Personal Income
Personal Disposable Income

External Demand (A)

Other Provinces
US
Japan
Europe

Industrial Output (F)

Forestry
Other Primary
Wood
Paper and Allied
Other Manufacturing
Construction
Trans./Comm./Util.
Other Services

Factor Demands/Demographics (G)

Employment
Participation Rate
Unemployment Rate
Labour Force Population
Capital Stock
Population
Net Migration

16

5. Consumer Expenditures

The consumer sector of the model is concerned with determining the expenditure decisions of households. Consumer spending is broken down into four main categories: expenditure on services (including paid and imputed rent, restaurants and hotels, and other services), non-durables (including food and beverages, motor fuels and lubricants, electricity, gas and other fuels, alcoholic beverages, tobacco and other non-durables), semi-durables and durables (autos and parts and other durable expenditures). Real expenditures are modelled using stochastic equations,[12] while nominal expenditure values are determined from identities containing real expenditures and the corresponding price deflators (which are stochastic equations). See Appendix A for a complete list of mnemonics (variables).

The determination of consumer expenditures is part of the overall household sector. This sector is concerned not only with consumer expenditures, but also with decisions regarding labour supply and savings. First the household has to decide how much labour to provide. Given the wage rate, the household decides how they will divide their time between work and leisure. Next, the household decides how to divide their disposable income between consumption and savings,[13] and subsequently between various services, as well as durable and non-durable goods.

Consumption behaviour in the model is based on a version of the permanent income model,[14] where households smooth their consumption expenditures over time based on permanent versus transitory income. Allowances are made in the model for the impact of changes in consumer confidence[15] on expenditures through employment uncertainty. Liquidity constraints,[14] where households are unable to smooth consumption expenditures in the short-run by their limited ability to borrow against future income, are also incorporated in the model.

According to the permanent income model, under some simplifying assumptions regarding the future path of prices, wages and other income, desired household consumption for the current period, C, is determined as follows:

$$C = C(Y,R) \tag{5.1}$$

where Y is permanent household income and R is the real interest rate. While permanent income is expected to have a positive impact, the real interest rate may have either a positive or negative impact on consumption depending on its impact on household net

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[12] A stochastic equation is one that is estimated using regression analysis, which describes or estimates the value of one variable (the dependent variable) using one or more other variables (independent or explanatory variables).

[13] For a discussion of the consumption-savings decision see Dornbusch, Fischer, Sparks, *Macroeconomics, 4th Canadian Edition* (McGraw-Hill Ryerson Ltd., 1993), p. 60-62.

[14] For a discussion of the Permanent Income Model and Liquidity Constraints see Hall, Taylor, & Rudin, *Macroeconomics The Canadian Economy, 2nd ed.* (W. W. Norton & Co., Inc., 1995) p. 265-285.

[15] For an analysis of the impact of consumer confidence on consumption see Throop, Adrian (1992),"Consumer Sentiment, Its Causes and Effects", *Economic Review*, Federal Reserve Bank of San Francisco, No. 1.

worth. While an increase in the interest rate makes saving more attractive it also makes it less necessary (since you can save less and achieve the same return).

To allow for different categories of expenditures, consumption as opposed to expenditures, and disequilibrium effects, the equations for the categories of expenditures (that are assumed to follow closely that of consumption) are of the general form:

$$CK/LP = C(YPERMK, YTRANSK, PC^{**}/PC, \Delta LUR_{-1}, OTHER) \qquad (5.2)$$

where CK is real expenditures for a given category, LP is labour force source population, YPERMK is per capita real permanent income (with LP as the denominator), YTRANSK is per capita real transitory income, PC^{**} is the price deflator for the consumption category, PC is the deflator for total consumption, ΔLUR_{-1} is the lag of the change in the unemployment rate, and OTHER represents other variables such as, dummy variables or time trends that help to explain the behaviour of the various expenditure categories. In certain equations, distributed lags of some of these variables are employed.

The population variable is included as a proxy for households. Changes in household headship rates are assumed to be captured by changes in the independent variables in the equations. The relative price term is employed to allow for the substitution of consumption categories. The transitory income variable allows for the possibility of liquidity-constrained households. The unemployment rate variable is included as a proxy for consumer confidence. As the unemployment rate rises, households are assumed to become less confident and reduce spending.

The model makes the distinction between consumption and expenditures by considering expenditures on durable goods separately from those on other goods and services. For durable goods, an investment expenditure approach is adopted where the desired consumption of services of such goods implies a desired stock of the goods. A stock adjustment process for gross investment with proportional replacement investment is employed where the determinants of desired stock are those for desired consumption.

The durable expenditure equations are of the form:

$$CDK/LP = CD1 * CD (YPERMK, YTRANSK, UCD/PC, \Delta LUR_{-1}, OTHER)$$
$$+ (CD1 - RD) * KCD(-1) \qquad (5.3)$$

where CDK is real durable expenditures, UCD is the user cost of durable goods, KCD is the end-of-period stock of durable goods, RD is the depreciation rate for the goods, and CD1 is the stock adjustment coefficient.

The stock variable is defined as:

$$KCD = (1-RD) * KCD(-1) + CDK \qquad (5.4)$$

where the annual depreciation rate reflects recent historical experience.
The user cost variable is of the form:

$$UCD = PCD * (RD + R) \qquad (5.5)$$

where R is the real interest rate.

The permanent income variable used in the model, YPERMK, is an extrapolative expectations formulation of the form:

$$YPERMK = YPERM0 + YPERM1*TIME \qquad (5.6)$$

where TIME is a time trend variable, and YPERM0 and YPERM1 are time varying coefficients estimated from the five-year moving regression:

$$YDPPK(-1) = YPERM0 + YPERM1*TIME(-1) \qquad (5.7)$$

where YDPPK is real per capita disposable income.

The transitory income variable is defined as:

$$YTRANSK = YDPPK - YPERMK \qquad (5.8)$$

Real per capita disposable income is calculated as follows:

$$YDPPK = (YP-TD-TOG-TDPCPP-TDPSIF-TDPSIP)/PC/LP \qquad (5.9)$$

where YP is personal income, TD is direct personal taxes, TOG is other transfers to government, TDPCPP is CPP direct taxes on persons, TDPSIF is federal direct taxes from contributions to social insurance plans and TDPSIP is provincial direct taxes from contributions to social insurance plans.

The real interest rate variable, R, is computed as:

$$R = RINCA - PEINF \qquad (5.10)$$

where RINCA is the Scotia McLeod Corporate Long-term Industrial Bond Rate and PEINF is expected inflation.

The expected inflation variable is an adaptive expectations measure of inflation defined as follows:

$$PEINF = MOVAVG(12, PCPI/PCPI(-4)-1)*100 \qquad (5.11)$$

where MOVAVG is the moving average function for 12 quarters.

6. Residential Investment

This sector of the model is concerned with determining the various measures of housing activity in the model. They include housing starts, housing stocks and residential construction expenditures. The real expenditure categories are modelled using stochastic equations, while the nominal expenditure values are determined from identities containing real expenditures and the corresponding price deflators.

The housing sector is based on the stock-flow model of the housing market. Two markets for housing are distinguished in the model: the existing housing market and the new housing market. Within these markets a distinction is made between single-detached housing and multiple housing. The former type of housing is meant to reflect owner-occupied housing and the latter rental housing.

Residential construction expenditures are divided into those for new housing and other expenditures. The former expenditures are derived from the production of new housing. The latter expenditures include those for additions, alterations and improvements. These are determined in a framework similar to that used for consumption expenditures, which is based on a version of the permanent income model.

All variables in the housing sector, except for housing starts, are expressed in millions of 1992 dollars.

Housing Starts

The equations for housing starts in the model are based on the existence of supply functions for builders and landlords. The supply of new housing is assumed to be derived from profit maximization on the part of builders and landlords and the availability of credit. The equation for single-detached starts is of the general form:

$$LOG(HSS) = X0 + X1*NETMIG + X2*RTBCA(-1) + X3*LUR \qquad (6.1)$$

where NETMIG is total net migration into British Columbia, RTBCA is the Canadian 90-Day T-Bill interest rate, and LUR is the BC unemployment rate.

Similarly, the equation for multiple starts is of the general form:

$$LOG(HSM) = X0 + X1*NETMIG + X2*RTBCA(-1) + X3*LUR \qquad (6.2)$$

Housing Stock

The net housing stock variables in the model refer to the real dollar value of housing units. These are modelled according to the equations:

$$KHSK = X0 + X1*KHSK(-1) + X2*(INVSK + .75*IMPROVK) \qquad (6.3)$$

$$KHMK = X0 + X1*KHMK(-1) + X2*(INVMK + .25*IMPROVK) \qquad (6.4)$$

where INVSK and INVMK are residential investment in singles and multiples, and IMPROVK is residential alterations and improvements. In this context, X1 can be interpreted as an estimate for (1 - depreciation rate).

Residential Construction Expenditures

Residential construction expenditures are separated into two types in the model: new houses and other. The former are due solely to the construction of new housing, while the latter include real estate commissions, some household furnishings, additions, alterations, conversions and mobile home sales.

The equations for new housing expenditures relate them to current and past housing starts. An equation is included for single-detached and multiple housing starts because the construction of these two types of housing is significantly different. They are of the form:

$$INVSK = X0 + X1*HSS(t...t-m) + X2*TIME \tag{6.5}$$

$$INVMK = X0 + X1*HSM(t...t-m) + X2*TIME \tag{6.6}$$

where m is the length of the polynomial distributed lag and TIME is a time trend (linear or otherwise).

There are two equations for other residential expenditures: one for transfer costs such as realtor fees, the other for residential alterations and improvements. The first relates these expenditures to permanent income, transitory income, the relative price of new residential construction, and a real mortgage rate.

$$LOG(IRTRANSK/LP) = X0 + X1*MOVAVG(4, LOG(YDPPK))$$
$$+ X2*MOVAVG(4, PIRNEW/PIRNEW(-4) - 1)$$
$$+ X3*MOVAVG(4, RMTCCA(-1)) \tag{6.7}$$

where the dependent variable is normalized by the total non-institutional labour force population.

The second equation relates residential alterations and improvements to permanent income and the unemployment rate.[16]

$$LOG(IMPROVK) = X0 + X1*LOG(YPERMK) + X2*LUR \tag{6.8}$$

These equations are similar to those for consumer expenditures. Changes in permanent income and the real interest rate are expected to influence expenditures, and changes in the unemployment rate will affect consumer confidence and spending.

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[16] IMPROVK and YPERMK are divided by the stock of singles and multiples lagged one period to express improvements and alterations as a share of the stock of housing.

7. Non-Residential Investment and Inventories

The non-residential investment sector of the BC econometric model is based on the neoclassical theory of investment. This sector is concerned with the determination of business and government investment expenditures for machinery and equipment and construction, the stock of capital and total inventory change. Each of the business and government categories has two components: (a) investment in machinery and equipment for that category, (b) investment in non-residential construction for that category.

The four main categories of business investment expenditures considered in the model are primary (including forestry and other primary), manufacturing (including paper and allied, wood and other manufacturing), construction and services (including transportation and other services). The two government investment categories are hospital and schools and public administration. The business investment categories represent endogenous variables while the government investment categories are determined outside of the model.

Non-Residential Investment

The equations for investment expenditures for the endogenous industry categories are based on a variant of the neoclassical investment model,[17] and are consistent with the supply-side framework adopted for the model as described in the overview.

The demand for investment is derived from profit-maximization formulations for capital. For the Cobb-Douglas production technology adopted, the profit- maximization conditions for a typical industry are as follows:

$$KMED = (1-LS)*MOVAVG(i, PGDPL)/MOVAVG(i, UCMEL)*$$

$$MOVAVG(i, GDPKL) \tag{7.1}$$

$$KNRD = (1-LS)*MOVAVG(i, PGDPL)/MOVAVG(i, UCNRL)*$$

$$MOVAVG(i, GDPKL) \tag{7.2}$$

where KMED and KNRD are the desired stocks of machinery and equipment and structures, respectively, LS is labour's share in nominal output, PGDPL is the long-run expected price of the industry's output, GDPKL is the corresponding real output, i is the number of lags on the moving average, and UCMEL and UCNRL are the user costs of capital for machinery and equipment and structures, respectively. The long-run values of these variables are approximated by lags on the actual values.

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[17] For example, see Dornbusch, Fischer, Sparks, <u>Macroeconomics 4th Canadian Edition</u> (McGraw-Hill Ryerson Ltd., 1993), p. 337-347.

While the above conditions are expected to hold in the long- run, they may not do so in the short run due to adjustment costs, lags in the adjustment process, and other factors. Actual capital stocks are related to long-run desired stocks in a stock adjustment framework.

Standard stock-adjustment equations are employed in the model (see 7.3 and 7.4). Assuming proportionate replacement investment, the equations for gross investment in machinery and equipment (IME) and construction (INR) for a typical industry are generally as follows:

$$IME - RDRME*KME(-1) = IME0 + IME1*KMED + IME2*KME(-1) \qquad (7.3)$$

$$INR - RDRNR*KNR(-1) = INR0 + INR1*KNRD + INR2*KNR(-1) \qquad (7.4)$$

where RDRME and RDRNR are the depreciation rates for the respective categories and IME0, IME1, IME2, INR0, INR1 and INR2 are coefficients.

The equations for the actual capital stocks are, for a typical category, as follows:

$$KME = (1 - RDR)*KME(-1) + IME \qquad (7.5)$$

$$KNR = (1 - RDR)*KNR(-1) + INR \qquad (7.6)$$

A key concept in the neoclassical theory of investment is the user cost of capital, or the implicit rental cost associated with using the services supplied by a unit of capital. The user cost equations result from assuming a profit maximizing firm and for a typical industry, the user cost of capital measures for machinery and equipment (UCME), and for non-residential construction (UCNR) are calculated as follows:

$$UCME = PME*(RRATE/4+RDRME)*(1-RITC-(1-MM*RITC)$$
$$*RTYC/4*Z\_ME-RTYC/4*PVINTME)/(1-RTYC/4) \qquad (7.7)$$

$$UCNR = PNR*(RRATE/4+RDRNR)*(1-RITC-(1-MM*RITC)$$
$$*RTYC/4*Z\_NR-RTYC/4*PVINTNR)/(1-RTYC/4) \qquad (7.8)$$

where PME and PNR are the respective investment price deflators, RRATE is the expected real interest rate over the life of the project, RDRPME and RDRNR are the respective capital depreciation rates, RTYC is the appropriate expected corporate tax rate, RITC is the rate of investment tax credit (note that this is zero from 1989 to present), MM is a dummy variable, Z_ME and Z_NR are the respective present values of tax depreciation, and PVINTME and PVINTNR are the respective present values of interest deductions. For a detailed mathematical derivation of the user cost of capital equations including taxation see Jorgensen's (1967) seminal paper.[18]

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[18] D.W. Jorgenson, "The Theory of Investment Behaviour," in R. Ferber (ed.), D*eterminants of Investment Behaviour*, (New York: National Bureau of Economic Research, 1967). Also see Hall, R.E. and D.W. Jorgensen (1967) and Boadway, R. (1980).

The present value formulations for the capital cost allowances are computed using a simple approximation:

$$PVINTME = (RRATE+PEINF/100)/((RRATE+PEINF/100)+CCAME) \quad (7.9)$$

$$PVINTNR = (RRATE+PEINF/100)/((RRATE+PEINF/100)+CCANR) \quad (7.10)$$

where CCAME and CCANR are the respective tax depreciation rates.

Business Inventories

The approach adopted to model inventory change is a flexible accelerator model. Under this model, firms adjust inventories in relation to a desired stock of inventories that is determined in relation to expected sales. The change in inventories, VPCK, is thus determined as:

$$VPCK = VPC1*(DDBVK - DBVK) \quad (7.11)$$

where DDBVK is the desired stock of inventories, DBVK is the actual stock of inventories, and VPC1 is the stock adjustment coefficient.

The desired stock of inventories, DDBVK, is defined as a function of the real dollar value of expected sales, and the real interest rate. The real interest rate variable is included as a proxy for the real cost of holding inventories.

The actual stock of inventory is then defined identically as:

$$DBVK = DVBK.1+VPCK \quad (7.12)$$

Expected sales are determined as a simple moving average of actual sales.

8. Trade

The trade sector of the model determines the imports and exports of goods and services. Exports are broken into rest of world and rest of Canada exports. Rest of world exports of goods is comprised of nine categories, four primary categories (forestry, mining fuels, other mining, and other primary), three manufacturing categories (wood, paper and allied, and other manufacturing), utilities, and transportation and wholesaling. Aggregate goods exports are combined with services exports to obtain total rest of world exports. Rest of Canada goods exports is made up of four categories (wood, paper and allied, retail and wholesale, and other goods). Total rest of Canada exports is obtained by adding services exports to goods exports. Imports are made up of rest of world and rest of Canada goods and services. All the trade variables are modelled in real terms with nominal values determined from the real values using their respective price deflators. Exchange rate effects are captured in the trade sector through the price deflators. Since BC is a price-taker, trade deflators are viewed in terms of U.S. dollars. An assumed Canada/U.S. exchange rate is used to convert trade deflators into Canadian dollars for use in the trade sector of the model.

Goods Exports

A significant share of production by BC's major industries is exported to Canada and the rest of the world. Under the approach adopted in the model, exports of an industry depend on profitability relative to normal profitability, and demand relative to expected demand. Therefore, exports will vary in relation to unexpected profitability and demand both in the short and long runs.

The equations for rest of world exports are of the general form:

$$LOG(XK) = X0 + X1*LOG(RPROF)$$
$$+ X2*LOG(EXACTK/EXDESK) \tag{8.1}$$

where XK is exports for a particular category, RPROF is abnormal profitability, EXACTK is a measure of foreign demand, EXDESCK is normal foreign demand and X0-X3 are coefficients.

The measures of foreign demand are constructed from measures of economic activity for BC's major trading partners. They are of the form:

$$EXACTK = USGDPK**S1*JPPGDP**S2*EURGDPK*(1-S1-S2) \tag{8.2}$$

where USGDPK is real GDP in the United States, JPPGDP is real GDP in Japan, EURGDPK is real GDP in Europe, and S1 and S2 are the trade shares associated with these trading partners. In some cases, industrial product indexes are used instead of GDP. Normal foreign demand is estimated as a historical moving average of past values of the actual value.

The profitability variable is defined as:

$$RPROF = PX/((WR*EMP)/GDPK) \qquad (8.3)$$

where WR is wage rate in the industry, EMP is employment in the industry, GDPK is real gross domestic product in the industry, and PX is the export price. The numerator is thus a price and the expression in the denominator a measure of unit labour costs. This ratio is assumed to be stationary and its mean value included in the constant term of equation 8.3. Thus changes in RPROF reflect deviations relative to normal profitability.

It can be seen from these equations that exports will rise as export prices increase and demand relative to expected demand rises. Rising labour costs will reduce profitability and thus exports.

Exports to the rest of Canada (ROC) are explained by normal demand measured by Canadian real GDP at factor cost. The exception is wood exports, which are explained by Canadian housing starts. The equation for other goods also includes a profitability term (8.3).

Service Exports

Service exports include travel, freight and shipping, business services, government transactions, and other services (including expenditures on foreign students, and wages of commuters and migrant workers).[19] These types of exports are difficult to measure and consequently there are data limitations in terms of availability and quality. Due to these limitations, the overall performance of the export market economy is used in modelling this sector. Exports of services to the rest of the world are modelled using the growth in real U.S. GDP. A moving average of Canadian real GDP at factor cost is used to model rest of Canada service exports.

Imports

Merchandise real imports of goods and services are modelled with a two-stage process. In the first stage, normal real imports are estimated by applying import shares to all final demand categories in the model (8.4). Actual demand for imports is then determined as a function of normal demand, and the average price of imports relative to average prices in British Columbia (8.5). The general equations for imports is:

$$IOM = X*D \qquad (8.4)$$

where IOM is normal import demand, X is a vector of import shares by final demand category, and D is a vector of final demand.

$$PCHYA(MK) = PCHYA(IOM) + PCHYA(PMD/PFDD) \qquad (8.5)$$

where MK is total real merchandise imports, IOM is estimated normal imports, PMD is the import price deflator and PFDD is the price deflator for final demand.

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[19] *The British Columbia Economic Accounts: Sources and Methods*, Ministry of Finance and Corporate Relations, 1992, pg. 192.

9. Population, Employment, and Labour Force

The population and real labour market variables are determined in this sector of the model. Total employment corresponds to the industry aggregation of the ten categories of employment in the model (forestry, other primary, paper and allied, wood, other manufacturing, construction, transportation, communication and utilities, hospitals and schools, public administration and other services). The total labour force is determined in the model using male and female participation rates. Unemployment and the unemployment rate are computed through identities using total labour force and total employment.

Population

Total population is determined in the model using the component method. Population in the current quarter is equal to population in the previous quarter plus births minus deaths plus net in-migration (9.1). The latter is separated into international and inter-provincial migration.

The population equation is an identity employing aggregate synthetic birth and death rates and international and inter-provincial migration. International migration is exogenous, while net inter-provincial migration is determined endogenously. The equation for population is of the form:

$$POPBC = (1+BRATE-DRATE)*POPBC(-1) + NATIN- NATOUT + PROVNET$$
$$+ RESPOP + POPNONPERM + POPRETURN \qquad (9.1)$$

where BRATE is the birth rate, DRATE is the death rate, NATIN is international in migration, NATOUT is international out migration, PROVNET is net inter-provincial migration, POPNONPERM is the net change in non-permanent residents, POPRETURN is returning Canadians, and RESPOP is the residual. The equation for net inter-provincial migration is:

$$PROVNET= P0 + P1*PCHYA(GDPFCK-GDPK) + P2*(LUR-LURALTA)$$
$$+ P3*(LUR-LURONT) \qquad (9.2)$$

where GDPFCK is real BC GDP at factor cost, GDPK is real GDP for the rest of Canada, LUR is the BC unemployment rate, LURALTA is the Alberta unemployment rate, LURONT is the Ontario unemployment rate, and P0 – P3 are coefficients.

Female population, POPBCF, is modelled as a ratio of total population as follows:

$$POPBCF = RPOPBCF*POPBC \qquad (9.3)$$

where RPOPBCF is generated by the other two variables. Male population is then determined as a residual.

Labour force source population is determined from the identities:

$$LPF = RLPF*POPBCF \qquad\qquad (9.4)$$

$$LPM = RLPM*POPBCM \qquad\qquad (9.5)$$

where RLPF and RLPM are the exogenous ratios of the two relevant population variables.

These equations replicate the population forecasting model used by BC Stats, so the population forecast produced by the two models is the same.

Employment

Employment in the model is derived using the production function in each industry. Employment in the categories of public administration and defence, and hospitals and schools are exogenous.

Since it is assumed in the model that an industry may not always be operating on its production function or satisfying its first order conditions for profit-maximization, a partial adjustment approach is employed to allow actual employment to adjust to desired employment. The relevant equations are of the general form:

$$DLOG(EMP) = EMP0 + EMP1*(LOG(EMPD) - LOG(EMP(-1))) \qquad (9.6)$$

where EMP is employment, EMPD is desired employment, and EMP1 and EMP2 are coefficients. This formulation imposes the same coefficient on EMPD and EMP(-1). This constraint was not always imposed, particularly if it was felt that data quality was a problem.

In the case of profit-maximization, desired employment is of the form:

$$EMPD = LS*(MOVAVG(a,PGDP/WR)*MOVAVG(b,GDPK)) \qquad (9.7)$$

where LS is labour's share, PGDP is the industry output price, GDPK is real industry output, WR is the industry wage, and a and b are the number of lags on the moving average.

Labour Force and Unemployment

The labour force is derived in the model through identities including source population and the participation rate. Households decide the amount of labour to supply depending on the real after-tax wage rate, the unemployment rate and other demographic factors.

The equations for male and female participation rates are assumed to follow a partial adjustment process. They are of the general form:

$$LOG(LPR) = LPR0 + LPR1*MOVAVG(a,LOG((1\text{-}TDP(\text{-}1)/YP(\text{-}1))*$$

$$YWS(\text{-}1)/LE(\text{-}1)/PC(\text{-}1))) + LPR2*DLOG(LE/LP) + LPR3*TIME +$$

$$LPR4*LOG(LPR(\text{-}1)) \tag{9.8}$$

where TDP is personal direct taxes, YP is personal income, YWS is wages and salaries, PC is the consumer expenditure deflator, LE is total employment, LP is labour force population, a is the number of lags on the moving average, and LPR0-LPR4 are coefficients.

The labour force is determined as:

$$LFF = LPRF/100*LPF \tag{9.9}$$

$$LFM = LPRM/100*LPM \tag{9.10}$$

$$LF = LFF + LFM. \tag{9.11}$$

where LPRF and LPRM are the participation rates for females and males respectively.

Unemployment and the unemployment rate are computed from the identities:

$$LU = LF - EMP \tag{9.12}$$

$$LUR = LU/LF*100. \tag{9.13}$$

10. Wages and Prices

This sector of the model is concerned with the determination of wages and the various price deflators in the model. Wage rates are determined for eight private industries (forestry, other primary, wood, paper and allied, other manufacturing, construction, transportation, communication, and utilities, and other services) considered in the model. The price deflators are those for the various categories of expenditures described above.

Wages

The wage rates for the private industries in the model are determined using an augmented Phillips curve formulation. The equations are expressed in year-over-year percentage change form, with wage inflation as a function of expected inflation, the change in the BC unemployment rate and trend productivity change. For a typical industry they are of the form:

$$\text{LOG(WR/WR.4) - PEINF/100} = \text{WR0} + \sum_{i=1}^{n=m} \text{WR}_i*(\text{LUR}_1-\text{LUR}_5)_{-I} + \text{ZWRT} \quad (10.1)$$

where PEINF is a measure of expected inflation, LUR is the unemployment rate, ZWRT is trend labour productivity, WR_0 and WR_i are coefficients and m is the number of polynomial lags.

Prices

Prices are determined in the model under the assumption that economic agents in BC are price takers. There is some allowance, however, for inflation differentials between BC and the rest of the world in response to changes in the degree of excess demand. That is, if unemployment rates or industry utilization rates change relative to that for Canada or the rest of the world, BC inflation may differ from that in these locations. In modelling prices, it is assumed that prices in Canada as a whole are representative of those in the rest of the world.

Consumer Prices

The equations for consumer price inflation are of the general form:

$$\text{DIFFYA(LOG(PC/(1+ PROP1*RRST + PROP2*RTIGST)))} =$$
$$\text{PC1*DIFFYA(LOG(PCCA)/(1+RTIGST))} +$$
$$\text{PC2*MOVAVG(I, LURCA-LUR)} \quad\quad\quad (10.2)$$

where PC is the BC deflator, PCCA is the corresponding deflator for Canada as a whole, PROP is the taxable proportion of the commodity, RRST is the retail sales tax, I is order of the moving average, LURCA is the unemployment rate for Canada, and PC1 and PC2 are coefficients.

In many equations, the unemployment differential did not prove to be an important determinant of inflation differentials, and was replaced by either the rate of change of the BC unemployment rate, or a measure of change in unit labour cost, or was just dropped altogether.

Other Domestic Deflators

Other domestic demand deflators are modelled similarly to the consumption price deflators, in that they are assumed to grow at the same rate as the Canadian deflator. In the case of non-residential and machinery and equipment investment deflators, the individual industry deflators are assumed to grow at the same rate as the relevant Canadian investment deflator. Similarly, each residential investment deflator is assumed to grow at the same rate as that of total residential investment.

Trade Prices

The bulk of BC exports are priced in U.S. dollars and as a result the return to exporters depends on the Canada/U.S. exchange rate. In the BC Macroeconomic Model U.S. dollar export prices are exogenous, as is the Canada/U.S. exchange rate. Export prices for BC trade with the rest of the world are assumed to grow at the same rate as those of Canadian exports. Canadians are also assumed to be price takers, therefore export and import deflators are assumed to grow at the same rate as the relevant foreign price deflators. These trade prices are then adjusted using an assumed Canada/U.S. exchange rate.

The trade prices for each industry are generally built up using various sub-categories. In the cases where no relevant sub-category exists the overall price level of the economy is used as a proxy. The general form of the equations is:

$$\text{LOG(PY/PY.4)} = \left(\text{DIFFYA}\left(\sum_{i=1}^{n=m} \text{PROP}_i * \text{PYSUB}_i * \text{EXCRA} \right) \right) \qquad (10.3)$$

where PY is the deflator for BC, PYSUB_i is the sub-category for the deflator (in U.S. dollars), PROP_i is the proportion that the sub category contributes to PY, and EXCRA is the U.S./Canadian Exchange Rate. The exchange rate is dropped from the equation when the deflator PYSUB_i is already in Canadian dollars.

11. Government

This sector includes revenues and expenditures for the various levels of government in the model. These levels include the federal government, provincial government, local governments and Canada Pension Plan. The various categories of revenues and expenditures included in the model for each level of government are described below. A large number of the equations used in this sector to model revenues and expenditures are simulation rules or identities. In many cases these equations include statutory tax rates, while in others exogenous growth rates and effective tax rates[20] and bases are employed.

Current expenditure categories for the federal government are broken down into expenditures on goods and services, wages and salaries, and transfers. Expenditures on transfers are further broken down to include transfers to persons (including employment insurance, old age security and other transfers), provincial governments and local governments, as well as subsidies, and interest on the debt. Total revenues are divided into direct taxes (including taxes from persons and businesses as well as contributions to social insurance plans) and indirect taxes (including the GST, custom import duties and excise and other taxes). Other categories of revenue are other personal transfers, investment income, provincial transfers to the federal government, net capital transfers, capital formation, capital consumption allowances and federal net lending.

For the provincial government, current expenditures are divided into spending on goods and services, wages and salaries and transfers. Expenditures on transfers include transfers to persons (through social assistance or other means) the federal government, local governments and hospitals, along with subsidies and interest on debt. Provincial revenues come from direct taxes (on persons and businesses and from contributions to social insurance plans) and indirect taxes (from gasoline, retail sales, liquor commissions, property, gaming profits and other indirect taxes). Other personal transfers, federal transfers, local transfers, investment income, net capital transfers, capital formation, capital consumption allowances and provincial net lending are also sources of revenue for the provincial government in the model.

Local government expenditures in the model include spending on goods and services, wages and salaries, transfers (including transfers from persons and the provincial government), subsidies and interest on debt. Revenues consist of indirect taxes on property, other personal transfers, federal transfers, provincial transfers, investment income, net capital transfers, capital formation, capital consumption allowances and local net lending.

Expenditures in the Canada Pension Plan sector include spending on goods and services and transfers to persons. Revenue comes from direct taxes, investment income and Canada Pension Plan savings.

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[20] Effective tax rates are calculated as observed revenues/observed tax base

Federal Government

The approach taken to model federal government expenditures and some revenues is generally a share approach. In this case, federal government expenditures in the province for a particular category are assumed to be an exogenous share of federal government expenditures for Canada as a whole. In the case of revenues, synthetic tax rates and bases are also used.

Federal personal income taxes are modelled as follows:

$$TDPYF = TRDPYF*YP \qquad (11.1)$$

where TRDPYF is an effective tax rate and YP is personal income.

Other personal direct taxes, which include contributions to social insurance plans, are determined as:

$$TDPSIF = TRDSIF*YWS \qquad (11.2)$$

where TRDSIF is an effective tax rate and YWS is wages and salaries.

Direct taxes on business are modelled as:

$$TDBF = TRDBF*YPROFBT \qquad (11.3)$$

where TRDBF is an effective federal tax rate and YPROFBT is before tax corporation profits.

Federal indirect taxes are split into custom duties, GST, excise, and other taxes. Custom duties are modelled as a simulation rule based on imports, as follows:

$$TICF = TRICF*M \qquad (11.4)$$

where TRICF is an exogenous ratio and M is imports. Excise and other taxes are modelled as a simulation rule based on consumption of non-durables as follows:

$$TIEOF = (TRIEOF)/(1 + TRIEOF)*(CND+CSD+CD) \qquad (11.5)$$

The general form for the GST revenue is:

$$TIGST = RTIGST*\sum_{i=1}^{N} (PROPGST(i)*$$

$$C(i)/(1+PROPRST(i)*RRST+PROPGST(i)*RTIGST)) \qquad (11.6)$$

where PROPRST(i) is the taxable proportion of expenditure category C(i) for the retail sales tax, PROPGST(i) is the taxable proportion of expenditure category C(i) for the GST.

33

Other personal transfers are determined according to:

$$TOPTF = TROPTF*YP \qquad (11.7)$$

where TROPTF is an effect tax rate on personal income.

Total revenues and expenditures in addition to the overall federal balance in the province are determined through identities.

Provincial Government

A more detailed approach is employed to model revenues and expenditures for the provincial government. Expenditures are generally modelled as being determined by exogenous growth rates, while revenues are generally a function of exogenous tax rates and endogenous tax bases. Revenues are determined on a system of national accounts basis, as opposed to a public accounts basis. The model calculates the budget deficit given the exogenous assumptions made about provincial revenues and expenditures. These estimates are used as "ballpark" measures only and are not used for revenue forecasting.

Current expenditures on goods and services and capital formation for the province are formulated as being exogenous in real terms in the model. Real current goods and services expenditures for example, are determined as:

$$GCGSPK = GWSPK + GCGSOPK \qquad (11.8)$$

where GWSPK and GCGSOPK are expenditures on wages and salaries and other spending, respectively.

Transfers to persons are split into social assistance and other and are specified as:

$$GTPPP = GTPPRELP + GTPPOP \qquad (11.9)$$

Transfers to the federal government, local government, hospitals, and transfers in the form of subsidies are exogenous. Expenditures to finance interest on debt is also determined exogenously.

Personal income tax is determined from the simulation rule:

$$TDPYP = TRDPYP*TDPYF \qquad (11.10)$$

where TRDPYP is the proportion of provincial to federal tax.

Provincial direct taxes on business are modelled as:

$$TDBP = TRDBP*RTYC\_P*MOVAVG(4,YPROFBT) \qquad (11.11)$$

where TRDBP is an effective tax rate , RTYC_P is the provincial corporate tax rate and YPROFBT is before tax corporate profits.

Other direct taxes include contributions to social insurance plans:

$$TDPSIP = TRDPSIP*(YWS\text{-}YSLI)\tag{11.12}$$

where TRDPSIP is an effective tax rate, YWS is wages and salaries and YSLI is supplementary labour income.

Indirect taxes are modelled for each category as an effective tax rate times a rate. For gasoline taxes the equation is:

$$TIGASP = TRIGASP/(1+TRIGASP)*CFUEL\tag{11.13}$$

where TRIGASP is an effective tax rate and CFUEL is the consumption of fuel.

The general form for the retail sales tax revenue is:

$$TIRSP = RRST*\sum_{i=1}^{N}\ (PROPRST(i)*$$

$$C(i)/(1+PROPRST(i)*RRST+PROPGST(i)*RTIGST))\tag{11.14}$$

where PROPRST(i) is the taxable proportion of expenditure category C(i) for the retail sales tax, PROPGST(i) is the taxable proportion of expenditure category C(i) for the GST.

However, for the case of BC, one variation must be taken into account; subsets of the components, namely personal expenditures on alcohol, and restaurants and hotels, have different tax rates. Thus the actual form of the tax revenue that is utilized is:

$$TIRSP = RRST*\sum_{i=1}^{N}\ (PROPRST(i)*C(i)/(1+PROPRST(i)*RRST$$

$$+ PROPGST(i)*RTIGST)) + RALCST*PROPALC*$$

$$CALC\ /(1+PROPALC*RALCST + 0.97*RTIGST) +RRHST*PROPRH$$

$$*CRH/(1+PROPRH*RRHST + 0.73*RTIGST)\tag{11.15}$$

where N is the number of categories where the standard rate RRST is applied.

Property taxes are determined as:

$$TIPP = TRIPP*(PIRTOT*(KHSK+KHMK)+PINRC*KNRK)\tag{11.16}$$

where TRIPP is an effective tax rate, PIRTOT is the price of housing, (KHSK+KHMK) is the stock of housing (singles and multiples), PINRC is the price deflator for non-residential construction and KNRK is the stock of non-residential construction.

Liquor commissions are determined according to the equation:

$$TILCP = TRILCP/(1+TRILCP)*CALC \qquad (11.17)$$

where TRILCP is an effective tax rate and CALC is consumer expenditures on alcoholic beverages.

Other indirect taxes are modelled as a function of net domestic income at factor cost:

$$TIOP = TRIOP*YNDIFC \qquad (11.18)$$

where TRIOP is an effective tax rate.

Other personal transfers are determined according to:

$$TOPTP = TROPTP*YP \qquad (11.19)$$

where TROPTP is an effective tax rate on personal income.

Investment income (TYIP) in the province is split into royalties and other income. Royalty income (e.g. stumpage, petroleum and natural gas, water resources, and minerals) is modelled as a function of the value of resource exports (XRES):

$$TYROYP = TRYROYP*XRES \qquad (11.20)$$

Other investment income, as a portion of the final domestic demand deflator, is a function of the expected rate of inflation and the interest rate, accounting for government-held public funds:

$$LOG(TYIOP/PFDD) = TYIOP0 – PEINF$$
$$+ TYIOP1*MOVAVG(4,RTBCA/100) \qquad (11.21)$$

TYIOP0 and TYIOP1 are coefficients.

Total revenues and expenditures in addition to the overall provincial balance in the province are determined through identities.

Local Governments and Canada Pension Plan

These two levels of government are modelled in a manner similar to that for the provincial government. Expenditures are determined by exogenous growth rates, while revenues are a function of exogenous tax rates and endogenous tax bases.

12. Income

The income sector of the model is concerned with the determination of gross domestic product, the components of net domestic income, personal income, and corporate income. The domestic income components included in the model are wages and salaries, supplementary labour income, investment income, farm income, unincorporated business income, inventory valuation adjustment and corporate profits before taxes. These components are modelled in current dollars. Corporate profits before taxes are calculated so as to ensure equality between income and expenditures in the model. The equations for many of the components for personal and corporate income are identities as these categories are largely determined from variables in other sectors of the model.

Gross Domestic Product

Real Gross Domestic Product at market prices, is defined in the model as the sum of the components of real Gross Domestic Expenditures:

$$GDPMPK = CK + IRTOTK + IMEK + INRK + GCGSK + XK - MK + VPCK$$
$$+ EXP\_RESIDK \qquad (12.1)$$

where CK is personal consumer expenditures, IRTOTK is residential construction expenditures, IMEK is machinery and equipment investment expenditures, INRK is non-residential construction investment expenditures, GCGSK is government expenditures on current goods and services, XK is exports, MK is imports, VPCK is the value of physical change in inventories, EXP_RESIDK is the residual error of estimate. An identical equation using the nominal components of Gross Domestic Expenditure is used to compute nominal GDP.

Domestic Income

In the Provincial Income and Expenditure Accounts, Gross Domestic Product and Gross Domestic Expenditures are always equal. To ensure this equality in the model, the income side is treated as the residual. Net Domestic Income is determined from the identity:

$$YNDIFC = GDPMP - YCCA – TILS – Y\_RESID \qquad (12.2)$$

where GDPMP is nominal GDP, YCCA is total capital consumption allowances, TILS is indirect taxes less subsidies, and Y_RESID is the residual error of the estimate for the income side.

Total capital consumption allowance is made up of capital consumption allowances for business and government. Capital consumption allowances for business are determined in this sector, while those for the government are determined in the government sector. For business, capital consumption allowances are modelled as a linear function of past nominal investment expenditures for these sectors. This procedure approximates a

declining balance method calculation for the depreciation of capital assets. The equation is of the form:

$$YCCABUS = YCCABUS0*ZYCCABUS + YCCABUS1*YCCABUS(-1)$$

$$+ YCCABUS2*MOVAVG(4,(IME(-1) + INR(-1) + IRTOT(-1))) \qquad (12.3)$$

where ZYCCABUS is a time trend, IME is nominal investment is machinery and equipment, INR is nominal investment in non-residential construction, IRTOT is nominal investment in residential construction, and YCCABUS0-YCCABUS2 are coefficients.

Labour income is determined from an identity incorporating wages and salaries by industry and supplementary labour income:

$$YWS = WRFOR*EMPFOR + WRPMO*EMPPMO + WRWD*EMPWD$$

$$+ WRPAP*EMPPAP + WRMANO*EMPMANO + WRCON*EMPCON$$

$$+ WRTCU*EMPTCU + WROS*EMPOS + WRHSC*EMPHSC$$

$$+ WRPAD*EMPPAD + YSLI \qquad (12.4)$$

Supplementary labour income is determined from a simulation rule linking the growth rate in such income to the growth rate in wages and salaries:

$$DLOGYA(YSLI) = DLOGYA(YWS-YSLI) \qquad (12.5)$$

Investment income is composed largely of miscellaneous income for persons and government. This category of income is determined through the following identity:

$$YIM = YIDMP + TYIF + TYIP + TYIL + TYICPP - GTPIPDF - GTPIPDP$$

$$- GTPIPDL - ICD - YNETFI \qquad (12.6)$$

where YIDMP is interest on miscellaneous investment income (personal income account), TYIF, TYIP, TYIL, and TYICPP are federal, provincial local, and CPP investment income respectively, ICD is interest on consumer debt, and YNETFI is net foreign investment income. Variables beginning with the prefix "GTP" are public debt interest payments made to British Columbians. They are regarded as transfer payments rather than as a payment to a factor of production, and are therefore excluded.

Net income of non-farm unincorporated business is modelled as a function of consumer expenditures (less indirect taxes), consumer rent (less property tax) and wages and salaries. The equation is of the form:

$$DLOGYA(YNIUB) = YNIUB1*DLOGYA(C - CRENT - TI)$$

$$+ YNIUB2*DLOGYA(CRENT - TIPP - TIRPL)$$

$$+ YNIUB3*DLOGYA(YWSOS) \qquad (12.7)$$

The inventory valuation adjustment is calculated in the income and expenditure accounts as the difference between the value of physical change in inventories and the change in the book value of inventories. Under the assumption that the latter are a negative function of the real physical change in inventories and past prices, this category is modelled as:

$$(YIVA-VPC) = YIVA0 + YIVA1*VPCK + YIVA2*PSALES +$$

$$YIVA3*PSALES(-4) \qquad (12.8)$$

where VPCK is the value of physical change in inventories, PSALES is the sales deflator, and YIVA0-YIVA3 are coefficients.

As was mentioned above, corporate profits before tax is the variable in the model that is used to ensure the equality between income and expenditures. This variable is determined from the identity:

$$YPROFBT = YNDIFC - YWS - YIM - YFARM - YNIUB - YIVA \qquad (12.9)$$

Personal and Corporate Income

The components of personal income include wages and salaries, farm income, unincorporated business income, investment income, and various transfer payments. Corporate income is measured by after-tax profits, which are determined as:

$$YPROFAT = YPROFBT - TDBF - TDBP \qquad (12.10)$$

where TDBF and TDBP are direct federal and provincial business taxes, respectively.

The major income variable for the personal sector is that of investment income. Transfer payments from business and non-residents are the other variables modelled here.

Investment income for persons is the sum of dividend income and investment income. Dividend income is assumed to be dependent on after-tax profits of corporations and the following simulation rule represents this relationship:

$$YDIV = RYDIV*MOVAVG(12,YPROFAT+YPROFATCA/4) \qquad (12.11)$$

where RYDIV is the dividend-payout ratio for normal after-tax profits, YPROFAT is after-tax corporate profits and YPROFATCA is after-tax corporate profits for Canada.

Interest and miscellaneous investment income for persons is modelled as follows:

$$DIFFYA(YIDMP) = MOVAVG(4,(RTBCA/400)*SAVEP(-1)*4) \quad (12.12)$$

where RTBCA is the three month T-bill rate for Canada and SAVEP is personal savings. The change in investment income is assumed to be a function of the change in wealth (represented by past savings) and the rate of return on wealth, which is represented as a moving average of interest rates.

Transfer payments from business include charitable donations and bad debts. These payments are modelled in real terms as:

$$YTCORP/PC = YTCORP0 + YTCORP1*(LU-LU(-4))$$
$$+ YTCORP2*(YPROFAT/PC + YPROFAT(-1)/PC(-1)/2) \quad (12.13)$$

where LU is unemployment, PC is the consumer price deflator, YPROFAT is after-tax corporate profits, and YTCORP0-YTCORP2 are coefficients. The profit variable is included to account for charitable donations, while the change in unemployment acts as a proxy for periods of good or bad times and thus the number of bad debts.

Personal income is determined from an identity in the model:

$$YP = YWS + YFARM + YNIUB + YIDMP + YDIV + YTNR$$
$$+ YTCORP + GTPP \quad (12.14)$$

where YTNR is transfers to persons from non-residents, GTPP is government transfer payments to persons and the other variables are as defined above.

Personal disposable income is defined as:

$$YPD = YP - TD - TOG - TDPCPP - TDPSIF - TDPSIP \quad (12.15)$$

where TD is direct taxes for persons, TOG is other transfer payments from persons to government, TDPCPP is direct taxes on persons under CPP, TDPSIF and TDPSIP are federal and provincial direct taxes in the form of contributions to social insurance plans.

The determination of permanent and transitory income is discussed in the section on consumer expenditures (section 5).

13. Industrial Output

The equations used to determine industry output are based on an input/output framework. Under this framework, the total supply of commodities in the economy is equal to intermediate demand plus final demand. While inventory changes are normally broken out as part of supply (withdrawals) or demand (additions), for convenience we include them under final demand.[21] Total supply is made up of domestic production, imports, and government production. This relationship is given in matrix form as:

$$q = d + f, \tag{13.1}$$

where: q = an nx1 vector of commodity outputs,
         d = an nx1 vector of intermediate demand
         f = an nx1 vector of final demand which includes: personal expenditure, gross fixed capital formation, business and government, net inventory change and net exports.

Intermediate demand for the commodities is defined as:

$$d = Bg \tag{13.2}$$

where: g = a kx1 vector of gross domestic output,[22]
         B = an nxk "Industry Technology Matrix"[23]

Gross output of the industries is expressed as:

$$g = Dq \tag{13.3}$$

where: D = a kxn matrix representing the share of each of the n commodities produced by the k domestic industries.

Final demand for the commodities is:

$$f = Hz \tag{13.4}$$

where: H = an nxp matrix of shares of the n commodities in final demand
         z = a px1 vector of the p final demands.

Substituting (13.2), (13.3) and (13.4) into (13.1) and rearranging, yields:

$$q = d + f \tag{13.5}$$

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[21] The provincial input/output methodology is based on this approach as well.
[22] A note on terminology: "Gross output" is equivalent to the gross value of sales, while "output" means gross domestic product.
[23] See Statistics Canada, *The Input-Output Structure of the Canadian Economy*, (Ottawa, Department of Supply and Services, 1987), p.74.

$$\rightarrow Dq = DBg + DHz$$

$$\rightarrow g = DBg + DHz$$

$$\rightarrow [I\text{-}DB]g = DHz$$

$$\rightarrow g = [I\text{-}DB]^{-1}(DHz)$$

$$\rightarrow g = [I\text{-}DB]^{-1}D[Hz] \tag{13.6}$$

The matrix $[I\text{-}DB]^{-1}$ is a variant of what is called the impact matrix in the input/output literature.[24]

In order to obtain real GDP by industry a simple equation is used to link gross output by industry to the real GDP series:

$$GDPINDT = RIOGDP*IO \tag{13.7}$$

where: IO = the relevant component of the gross output vector g
                  GDPINDT = a temporary GDP by industry variable
                  RIOGDP = an exogenous ratio of the other two variables in the equation.

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[24] See for example, Statistics Canada (1987), p.75.

14. Potential Output

Potential output is a measure of the real gross domestic product that the economy could produce at a given time without generating a rise in inflation. The output gap is the difference between actual and potential output. Considerable interest in measuring the output gap led to the development of a measure of potential output as an extension of the BC Macroeconomic Model. The method applied to calculate potential output uses estimates from the BC Macroeconomic Model as inputs. Potential output is therefore, not fully integrated into the model but is linked to it.

There are several methods available to calculate potential output, such as GDP smoothing using a Hodrick-Prescott filter, the split time-trend method, and the production function method.[25] The BC Macroeconomic Model uses the production function methodology to estimate potential output and calculate the output gap. This is the also the approach used by the International Monetary Fund (IMF). A study conducted by the OECD concluded that "the production function approach for estimating potential output provides the best method for estimating output gaps."[26] The production function method is less mechanical and allows a more explicit accounting for growth.[27]

[25] Giorno, Claude, Pete Richardson, Deborah Roseveare, and Paul van den Noord, "Estimating Potential Output, Output Gaps and Structural Budget Balances", OECD Working Paper No. 152 (1995) P. 7.

[26] Giorno, Claude, Pete Richardson, Deborah Roseveare, and Paul van den Noord (1995) P. 2.

[27] De Masi, Paula R. "IMF Estimates of Potential Output: Theory and Practice", IMF Working Paper 177, (1997) p. 5.

15. Data Issues

The BC Macroeconomic Model is maintained and simulated using AREMOS[28] software. The model uses quarterly, non-seasonally adjusted data that is obtained from a variety of sources, the main ones being BC Stats/Statistics Canada and WEFA Canada. BC Stats provides provincial accounts data as well as population estimates and data required for the formulation of external assumptions. The population forecast for British Columbia is obtained using an iterative consultation process with the population forecasting unit of BC Stats. The BC Macroeconomic Model is linked to the WEFA Canadian model as the growth rates of certain provincial variables (e.g. price deflators) are determined using the corresponding Canadian variables.

There are three main data issues concerning the maintenance and use of the BC Macroeconomic Model: data quality/accuracy, timeliness, and confidentiality. In terms of data quality and accuracy every effort is made to minimize human error. Data acquired from non-official outside sources is validated. Data from official sources such as Statistics Canada and the Bank of Canada is accepted as being accurate. The timeliness of provincial accounts data is a major factor in the model updating process. The model is generally updated annually to ensure the equations are current and continue to track well. The schedule for the update varies depending on data availability from Statistics Canada, BC Stats, and on the planned forecast schedule. Although most of the data used is public, a portion of the data used in the model is deemed confidential by Statistics Canada/BC Stats.

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[28] AREMOS is a registered trademark of WEFA Inc.

16. Future Directions

Econometric models provide a framework for empirical quantification of how the economy behaved on average in the past and the extent to which its future behaviour might differ from the past and present. The British Columbia Macroeconomic model is one of the Ministry of Finance and Corporate Relations most important forecasting tools.

This paper has provided a snapshot of a model that is evolving over time to reflect developments in the real economy and new economic theories. For this reason, the paper has focussed on the general structure of the model and how it works, rather than specific coefficient estimates or model simulation properties that change over time. The Ministry of Finance and Corporate Relations will consider producing additional reports on these aspects of the model, should there be sufficient interest as reflected in the public response to the present paper.

As with most macro models, the BC model is continually undergoing updating in light of new data releases, and also because of the periodic revisions to series, particularly the economic accounts. Data changes such as these often cause a relationship in the model to break down because some structural change has shown up in the data and caused the original specification to fail, or because more recent information suggests that an alternative specification more convincingly explains past behaviour.

In addition, the overall design of the model will be continually re-appraised in the light of new research results and improvements in macroeconomic methodology, in order to keep the model as a forecasting tool that is able to produce reasonable forecasts that are supported by accepted economic theory.

Appendix A – Mnemonics Directory

MNEMONIC	DESCRIPTION	TYPE*	UNITS
ALPHA_CON	ALPHA COEFF. FOR C-D PROD. FUNC., CONSTRUCTION	E	
ALPHA_FOR	ALPHA COEFF. FOR C-D PROD. FUNC., FORESTS	E	
ALPHA_MANO	ALPHA COEFF. FOR C-D PROD. FUNC., OTHER MFG.	E	
ALPHA_OS	ALPHA COEFF. FOR C-D PROD. FUNC., OTHER SERVICES	E	
ALPHA_PAP	ALPHA COEFF. FOR C-D PROD. FUNC., PAPER AND ALLIED	E	
ALPHA_PMO	ALPHA COEFF. FOR C-D PROD. FUNC., OTHER PRIMARY	E	
ALPHA_TCU	ALPHA COEFF. FOR C-D PROD. FUNC., TCU	E	
ALPHA_WD	ALPHA COEFF. FOR C-D PROD. FUNC., WOOD	E	
BASEGST1	TAXBASE FOR GST PART 1	I	MILLIONS OF $C
BASEGST2	TAXBASE FOR GST PART 2	I	MILLIONS OF $C
BASEGST3	TAXBASE FOR GST PART 3	I	MILLIONS OF $C
BASESST1	RRST TAX BASE PART 1	I	MILLIONS OF $C
BASESST2	RRST TAX BASE PART 2	I	MILLIONS OF $C
BASESST3	RRST TAX BASE PART 3	I	MILLIONS OF $C
BASESST4	RRST TAX BASE PART 4	I	MILLIONS OF $C
BASESST5	RRST TAX BASE PART 5	I	MILLIONS OF $C
BASESST6	RRST TAX BASE PART 6	I	MILLIONS OF $C
BASESST7	RRST TAX BASE PART 7	I	MILLIONS OF $C
BETA_CON	BETA COEFF. FOR C-D PROD. FUNC., CONSTRUCTION	E	
BETA_FOR	BETA COEFF. FOR C-D PROD. FUNC., FORESTRY	E	
BETA_MANO	BETA COEFF. FOR C-D PROD. FUNC., OTHER MFG.	E	
BETA_OS	BETA COEFF. FOR C-D PROD. FUNC., OTHER SERVICES	E	
BETA_PAP	BETA COEFF. FOR C-D PROD. FUNC., PAPER AND ALLIED	E	
BETA_PMO	BETA COEFF. FOR C-D PROD. FUNC., OTHER PRIMARY	E	
BETA_TCU	BETA COEFF. FOR C-D PROD. FUNC., TCU	E	
BETA_WD	BETA COEFF. FOR C-D PROD. FUNC., WOOD	E	
BRATE	CRUDE BIRTH RATE	E	RATIO
C	CONSUMPTION EXPENDITURES ON GOODS AND SERVICES	I	MILLIONS OF $C

* Type refers to Exogenous=E, Stochastic or Simulation Rule=S, and Identity=I

MNEMONIC	DESCRIPTION	TYPE*	UNITS
CALC	CONSUMPTION EXPENDITURES ON ALCOHOL	I	MILLIONS OF $C
CALCK	CONSUMPTION EXPENDITURES ON ALCOHOL	S	MILLIONS OF $92
CAP	CONSUMPTION EXPENDITURES ON AUTOS & PARTS	I	MILLIONS OF $C
CAPK	CONSUMPTION EXPENDITURES ON AUTOS & PARTS	S	MILLIONS OF $92
CCAME_MAN	TAX DEPRECIATION RATES FOR M&E MFG., ASSETS	E	RATIO
CCAME_NONMAN	TAX DEPRECIATION RATES FOR M&E, NON-MFG. ASSETS	E	RATIO
CCANR	TAX DEPRECIATION RATES FOR NON-RES. CONSTRUCT. ASSETS	E	RATIO
CD	CONSUMPTION EXPENDITURES ON DURABLES	I	MILLIONS OF $C
CDK	CONSUMPTION EXPENDITURES ON DURABLES	I	MILLIONS OF $92
CDO	CONSUMPTION EXPENDITURES ON OTHER DURABLES	I	MILLIONS OF $C
CDOK	CONSUMPTION EXPENDITURES ON OTHER DURABLES	S	MILLIONS OF $92
CEGOF	CONSUMPTION EXPENDITURES ON ELECT. GAS, AND OTHER FUELS	I	MILLIONS OF $C
CEGOFK	CONSUMPTION EXPENDITURES ON ELECT. GAS, AND OTHER FUELS	S	MILLIONS OF $92
CFB	CONSUMPTION EXPENDITURES ON FOOD AND NON-ALC. BEVERAGES	I	MILLIONS OF $C
CFBK	CONSUMPTION EXPENDITURES ON FOOD AND NON-ALC. BEVERAGES	S	MILLIONS OF $92
CFUEL	CONSUMPTION EXPENDITURES ON FUEL AND LUBRICANTS	I	MILLIONS OF $C
CFUELK	CONSUMPTION EXPENDITURES ON FUEL AND LUBRICANTS	S	MILLIONS OF $92
CGDPCONK	CAPACITY OUTPUT OF CONSTRUCTION INDUSTRY	I	MILLIONS OF $92
CGDPFCK	NORMAL GDP AT FACTOR COST	I	MILLIONS OF $92
CGDPFCP	POTENTIAL GDP AT FACTOR COST	I	MILLIONS OF $92
CGDPFORK	CAPACITY OUTPUT OF FORESTRY INDUSTRY	I	MILLIONS OF $92
CGDPMANOK	CAPACITY OUTPUT OF OTHER MANUFACTURING INDUSTRY	I	MILLIONS OF $92
CGDPOSK	CAPACITY OUTPUT OF OTHER SERVICES INDUSTRY	I	MILLIONS OF $92
CGDPPAPK	CAPACITY OUTPUT OF PAPER AND ALLIED INDUSTRY	I	MILLIONS OF $92
CGDPPMOK	CAPACITY OUTPUT OF OTHER PRIMARY INDUSTRY	I	MILLIONS OF $92
CGDPTCUK	CAPACITY OUTPUT OF TCU INDUSTRY	I	MILLIONS OF $92
CGDPWDK	CAPACITY OUTPUT OF WOOD INDUSTRY	I	MILLIONS OF $92
CK	CONSUMPTION EXPENDITURES ON GOODS AND SERVICES	I	MILLIONS OF $92
CND	CONSUMPTION EXPENDITURES ON NON-DURABLES	I	MILLIONS OF $C
CNDK	CONSUMPTION EXPENDITURES ON NON-DURABLES	I	MILLIONS OF $92
CNDO	CONSUMPTION EXPENDITURES ON OTHER NON-DURABLES	I	MILLIONS OF $C
CNDOK	CONSUMPTION EXPENDITURES ON OTHER NON-DURABLES	S	MILLIONS OF $92

MNEMONIC	DESCRIPTION	TYPE*	UNITS
CONST_CON	CONST. COEFF. FOR C-D PROD. FUNC., CONSTRUCTION	E	
CONST_FOR	CONST. COEFF. FOR C-D PROD. FUNC., FORESTS	E	
CONST_MANO	CONST. COEFF. FOR C-D PROD. FUNC., OTHER MFG.	E	
CONST_OS	CONST. COEFF. FOR C-D PROD. FUNC., OTHER SERVICES	E	
CONST_PAP	CONST. COEFF. FOR C-D PROD. FUNC., PAPER AND ALLIED	E	
CONST_PMO	CONST. COEFF. FOR C-D PROD. FUNC., OTHER PRIMARY	E	
CONST_TCU	CONST. COEFF. FOR C-D PROD. FUNC. , TCU	E	
CONST_WD	CONST. COEFF. FOR C-D PROD. FUNC., WOOD	E	
CRENT	CONSUMPTION EXPENDITURES ON PAID AND IMPUTED RENT	I	MILLIONS OF $C
CRENTK	CONSUMPTION EXPENDITURES ON PAID AND IMPUTED RENT	S	MILLIONS OF $92
CRH	CONSUMPTION EXPENDITURES ON RESTAURANTS AND HOTELS	I	MILLIONS OF $C
CRHK	CONSUMPTION EXPENDITURES ON RESTAURANTS AND HOTELS	S	MILLIONS OF $92
CS	CONSUMPTION EXPENDITURES ON SERVICES	I	MILLIONS OF $C
CSD	CONSUMPTION EXPENDITURES ON SEMI-DURABLES	I	MILLIONS OF $C
CSDK	CONSUMPTION EXPENDITURES ON SEMI-DURABLES	S	MILLIONS OF $92
CSK	CONSUMPTION EXPENDITURES ON SERVICES	I	MILLIONS OF $92
CSO	CONSUMPTION EXPENDITURES ON OTHER SERVICES	I	MILLIONS OF $C
CSOK	CONSUMPTION EXPENDITURES ON OTHER SERVICES	S	MILLIONS OF $92
CSTRAV	NET TRAVEL EXPENDITURE, OUT OF PROVINCE	E	MILLIONS OF $C
CSTRAVK	NET TRAVEL EXPENDITURE, OUT OF PROVINCE	E	MILLIONS OF $92
CTOB	CONSUMPTION EXPENDITURES ON TOBACCO PRODUCTS	I	MILLIONS OF $C
CTOBK	CONSUMPTION EXPENDITURES ON TOBACCO PRODUCTS	S	MILLIONS OF $92
DBVK	DERIVED BOOK VALUES, BC	I	MILLIONS OF $92
DRATE	CRUDE DEATH RATE	E	RATIO
EMPCON	CONSTRUCTION EMPLOYMENT	S	THOUSANDS
EMPFOR	FORESTRY EMPLOYMENT	S	THOUSANDS
EMPHSC	HOSPITALS & SCHOOLS EMPLOYMENT	E	THOUSANDS
EMPMAN	TOTAL MANUFACTURING EMPLOYMENT	I	THOUSANDS
EMPMANO	OTHER MANUFACTURING EMPLOYMENT	S	THOUSANDS
EMPOS	OTHER SERVICES EMPLOYMENT	S	THOUSANDS
EMPPAD	PUBLIC ADMIN. EMPLOYMENT	E	THOUSANDS
EMPPAP	PAPER AND ALLIED EMPLOYMENT	S	THOUSANDS

MNEMONIC	DESCRIPTION	TYPE*	UNITS
EMPPMO	OTHER PRIMARY EMPLOYMENT	S	THOUSANDS
EMPRES	EMPLOYMENT, RESIDUAL	E	THOUSANDS
EMPTCU	TCU EMPLOYMENT	S	THOUSANDS
EMPWD	WOOD EMPLOYMENT	S	THOUSANDS
EURGDPK	EEC GROSS DOMESTIC PRODUCT	E	BILLIONS OF $90 (U.S.)
EXP_RESID	RESIDUAL ERROR OF ESTIMATE, EXPENDITURE SIDE	E	MILLIONS OF $C
EXP_RESIDK	RESIDUAL ERROR OF ESTIMATE, EXPENDITURE SIDE	E	MILLIONS OF $92
EXRCA	CANADIAN / U.S. DOLLAR EXCHANGE RATE	E	RATIO
FDD	FINAL DOMESTIC DEMAND	I	MILLIONS OF $C
FDDK	FINAL DOMESTIC DEMAND	I	MILLIONS OF $92
GBALCPP	CPP SAVING	I	MILLIONS OF $C
GBALF	FEDERAL NET LENDING	I	MILLIONS OF $C
GBALL	LOCAL NET LENDING	I	MILLIONS OF $C
GBALP	PROVINCIAL NET LENDING	I	MILLIONS OF $C
GCECPP	CPP TOTAL EXPENDITURES	I	MILLIONS OF $C
GCEF	FEDERAL CURRENT EXPENDITURES	I	MILLIONS OF $C
GCEL	LOCAL CURRENT EXPENDITURES	I	MILLIONS OF $C
GCEP	PROVINCIAL CURRENT EXPENDITURES	I	MILLIONS OF $C
GCGS	GOVT. EXPEND. ON GOODS AND SERVICES, ALL LEVELS	I	MILLIONS OF $C
GCGSCPP	CPP CURRENT EXPENDITURES ON GOODS AND SERVICES	I	MILLIONS OF $C
GCGSCPPCA	FEDERAL GOVT. CURRENT EXPENDITURES, CANADA	E	MILLIONS OF $C
GCGSCPPK	CPP CURRENT EXPENDITURES ON GOODS AND SERVICES	I	MILLIONS OF $92
GCGSF	FEDERAL EXPENDITURES ON GOODS & SERVICES	I	MILLIONS OF $C
GCGSFK	FEDERAL EXPENDITURES ON GOODS AND SERVICES	I	MILLIONS OF $92
GCGSK	GOVT. EXPEND. ON GOODS AND SERVICES, ALL LEVELS	I	MILLIONS OF $92
GCGSL	LOCAL EXPENDITURES ON GOODS AND SERVICES	I	MILLIONS OF $C
GCGSLK	LOCAL EXPENDITURES ON GOODS AND SERVICES	I	MILLIONS OF $92
GCGSOF	FEDERAL EXPENDITURE ON OTHER GOODS AND SERVICES	E	MILLIONS OF $C
GCGSOFK	FEDERAL EXPENDITURES ON OTHER GOODS AND SERVICES	I	MILLIONS OF $92
GCGSOL	LOCAL EXPENDITURE ON OTHER GOODS AND SERVICES	E	MILLIONS OF $C
GCGSOLK	LOCAL EXPENDITURES ON OTHER GOODS AND SERVICES	I	MILLIONS OF $92
GCGSOP	PROVINCIAL EXPENDITURE ON OTHER GOODS AND SERVICES	E	MILLIONS OF $C

MNEMONIC	DESCRIPTION	TYPE*	UNITS
GCGSOPK	PROVINCIAL EXPENDITURES ON OTHER GOODS AND SERVICES	I	MILLIONS OF $92
GCGSP	PROVINCIAL EXPENDITURES ON GOODS AND SERVICES	I	MILLIONS OF $C
GCGSPK	PROVINCIAL EXPENDITURES ON GOODS AND SERVICES	I	MILLIONS OF $92
GDPCON	GDP, CONSTRUCTION	I	MILLIONS OF $C
GDPCONK	REAL GDP, CONSTRUCTION	S	MILLIONS OF $92
GDPCONKT	IO BASED GDP, CONSTRUCTION	I	MILLIONS OF $92
GDPFC	GDP AT FACTOR COST	I	MILLIONS OF $C
GDPFCK	REAL GDP AT FACTOR COST	I	MILLIONS OF $92
GDPFOR	GDP, FORESTRY	I	MILLIONS OF $C
GDPFORK	REAL GDP, FORESTRY	S	MILLIONS OF $92
GDPFORKT	IO BASED GDP, FORESTRY	I	MILLIONS OF $92
GDPHSC	GDP, HOSPITALS & SCHOOLS	I	MILLIONS OF $C
GDPHSCK	REAL GDP, HOSPITALS & SCHOOLS	I	MILLIONS OF $92
GDPMANK	REAL GDP, MANUFACTURING	I	MILLIONS OF $92
GDPMANO	GDP, OTHER MANUFACTURING	I	MILLIONS OF $C
GDPMANOK	REAL GDP, OTHER MANUFACTURING	S	MILLIONS OF $92
GDPMANOKT	IO BASED GDP, OTHER MANUFACTURING	I	MILLIONS OF $92
GDPMP	GDP AT MARKET PRICE	I	MILLIONS OF $C
GDPMPK	REAL GDP AT MARKET PRICE	I	MILLIONS OF $92
GDPOS	GDP, OTHER SERVICES	I	MILLIONS OF $C
GDPOSK	REAL GDP, OTHER SERVICES	S	MILLIONS OF $92
GDPOSKT	IO BASED GDP, OTHER SERVICES	I	MILLIONS OF $92
GDPPAD	GDP, PUBLIC ADMINISTRATION	I	MILLIONS OF $C
GDPPADK	REAL GDP, PUBLIC ADMINISTRATION	I	MILLIONS OF $92
GDPPAP	GDP, PAPER AND ALLIED	I	MILLIONS OF $C
GDPPAPK	REAL GDP, PAPER AND ALLIED	S	MILLIONS OF $92
GDPPAPKT	IO BASED GDP, PAPER AND ALLIED	I	MILLIONS OF $92
GDPPMO	GDP, OTHER PRIMARY	I	MILLIONS OF $C
GDPPMOK	REAL GDP, OTHER PRIMARY	S	MILLIONS OF $92
GDPPMOKT	IO BASED GDP, OTHER PRIMARY	I	MILLIONS OF $92
GDPTCU	GDP, TRANS., COMM., & UTILITIES	I	MILLIONS OF $C
GDPTCUK	REAL GDP, TRANS., COMM. & UTILITIES	S	MILLIONS OF $92

MNEMONIC	DESCRIPTION	TYPE*	UNITS
GDPTCUKT	IO BASED GDP, TCU	I	MILLIONS OF $92
GDPTOTK	REAL GDP AT FACTOR COST - TOTAL	I	MILLIONS OF $92
GDPWD	GDP, WOOD	I	MILLIONS OF $C
GDPWDK	REAL GDP, WOOD	S	MILLIONS OF $92
GDPWDKT	IO BASED GDP, WOOD	I	MILLIONS OF $92
GIF	FEDERAL CAPITAL FORMATION	E	MILLIONS OF $C
GIFK	FEDERAL CAPITAL FORMATION	I	MILLIONS OF $92
GIL	LOCAL CAPITAL FORMATION	E	MILLIONS OF $C
GILK	LOCAL CAPITAL FORMATION	I	MILLIONS OF $92
GIP	PROVINCIAL CAPITAL FORMATION	E	MILLIONS OF $C
GIPK	PROVINCIAL CAPITAL FORMATION	I	MILLIONS OF $92
GTP	TOTAL TRANSFERS FROM GOVT. (PERSONS & CAP. ASSIST.)	I	MILLIONS OF $C
GTPCAF	FEDERAL NET CAPITAL TRANSFERS	E	MILLIONS OF $C
GTPCAL	LOCAL NET CAPITAL TRANSFERS	E	MILLIONS OF $C
GTPCAP	PROVINCIAL NET CAPITAL TRANSFERS	E	MILLIONS OF $C
GTPCPP	TOTAL CPP TRANSFERS (PERSONS & NON-RESIDENTS)	I	MILLIONS OF $C
GTPCPPCA	TOTAL CPP TRANSFERS - CANADA	E	MILLIONS OF $C
GTPFP	PROVINCIAL TRANSFERS TO FEDERAL GOVT.	E	MILLIONS OF $C
GTPIPDF	FEDERAL INTEREST ON PUBLIC DEBT	E	MILLIONS OF $C
GTPIPDL	LOCAL INTEREST ON PUBLIC DEBT	E	MILLIONS OF $C
GTPIPDP	PROVINCIAL INTEREST ON PUBLIC DEBT	E	MILLIONS OF $C
GTPLF	FEDERAL TRANSFERS TO LOCAL GOVT.	E	MILLIONS OF $C
GTPLP	PROVINCIAL TRANSFERS TO LOCAL GOVT.	E	MILLIONS OF $C
GTPP	GOVT. TRANSFERS TO PERSONS OTHER THAN CAP. ASSIST., ALL LEVELS	I	MILLIONS OF $C
GTPPGF	FEDERAL TRANSFERS TO PROV. GOVT.	E	MILLIONS OF $C
GTPPGL	LOCAL TRANSFERS TO PROVINCIAL GOVT.	E	MILLIONS OF $C
GTPPL	LOCAL TRANSFERS TO PERSONS	I	MILLIONS OF $C
GTPPOASF	FEDERAL TRANSFERS TO PERSONS, OAS	I	MILLIONS OF $C
GTPPOF	FEDERAL TRANSFERS TO PERSONS, OTHER	E	MILLIONS OF $C
GTPPOP	PROVINCIAL TRANSFERS TO PERSONS, OTHER	E	MILLIONS OF $C
GTPPP	PROVINCIAL TRANSFERS TO PERSONS	I	MILLIONS OF $C

MNEMONIC	DESCRIPTION	TYPE*	UNITS
GTPPRELP	PROVINCIAL TRANSFERS TO PERSONS, RELIEF	E	MILLIONS OF $C
GTPPUICF	FEDERAL TRANSFERS TO PERSONS, UIC	I	MILLIONS OF $C
GTPS	TOTAL SUBSIDIES, ALL LEVELS OF GOVT.	I	MILLIONS OF $C
GTPSF	FEDERAL SUBSIDIES	E	MILLIONS OF $C
GTPSL	LOCAL SUBSIDIES	I	MILLIONS OF $C
GTPSP	PROVINCIAL SUBSIDIES	E	MILLIONS OF $C
GWSF	FEDERAL EXPENDITURE ON WAGES AND SALARIES	E	MILLIONS OF $C
GWSFK	FEDERAL EXPENDITURES ON WAGES AND SALARIES	I	MILLIONS OF $92
GWSL	LOCAL EXPENDITURE ON WAGES AND SALARIES	E	MILLIONS OF $C
GWSLK	LOCAL EXPENDITURES ON WAGES AND SALARIES	I	MILLIONS OF $92
GWSP	PROVINCIAL EXPENDITURE ON WAGES AND SALARIES	E	MILLIONS OF $C
GWSPK	PROVINCIAL EXPENDITURES ON WAGES AND SALARIES	I	MILLIONS OF $92
HS	HOUSING STARTS – TOTAL, BC	I	THOUSANDS
HSCA	HOUSING STARTS CANADA SAAR	E	THOUSANDS
HSM	HOUSING STARTS – MULTIPLES, BC	S	THOUSANDS
HSS	HOUSING STARTS – SINGLES, BC	S	THOUSANDS
I	TOTAL INVESTMENT	I	MILLIONS OF $C
IBME	TOTAL BUSINESS M&E INVESTMENT	I	MILLIONS OF $C
IBME1	TOTAL BUSINESS M&E INVESTMENT (SUM OF COMPONENTS)	I	MILLIONS OF $C
IBME1K	TOTAL BUSINESS M&E INVESTMENT (SUM OF COMPONENTS)	I	MILLIONS OF $92
IBMECON	CONSTRUCTION INDUSTRY M&E INVESTMENT	I	MILLIONS OF $C
IBMECONK	CONSTRUCTION INDUSTRY M&E INVESTMENT	E	MILLIONS OF $92
IBMEFOR	FORESTRY M&E INVESTMENT	I	MILLIONS OF $C
IBMEFORK	FORESTRY M&E INVESTMENT	S	MILLIONS OF $92
IBMEK	TOTAL BUSINESS M&E INVESTMENT	I	MILLIONS OF $92
IBMEMAN	MANUFACTURING M&E INVESTMENT	I	MILLIONS OF $C
IBMEMANK	MANUFACTURING M&E INVESTMENT	I	MILLIONS OF $92
IBMEMANO	OTHER MANUFACTURING M&E INVESTMENT	I	MILLIONS OF $C
IBMEMANOK	OTHER MANUFACTURING M&E INVESTMENT	S	MILLIONS OF $92
IBMEOS	OTHER SERVICES M&E INVESTMENT	I	MILLIONS OF $C
IBMEOSK	OTHER SERVICES M&E INVESTMENT	S	MILLIONS OF $92
IBMEPAP	PAPER AND ALLIED M&E INVESTMENT	I	MILLIONS OF $C

MNEMONIC	DESCRIPTION	TYPE*	UNITS
IBMEPAPK	PAPER AND ALLIED M&E INVESTMENT	S	MILLIONS OF $92
IBMEPM	PRIMARY M&E INVESTMENT	I	MILLIONS OF $C
IBMEPMK	PRIMARY M&E INVESTMENT	I	MILLIONS OF $92
IBMEPMO	OTHER PRIMARY M&E INVESTMENT	I	MILLIONS OF $C
IBMEPMOK	OTHER PRIMARY M&E INVESTMENT	S	MILLIONS OF $92
IBMETCU	TCU M&E INVESTMENT	I	MILLIONS OF $C
IBMETCUK	TCU M&E INVESTMENT	S	MILLIONS OF $92
IBMEWD	WOOD M&E INVESTMENT	I	MILLIONS OF $C
IBMEWDK	WOOD M&E INVESTMENT	S	MILLIONS OF $92
IBNR	TOTAL BUSINESS NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $C
IBNR1	TOTAL BUSINESS NON-RES. INVESTMENT (SUM OF COMPONENTS)	I	MILLIONS OF $C
IBNR1K	TOTAL BUSINESS NON-RES. INVESTMENT (SUM OF COMPONENTS)	I	MILLIONS OF $92
IBNRCON	CONSTRUCTION INDUSTRY NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $C
IBNRCONK	CONSTRUCTION INDUSTRY NON-RESIDENTIAL INVESTMENT	E	MILLIONS OF $92
IBNRFOR	FORESTRY NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $C
IBNRFORK	FORESTRY NON-RESIDENTIAL INVESTMENT	S	MILLIONS OF $92
IBNRK	TOTAL BUSINESS NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $92
IBNRMAN	MANUFACTURING NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $C
IBNRMANK	MANUFACTURING NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $92
IBNRMANO	OTHER MANUFACTURING NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $C
IBNRMANOK	OTHER MANUFACTURING NON-RESIDENTIAL INVESTMENT	S	MILLIONS OF $92
IBNROS	OTHER SERVICES NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $C
IBNROSK	OTHER SERVICES NON-RESIDENTIAL INVESTMENT	S	MILLIONS OF $92
IBNRPAP	PAPER AND ALLIED NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $C
IBNRPAPK	PAPER AND ALLIED NON-RESIDENTIAL INVESTMENT	S	MILLIONS OF $92
IBNRPM	PRIMARY NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $C
IBNRPMK	PRIMARY NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $92
IBNRPMO	OTHER PRIMARY NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $C
IBNRPMOK	OTHER PRIMARY NON-RESIDENTIAL INVESTMENT	S	MILLIONS OF $92
IBNRTCU	TCU NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $C
IBNRTCUK	TCU NON-RESIDENTIAL INVESTMENT	S	MILLIONS OF $92
IBNRWD	WOOD NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $C

MNEMONIC	DESCRIPTION	TYPE*	UNITS
IBNRWDK	WOOD NON-RESIDENTIAL INVESTMENT	S	MILLIONS OF $92
ICD	INTEREST ON CONSUMER DEBT	S	MILLIONS OF $C
IGMEGOV	TOTAL GOVT. M&E INVESTMENT	I	MILLIONS OF $C
IGMEGOV1	TOTAL GOVT. M&E INVESTMENT (SUM OF COMPONENTS)	I	MILLIONS OF $C
IGMEGOV1K	TOTAL GOVT. M&E INVESTMENT (SUM OF COMPONENTS)	I	MILLIONS OF $92
IGMEGOVK	TOTAL GOVT. M&E INVESTMENT	I	MILLIONS OF $92
IGMEHSC	HOSP. & SCHOOLS M&E INVESTMENT	E	MILLIONS OF $C
IGMEHSCK	HOSP & SCHOOLS M&E INVESTMENT	I	MILLIONS OF $92
IGMEPAD	PUBLIC ADMIN. M&E INVESTMENT	I	MILLIONS OF $C
IGMEPADK	PUBLIC ADMIN. M&E INVESTMENT	E	MILLIONS OF $92
IGNRGOV	TOTAL GOVT. NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $C
IGNRGOV1	TOTAL GOVT. NON-RES. INVESTMENT (SUM OF COMPONENTS)	I	MILLIONS OF $C
IGNRGOV1K	TOTAL GOVT. NON-RES. INVESTMENT (SUM OF COMPONENTS)	I	MILLIONS OF $92
IGNRGOVK	TOTAL GOVT. NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $92
IGNRHSC	HOSP & SCHOOLS NON-RESIDENTIAL INVESTMENT	E	MILLIONS OF $C
IGNRHSCK	HOSPITALS & SCHOOLS NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $92
IGNRPAD	PUBLIC ADMIN. NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $C
IGNRPADK	PUBLIC ADMIN. NON-RESIDENTIAL INVESTMENT	E	MILLIONS OF $92
IK	TOTAL INVESTMENT	I	MILLIONS OF $92
IME	TOTAL M&E INVESTMENT	I	MILLIONS OF $C
IMEK	TOTAL M&E INVESTMENT	I	MILLIONS OF $92
IMPROV	RESIDENTIAL ALTERATIONS AND IMPROVEMENTS	I	MILLIONS OF $C
IMPROVK	RESIDENTIAL ALTERATIONS AND IMPROVEMENTS	S	MILLIONS OF $92
INR	TOTAL NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $C
INRK	TOTAL NON-RESIDENTIAL INVESTMENT	I	MILLIONS OF $92
INVM	RESIDENTIAL INVESTMENT - MULTIPLES	I	MILLIONS OF $C
INVMK	RESIDENTIAL INVESTMENT - MULTIPLES	S	MILLIONS OF $92
INVS	RESIDENTIAL INVESTMENT - SINGLES	I	MILLIONS OF $C
INVSK	RESIDENTIAL INVESTMENT - SINGLES	S	MILLIONS OF $92
IO11	PSEUDO GROSS OUTPUT 1 OTHER PRIMARY	I	MILLIONS OF $92
IO12	PSEUDO GROSS OUTPUT 2 OTHER PRIMARY	I	MILLIONS OF $92
IO13	PSEUDO GROSS OUTPUT 3 OTHER PRIMARY	I	MILLIONS OF $92

MNEMONIC	DESCRIPTION	TYPE*	UNITS
IO14	PSEUDO GROSS OUTPUT 4 OTHER PRIMARY	I	MILLIONS OF $92
IO15	TOTAL PSEUDO GROSS OUTPUT OTHER PRIMARY	I	MILLIONS OF $92
IO21	PSEUDO GROSS OUTPUT 1 FORESTRY	I	MILLIONS OF $92
IO22	PSEUDO GROSS OUTPUT 2 FORESTRY	I	MILLIONS OF $92
IO23	PSEUDO GROSS OUTPUT 3 FORESTRY	I	MILLIONS OF $92
IO24	PSEUDO GROSS OUTPUT 4 FORESTRY	I	MILLIONS OF $92
IO25	TOTAL PSEUDO GROSS OUTPUT FORESTRY	I	MILLIONS OF $92
IO31	PSEUDO GROSS OUTPUT 1 WOOD	I	MILLIONS OF $92
IO32	PSEUDO GROSS OUTPUT 2 WOOD	I	MILLIONS OF $92
IO33	PSEUDO GROSS OUTPUT 3 WOOD	I	MILLIONS OF $92
IO34	PSEUDO GROSS OUTPUT 4 WOOD	I	MILLIONS OF $92
IO35	TOTAL PSEUDO GROSS OUTPUT WOOD	I	MILLIONS OF $92
IO41	PSEUDO GROSS OUTPUT 1 PAPER AND ALLIED	I	MILLIONS OF $92
IO42	PSEUDO GROSS OUTPUT 2 PAPER AND ALLIED	I	MILLIONS OF $92
IO43	PSEUDO GROSS OUTPUT 3 PAPER AND ALLIED	I	MILLIONS OF $92
IO44	PSEUDO GROSS OUTPUT 4 PAPER AND ALLIED	I	MILLIONS OF $92
IO45	TOTAL PSEUDO GROSS OUTPUT PAPER AND ALLIED	I	MILLIONS OF $92
IO51	PSEUDO GROSS OUTPUT 1 OTHER MANUFACTURING	I	MILLIONS OF $92
IO52	PSEUDO GROSS OUTPUT 2 OTHER MANUFACTURING	I	MILLIONS OF $92
IO53	PSEUDO GROSS OUTPUT 3 OTHER MANUFACTURING	I	MILLIONS OF $92
IO54	PSEUDO GROSS OUTPUT 4 OTHER MANUFACTURING	I	MILLIONS OF $92
IO55	TOTAL PSEUDO GROSS OUTPUT OTHER MANUFACTURING	I	MILLIONS OF $92
IO61	PSEUDO GROSS OUTPUT 1 CONSTRUCTION	I	MILLIONS OF $92
IO62	PSEUDO GROSS OUTPUT 2 CONSTRUCTION	I	MILLIONS OF $92
IO63	PSEUDO GROSS OUTPUT 3 CONSTRUCTION	I	MILLIONS OF $92
IO64	PSEUDO GROSS OUTPUT 4 CONSTRUCTION	I	MILLIONS OF $92
IO65	TOTAL PSEUDO GROSS OUTPUT CONSTRUCTION	I	MILLIONS OF $92
IO71	PSEUDO GROSS OUTPUT 1 TCU	I	MILLIONS OF $92
IO72	PSEUDO GROSS OUTPUT 2 TCU	I	MILLIONS OF $92
IO73	PSEUDO GROSS OUTPUT 3 TCU	I	MILLIONS OF $92
IO74	PSEUDO GROSS OUTPUT 4 TCU	I	MILLIONS OF $92
IO75	TOTAL PSEUDO GROSS OUTPUT TCU	I	MILLIONS OF $92

MNEMONIC	DESCRIPTION	TYPE*	UNITS
IO81	PSEUDO GROSS OUTPUT 1 OTHER SERVICES	I	MILLIONS OF $92
IO82	PSEUDO GROSS OUTPUT 2 OTHER SERVICES	I	MILLIONS OF $92
IO83	PSEUDO GROSS OUTPUT 3 OTHER SERVICES	I	MILLIONS OF $92
IO84	PSEUDO GROSS OUTPUT 4 OTHER SERVICES	I	MILLIONS OF $92
IO85	TOTAL PSEUDO GROSS OUTPUT OTHER SERVICES	I	MILLIONS OF $92
IOMG	PSEUDO GROSS IMPORTS TOTAL, GOODS ROC AND ROW	I	MILLIONS OF $92
IOMG1	PSEUDO GROSS IMPORTS 1, GOODS ROC AND ROW	I	MILLIONS OF $92
IOMG2	PSEUDO GROSS IMPORTS 2, GOODS ROC AND ROW	I	MILLIONS OF $92
IOMG3	PSEUDO GROSS IMPORTS 3, GOODS ROC AND ROW	I	MILLIONS OF $92
IOMG4	PSEUDO GROSS IMPORTS 4, GOODS ROC AND ROW	I	MILLIONS OF $92
IOMS	PSEUDO GROSS IMPORTS TOTAL, SERVICES ROC AND ROW	I	MILLIONS OF $92
IOMS1	PSEUDO GROSS IMPORTS 1, SERVICES ROC AND ROW	I	MILLIONS OF $92
IOMS2	PSEUDO GROSS IMPORTS 2, SERVICES ROC AND ROW	I	MILLIONS OF $92
IOMS3	PSEUDO GROSS IMPORTS 3, SERVICES ROC AND ROW	I	MILLIONS OF $92
IOMS4	PSEUDO GROSS IMPORTS 4, SERVICES ROC AND ROW	I	MILLIONS OF $92
IRNEW	NEW RESIDENTIAL CONSTRUCTION	I	MILLIONS OF $C
IRNEWK	NEW RESIDENTIAL CONSTRUCTION	S	MILLIONS OF $92
IRTOT	TOTAL RESIDENTIAL INVESTMENT	I	MILLIONS OF $C
IRTOTK	TOTAL RESIDENTIAL INVESTMENT	I	MILLIONS OF $92
IRTRANS	RESIDENTIAL INVESTMENT - TRANSFER COSTS	I	MILLIONS OF $C
IRTRANSK	RESIDENTIAL INVESTMENT - TRANSFER COSTS	S	MILLIONS OF $92
JPHS	JAPANESE HOUSING STARTS	E	NUMBER OF DWELLINGS
JPIPI	JAPANESE INDUSTRIAL INDEX	E	INDEX: 1995=100
JPPGDP	JAPANESE GROSS DOMESTIC PRODUCT	E	BILLIONS OF 1990 YEN
KBMECONK	CONSTRUCTION INDUSTRY M&E CAPITAL STOCK	I	MILLIONS OF $92
KBMEFORK	FORESTRY M&E CAPITAL STOCK	I	MILLIONS OF $92
KBMEK	TOTAL BUSINESS M&E CAPITAL STOCK	I	MILLIONS OF $92
KBMEMANK	MANUFACTURING M&E CAPITAL STOCK	I	MILLIONS OF $92
KBMEMANOK	OTHER MANUFACTURING M&E CAPITAL STOCK	I	MILLIONS OF $92
KBMEOSK	OTHER SERVICES M&E CAPITAL STOCK	I	MILLIONS OF $92
KBMEPAPK	PAPER AND ALLIED M&E CAPITAL STOCK	I	MILLIONS OF $92
KBMEPMK	PRIMARY M&E CAPITAL STOCK	I	MILLIONS OF $92

MNEMONIC	DESCRIPTION	TYPE*	UNITS
KBMEPMOK	OTHER PRIMARY M&E CAPITAL STOCK	I	MILLIONS OF $92
KBMETCUK	UTILITIES M&E CAPITAL STOCK	I	MILLIONS OF $92
KBMEWDK	WOOD M&E CAPITAL STOCK	I	MILLIONS OF $92
KBNRCONK	CONSTRUCTION INDUSTRY NON-RES. CAPITAL STOCK	I	MILLIONS OF $92
KBNRFORK	FORESTRY NON-RES. CAPITAL STOCK	I	MILLIONS OF $92
KBNRK	TOTAL BUSINESS NON-RESIDENTIAL CAPITAL STOCK	I	MILLIONS OF $92
KBNRMANK	MANUFACTURING NON-RES. CAPITAL STOCK	I	MILLIONS OF $92
KBNRMANOK	OTHER MANUFACTURING NON-RES. CAPITAL STOCK	I	MILLIONS OF $92
KBNROSK	OTHER SERVICES NON-RES. CAPITAL STOCK	I	MILLIONS OF $92
KBNRPAPK	PAPER AND ALLIED NON-RES. CAPITAL STOCK	I	MILLIONS OF $92
KBNRPMK	PRIMARY NON-RES. CAPITAL STOCK	I	MILLIONS OF $92
KBNRPMOK	OTHER PRIMARY NON-RES. CAPITAL STOCK	I	MILLIONS OF $92
KBNRTCUK	UTILITIES NON-RESIDENTIAL CAPITAL STOCK	I	MILLIONS OF $92
KBNRWDK	WOOD NON-RES. CAPITAL STOCK	I	MILLIONS OF $92
KCAP	STOCK OF AUTOS & PARTS	I	MILLIONS OF $92
KCDO	STOCK OF ALL OTHER DURABLES	I	MILLIONS OF $92
KGMEGOVK	TOTAL GOVT. M&E CAPITAL STOCK	I	MILLIONS OF $92
KGMEHSCK	HOSP. & SCHOOLS M&E CAPITAL STOCK	I	MILLIONS OF $92
KGMEPADK	PUBLIC ADMIN. M&E CAPITAL STOCK	I	MILLIONS OF $92
KGNRGOVK	TOTAL GOVT. NON-RESIDENTIAL CAPITAL STOCK	I	MILLIONS OF $92
KGNRHSCK	HOSP. & SCHOOLS NON-RESIDENTIAL CAPITAL STOCK	I	MILLIONS OF $92
KGNRPADK	PUBLIC ADMIN. NON-RESIDENTIAL CAPITAL STOCK	I	MILLIONS OF $92
KHMK	NET STOCK - MULTIPLES	S	MILLIONS OF $92
KHSK	NET STOCK - SINGLES	S	MILLIONS OF $92
KMEK	TOTAL M&E CAPITAL STOCK	I	MILLIONS OF $92
KNRK	TOTAL NON-RESIDENTIAL CAPITAL STOCK	I	MILLIONS OF $92
LAMDA_CON	LAMBDA COEFF. FOR C-D PROD. FUNC., CONSTRUCTION	E	
LAMDA_FOR	LAMBDA COEFF. FOR C-D PROD. FUNC., FORESTS	E	
LAMDA_MANO	LAMBDA COEFF. FOR C-D PROD. FUNC., OTHER MFG.	E	
LAMDA_OS	LAMBDA COEFF. FOR C-D PROD. FUNC., OTHER SERVICES	E	
LAMDA_PAP	LAMBDA COEFF. FOR C-D PROD. FUNC., PAPER AND ALLIED	E	
LAMDA_PMO	LAMBDA COEFF. FOR C-D PROD. FUNC., OTHER PRIMARY	E	

MNEMONIC	DESCRIPTION	TYPE*	UNITS
LAMDA_TCU	LAMBDA COEFF. FOR C-D PROD. FUNC., TCU	E	
LAMDA_WD	LAMBDA COEFF. FOR C-D PROD. FUNC., WOOD	E	
LE	TOTAL EMPLOYMENT	I	THOUSANDS
LEP	POTENTIAL EMPLOYMENT	I	THOUSANDS
LF	TOTAL LABOUR FORCE	I	THOUSANDS
LFF	FEMALE LABOUR FORCE	I	THOUSANDS
LFM	MALE LABOUR FORCE	I	THOUSANDS
LFP	POTENTIAL LABOUR FORCE	I	THOUSANDS
LP	TOTAL NON-INSTITUTIONAL POPULATION	I	THOUSANDS
LPF	FEMALE NON-INSTITUTIONAL POPULATION	I	THOUSANDS
LPM	MALE NON-INSTITUTIONAL POPULATION	I	THOUSANDS
LPRF	FEMALE PARTICIPATION RATES	S	PERCENT
LPRM	MALE PARTICIPATION RATES	S	PERCENT
LU	TOTAL UNEMPLOYMENT	I	THOUSANDS
LUR	TOTAL UNEMPLOYMENT RATE	I	PERCENT
LURALTA	ALBERTA UNEMPLOYMENT RATE	E	PERCENT
LURCA	CANADIAN UNEMPLOYMENT RATE	E	PERCENT
LURONT	ONTARIO UNEMPLOYMENT RATE	E	PERCENT
M	TOTAL IMPORTS ROC AND ROW	I	MILLIONS OF $C
MC	TOTAL IMPORTS ROC	I	MILLIONS OF $C
MCG	TOTAL GOODS IMPORTS ROC	I	MILLIONS OF $C
MCGK	TOTAL GOODS IMPORTS ROC	S	MILLIONS OF $92
MCK	TOTAL IMPORTS ROC	I	MILLIONS OF $92
MCS	TOTAL SERVICES IMPORTS ROC	I	MILLIONS OF $C
MCSK	TOTAL SERVICES IMPORTS ROC	S	MILLIONS OF $92
MG	TOTAL GOODS IMPORTS ROC AND ROW	I	MILLIONS OF $C
MGK	TOTAL GOODS IMPORTS ROC AND ROW	I	MILLIONS OF $92
MK	TOTAL IMPORTS ROC AND ROW	I	MILLIONS OF $92
MM	PROP. INVEST. TAX CREDIT DEDUCTED FROM THE DEPREC. TAX BASE	E	RATIO
MS	TOTAL SERVICES IMPORTS ROC AND ROW	I	MILLIONS OF $C
MSK	TOTAL SERVICES IMPORTS ROC AND ROW	I	MILLIONS OF $92
MW	TOTAL IMPORTS ROW	I	MILLIONS OF $C

MNEMONIC	DESCRIPTION	TYPE*	UNITS
MWG	TOTAL GOODS IMPORTS ROW	I	MILLIONS OF $C
MWGK	TOTAL GOODS IMPORTS ROW	S	MILLIONS OF $92
MWK	TOTAL IMPORTS ROW	I	MILLIONS OF $92
MWS	TOTAL SERVICES IMPORTS ROW	I	MILLIONS OF $C
MWSK	TOTAL SERVICES IMPORTS ROW	S	MILLIONS OF $92
NATIN	IMMIGRATION	E	THOUSANDS
NATNET	NET INTERNATIONAL MIGRATION TO BC	I	THOUSANDS
NATOUT	EMIGRATION	E	THOUSANDS
NAWRU	NON-ACCEL. WAGE RATE OF UNEMPLOYMENT	I	PERCENT
NETMIG	TOTAL NET MIGRATION TO BC	I	THOUSANDS
PC	CONSUMPTION DEFLATOR, TOTAL	I	1992=1.0
PCALC	CONSUMPTION DEFLATOR, ALCOHOL	S	1992=1.0
PCAP	CONSUMPTION DEFLATOR, AUTOS & PARTS	S	1992=1.0
PCAPCA	CONSUMPTION DEFLATOR, AUTOS & PARTS, CANADA	E	1992=1.0
PCD	CONSUMPTION DEFLATOR, DURABLES	I	1992=1.0
PCDO	CONSUMPTION DEFLATOR, OTHER DURABLES	S	1992=1.0
PCDOCA	IMPLICIT CONSUMPTION DEFLATOR, OTHER DURABLES, CANADA	E	1992=1.0
PCEGOF	CONSUMPTION DEFLATOR, ELECT. GAS, AND OTHER FUELS	S	1992=1.0
PCFB	CONSUMPTION DEFLATOR, FOOD AND NON-ALC. BEVERAGES	S	1992=1.0
PCFBCA	CONSUMP. DEFLATOR, FOOD AND NON-ALC. BEVERAGES, CANADA	E	1992=1.0
PCFUEL	CONSUMPTION DEFLATOR, FUEL AND LUBRICANTS	S	1992=1.0
PCFUELCA	CONSUMPTION DEFLATOR, ENERGY, CANADA	E	1992=1.0
PCND	CONSUMPTION DEFLATOR, NON-DURABLES	I	1992=1.0
PCNDO	CONSUMPTION DEFLATOR, OTHER NON-DURABLES	S	1992=1.0
PCNDOCA	CONSUMPTION DEFLATOR, OTHER NON-DURABLES, CANADA	E	1992=1.0
PCPI	BC CPI TOTAL	S	1992=100
PCPICA	CANADIAN CPI TOTAL	E	1992=1.0
PCRENT	CONSUMPTION DEFLATOR, PAID AND IMPUTED RENT	S	1992=1.0
PCRENTCA	CONSUMPTION DEFLATOR, PAID AND IMPUTED RENT, CANADA	E	1992=1.0
PCRH	CONSUMPTION DEFLATOR, RESTAURANTS AND HOTELS	S	1992=1.0
PCS	CONSUMPTION DEFLATOR, SERVICES	I	1992=1.0
PCSD	CONSUMPTION DEFLATOR, SEMI-DURABLES	S	1992=1.0

MNEMONIC	DESCRIPTION	TYPE*	UNITS
PCSDCA	CONSUMPTION DEFLATOR, SEMI-DURABLES, CANADA	E	1992=1.0
PCSO	CONSUMPTION DEFLATOR, OTHER SERVICES	S	1992=1.0
PCTOB	CONSUMPTION DEFLATOR, TOBACCO	S	1992=1.0
PEINF	EXPECTED INFLATION RATE	I	1992=100
PEINF_WR	EXPECTED WAGE INFLATION	I	PERCENT
PFDD	FINAL DOMESTIC DEMAND DEFLATOR	I	1992=1.0
PGCGS	IMPLICIT DEFLATOR GOVT. EXPEND. ON GOODS AND SERVICES	I	1992=100
PGCGSCPP	IMPLICIT DEFLATOR CPP WAGES AND SALARIES OTHER	S	1992=100
PGCGSF	IMPLICIT DEFLATOR FED. EXPEND. ON GOODS AND SERVICES	I	1992=100
PGCGSL	IMPLICIT DEFLATOR LOCAL EXPEND. ON GOODS AND SERVICES	I	1992=100
PGCGSOF	IMP. DEFLATOR FED. EXPEND. ON OTHER GOODS AND SERVICES	S	1992=100
PGCGSOL	IMP. DEFLATOR LOCAL EXPEND. ON OTHER GOODS AND SERVICES	S	1992=100
PGCGSOP	IMP. DEFLATOR PROV. EXPEND. ON OTHER GOODS AND SERVICES	S	1992=100
PGCGSP	IMP. DEFLATOR PROVINCIAL EXPEND ON GOODS AND SERVICES	I	1992=100
PGDPCON	IMPLICIT GDP DEFLATOR, CONSTRUCTION	S	1992=1.0
PGDPFOR	IMPLICIT GDP DEFLATOR, FORESTRY	S	1992=1.0
PGDPHSC	IMPLICIT GDP DEFLATOR, HOSPITALS & SCHOOLS	S	1992=1.0
PGDPMANO	IMPLICIT GDP DEFLATOR, OTHER MFG.	S	1992=1.0
PGDPMP	IMPLICIT GDP DEFLATOR AT MARKET PRICE	I	1992=1.0
PGDPOS	IMPLICIT GDP DEFLATOR, OTHER SERVICES	S	1992=1.0
PGDPPAD	IMPLICIT GDP DEFLATOR, PUBLIC ADMIN.	S	1992=1.0
PGDPPAP	IMPLICIT GDP DEFLATOR, PAPER AND ALLIED	S	1992=1.0
PGDPPMO	IMPLICIT GDP DEFLATOR, OTHER PRIMARY	S	1992=1.0
PGDPTCU	IMPLICIT GDP DEFLATOR, TCU	S	1992=1.0
PGDPWD	IMPLICIT GDP DEFLATOR, WOOD	S	1992=1.0
PGI	IMPLICIT DEFLATOR GOVT. CAPITAL FORMATION	S	1992=100
PGWSF	IMPLICIT DEFLATOR FEDERAL WAGES AND SALARIES	S	1992=100
PGWSL	IMPLICIT DEFLATOR LOCAL WAGES AND SALARIES	S	1992=100
PGWSP	IMPLICIT DEFLATOR PROV. WAGES AND SALARIES	S	1992=100
PIME	M&E INVESTMENT DEFLATOR, TOTAL	I	1992=1.0
PIMGUS	IMPLICIT DEFLATOR IMPORTED GOODS CANADA	E	$ U.S.
PIMPROV	IMPLICIT DEFLATOR, IMPROVEMENTS	S	1992=1.0

MNEMONIC	DESCRIPTION	TYPE*	UNITS
PIMSUS	IMPLICIT DEFLATOR IMPORTED SERVICES CANADA	E	$ U.S.
PINR	NON-RES. INVESTMENT DEFLATOR, TOTAL	I	1992=1.0
PINVM	RESIDENTIAL INVESTMENT DEFLATOR, MULTIPLES	I	1992=1.0
PINVS	RESIDENTIAL INVESTMENT DEFLATOR, SINGLES	I	1992=1.0
PIRNEW	IMPLICIT DEFLATOR, NEW RESIDENTIAL CONSTRUCTION	S	1992=1.0
PIRTOT	IMPLICIT DEFLATOR, TOTAL RESIDENTIAL CONSTRUCTION	S	1992=1.0
PIRTOTCA	INVESTMENT DEFLATOR, RES. CONSTRUCTION, CANADA	E	1992=1.0
PIRTRANS	IMPLICIT DEFLATOR, RESIDENTIAL TRANSFERS	S	1992=1.0
PM	TOTAL IMPORT DEFLATOR	I	1992=1.0
PMC	ROC IMPORT DEFLATOR, TOTAL	I	1992=1.0
PMCG	ROC IMPORT DEFLATOR, GOODS	S	1992=1.0
PMCS	ROC IMPORT DEFLATOR, SERVICES	S	1992=1.0
PMECA	INVESTMENT DEFLATOR, M&E, CANADA	E	1992=1.0
PMECON	M&E INVESTMENT DEFLATOR, CONSTRUCTION	S	1992=1.0
PMEFOR	M&E INVESTMENT DEFLATOR, FORESTRY	S	1992=1.0
PMEHSC	M&E INVESTMENT DEFLATOR, HOSPITALS & SCHOOLS	S	1992=1.0
PMEMANO	M&E INVESTMENT DEFLATOR, OTHER MFG.	S	1992=1.0
PMEOS	M&E INVESTMENT DEFLATOR, OTHER SERVICES	S	1992=1.0
PMEPAD	M&E INVESTMENT DEFLATOR, PUBLIC ADMIN.	S	1992=1.0
PMEPAP	M&E INVESTMENT DEFLATOR, PAPER AND ALLIED	S	1992=1.0
PMEPMO	M&E INVESTMENT DEFLATOR, OTHER PRIMARY	S	1992=1.0
PMETCU	M&E INVESTMENT DEFLATOR, TCU	S	1992=1.0
PMEWD	M&E INVESTMENT DEFLATOR, WOOD	S	1992=1.0
PMG	TOTAL IMPORT DEFLATOR, TOTAL GOODS	I	1992=1.0
PMS	TOTAL IMPORT DEFLATOR, TOTAL SERVICES	I	1992=1.0
PMW	ROW IMPORT DEFLATOR, TOTAL	I	1992=1.0
PMWG	ROW IMPORT DEFLATOR, GOODS	S	1992=1.0
PMWS	ROW IMPORT DEFLATOR, SERVICES	S	1992=1.0
PNRCA	INVESTMENT DEFLATOR, NON-RES. CONSTRUCTION, CANADA	E	1992=1.0
PNRCON	NON-RES. INVESTMENT DEFLATOR, CONSTRUCTION	S	1992=1.0
PNRFOR	NON-RES. INVESTMENT DEFLATOR, FORESTRY	S	1992=1.0
PNRHSC	NON-RES. INVESTMENT DEFLATOR, HOSP. & SCHOOLS	S	1992=1.0

MNEMONIC	DESCRIPTION	TYPE*	UNITS
PNRMANO	NON-RES. INVESTMENT DEFLATOR, OTHER MFG.	S	1992=1.0
PNROS	NON-RES. INVESTMENT DEFLATOR, OTHER SERVICES	S	1992=1.0
PNRPAD	NON-RES. INVESTMENT DEFLATOR, PUBLIC ADMIN.	S	1992=1.0
PNRPAP	NON-RES. INVESTMENT DEFLATOR, PAPER AND ALLIED	S	1992=1.0
PNRPMO	NON-RES. INVESTMENT DEFLATOR, OTHER PRIMARY	S	1992=1.0
PNRTCU	NON-RES. INVESTMENT DEFLATOR, TRANS., COMM., & UTILITIES	S	1992=1.0
PNRWD	NON-RES. INVESTMENT DEFLATOR, WOOD	S	1992=1.0
POP1824	POPULATION 18 TO 24, BC	I	THOUSANDS
POP2564	POPULATION 25 TO 64, BC	I	THOUSANDS
POP65	POPULATION 65 PLUS, BC	I	THOUSANDS
POPBC	TOTAL POPULATION, BC	I	THOUSANDS
POPBCF	FEMALE POPULATION, BC	I	THOUSANDS
POPBCM	MALE POPULATION, BC	I	THOUSANDS
POPNONPERM	NET CHANGE IN NON PERMANENT RESIDENTS	E	THOUSANDS
POPRETURN	RETURNING CANADIANS	E	THOUSANDS
PROPXCPM	PROP. OF PRIMARY EXPORTS TO ROC OF TOTAL ROC EXPORTS	E	RATIO
PROVNET	NET INTERPROVINCIAL MIGRATION TO BC	S	THOUSANDS
PSALES	IMPLICIT DEFLATOR, SALES	I	1992=1.0
PVINTME_MAN	PRESENT VALUE OF INTEREST DEDUCTIONS, MFG. M&E	I	RATIO
PVINTME_NONMAN	PV OF INTEREST DEDUCTIONS, NON-MFG. M&E	I	RATIO
PVINTNR	PRESENT VALUE OF INTEREST DEDUCTIONS, NON-RES. INVEST.	I	RATIO
PVPC	VALUE OF PHYSICAL CHANGE IN INVENTORIES DEFLATOR	S	1992=1.0
PX	EXPORT DEFLATOR, TOTAL	I	1992=1.0
PXAGUS	EXPORT DEFLATOR, AGRICULTURE	E	U.S.$ BASED INDEX
PXC	ROC EXPORT DEFLATOR, TOTAL	I	1992=1.0
PXCFCA	EXPORT DEFLATOR, CHEM/FERT	E	1992=1.0
PXCG	ROC EXPORT DEFLATOR, GOODS	I	1992=1.0
PXCGO	ROC EXPORT DEFLATOR, OTHER GOODS	S	1992=1.0
PXCOALUS	EXPORT DEFLATOR, COAL	E	U.S.$ BASED INDEX
PXCPAP	ROC EXPORT DEFLATOR, PAPER AND ALLIED	S	1992=1.0
PXCRW	ROC EXPORT DEFLATOR, RETAIL AND WHOLESALE	E	1992=1.0

MNEMONIC	DESCRIPTION	TYPE*	UNITS
PXCS	ROC EXPORT DEFLATOR, SERVICES	S	1992=1.0
PXCWD	ROC EXPORT DEFLATOR, WOOD PRODUCTS	S	1992=1.0
PXDOUGUS	EXPORT DEFLATOR, DOUGLAS FIR	E	U.S.$ BASED INDEX
PXELECUS	EXPORT DEFLATOR, ELECTRICITY	E	U.S.$ BASED INDEX
PXFBTCA	EXPORT DEFLATOR, FOOD, NON-ALC. BEVERAGE & TOBACCO	E	1992=1.0
PXGASUSN	EXPORT DEFLATOR, NATURAL GAS	E	U.S.$ BASED INDEX
PXHBSUSN	EXPORT DEFLATOR, HEMLOCK BABY SQUARES	E	U.S.$ BASED INDEX
PXMCHCA	EXPORT DEFLATOR, MACHINERY, CANADA	E	1992=1.0
PXMINUS	EXPORT DEFLATOR, MINING	E	U.S.$ BASED INDEX
PXNEWSUS	EXPORT DEFLATOR, NEWSPRINT	E	U.S.$ BASED INDEX
PXOMFCA	EXPORT DEFLATOR, OTHER MANUFACTURING	E	1992=1.0
PXPMTCA	EXPORT DEFLATOR, PRIMARY METALS, CANADA	E	1992=1.0
PXPULPUS	EXPORT DEFLATOR, PULP	E	U.S.$ BASED INDEX
PXRCEDUS	EXPORT DEFLATOR, RED CEDAR	E	$ BASED INDEX
PXSCA	EXPORT DEFLATOR, SERVICES	E	1992=1.0
PXSPFUS	EXPORT DEFLATOR, SPF 2x4	E	U.S.$ BASED INDEX
PXW	ROW EXPORT DEFLATOR, TOTAL	I	1992=1.0
PXWDOUS	EXPORT DEFLATOR, ROW OTHER WOOD	E	U.S.$ BASED INDEX
PXWFOR	ROW EXPORT DEFLATOR, FORESTRY	S	1992=1.0
PXWG	ROW EXPORT DEFLATOR, TOTAL GOODS	I	1992=1.0
PXWMANO	ROW EXPORT DEFLATOR, OTHER MFG.	S	1992=1.0
PXWMFUEL	ROW EXPORT DEFLATOR, MINING FUELS	S	1992=1.0
PXWMINO	ROW EXPORT DEFLATOR, OTHER MINING	S	1992=1.0
PXWPAP	ROW EXPORT DEFLATOR, PAPER AND ALLIED	S	1992=1.0
PXWPMO	ROW EXPORT DEFLATOR, OTHER PRIMARY	S	1992=1.0
PXWS	ROW EXPORT DEFLATOR, TOTAL SERVICES	S	1992=1.0
PXWTW	ROW EXPORT DEFLATOR, TRANS. AND WHOLE.	S	1992=1.0
PXWUTIL	ROW EXPORT DEFLATOR, UTILITIES	S	1992=1.0
PXWWD	ROW EXPORT DEFLATOR, WOOD	S	1992=1.0
RALCST	SALES TAX RATE FOR ALCOHOL	E	PERCENT
RDRMECONK	RATE OF M&E DEPRECIATION, CONSTRUCTION	E	RATIO
RDRMEFORK	RATE OF M&E DEPRECIATION, FORESTRY	E	RATIO

MNEMONIC	DESCRIPTION	TYPE*	UNITS
RDRMEHSCK	RATE OF M&E DEPRECIATION, HOSP. & SCHOOLS	E	RATIO
RDRMEMANOK	RATE OF M&E DEPRECIATION, OTHER MFG.	E	RATIO
RDRMEOSK	RATE OF M&E DEPRECIATION, OTHER SERVICES	E	RATIO
RDRMEPADK	RATE OF M&E DEPRECIATION, PUBLIC ADMIN.	E	RATIO
RDRMEPAPK	RATE OF M&E DEPRECIATION, PAPER AND ALLIED	E	RATIO
RDRMEPMOK	RATE OF M&E DEPRECIATION, OTHER PRIMARY	E	RATIO
RDRMETCUK	RATE OF M&E DEPRECIATION, TCU	E	RATIO
RDRMEWDK	RATE OF M&E DEPRECIATION, WOOD	E	RATIO
RDRNRCONK	RATE OF NON-RESIDENTIAL DEPRECIATION, CONSTRUCTION	E	RATIO
RDRNRFORK	RATE OF NON-RESIDENTIAL DEPRECIATION, FORESTRY	E	RATIO
RDRNRHSCK	RATE OF NON-RES. DEPRECIATION, HOSPITALS & SCHOOLS	E	RATIO
RDRNRMANOK	RATE OF NON-RES. DEPRECIATION, OTHER MANUFACTURING	E	RATIO
RDRNROSK	RATE OF NON-RES. DEPRECIATION, OTHER SERVICES	E	RATIO
RDRNRPADK	RATE OF NON-RES. DEPRECIATION, PUBLIC ADMIN.	E	RATIO
RDRNRPAPK	RATE OF NON-RES. DEPRECIATION, PAPER AND ALLIED	E	RATIO
RDRNRPMOK	RATE OF NON-RES. DEPRECIATION, OTHER PRIMARY	E	RATIO
RDRNRTCUK	RATE OF NON-RES. DEPRECIATION, TCU	E	RATIO
RDRNRWDK	RATE OF NON-RES DEPRECIATION, WOOD	E	RATIO
RESPOP	POPULATION RESIDUAL	E	THOUSANDS
RESPOPM	MALE POPULATION RESIDUAL	E	THOUSANDS
RGCGSCPP	SIM-RULE RATE FOR CPP EXPEND. ON GOODS AND SERVICES	E	RATIO
RGTPCPP	SIM-RULE FOR CPP TOTAL TRANSFERS	E	RATIO
RGTPPL	SIM-RULE FOR TRANSFERS TO PERSONS FROM LOCAL	E	RATIO
RGTPPOASF	SIM-RULE FOR TRANSFERS FOR OAS FROM FEDERAL	E	RATIO
RGTPPUICF	SIM-RULE FOR TRANSFERS FOR UIC FROM FEDERAL	E	RATIO
RGTPSL	SIM-RULE FOR SUBSIDIES FROM LOCAL	E	RATIO
RGWSFK	SIM-RULE FOR REAL FEDERAL EXPEND. ON WAGES AND SALARIES	I	RATIO
RINCA	SCOTIA McLEOD LONG CORPORATE RATE	E	PERCENT
RIO15	SIM-RULE FOR REAL GDP IN OTHER PRIMARY	E	RATIO
RIO25	SIM-RULE FOR REAL GDP IN FORESTS	E	RATIO
RIO35	SIM-RULE FOR REAL GDP IN WOOD	E	RATIO
RIO45	SIM-RULE FOR REAL GDP IN PAPER AND ALLIED	E	RATIO

MNEMONIC	DESCRIPTION	TYPE*	UNITS
RIO55	SIM-RULE FOR REAL GDP IN OTHER MFG.	E	RATIO
RIO65	SIM-RULE FOR REAL GDP IN CONSTRUCTION	E	RATIO
RIO75	SIM-RULE FOR REAL GDP IN UTILITIES	E	RATIO
RIO85	SIM-RULE FOR REAL GDP IN OTHER SERVICES	E	RATIO
RITC	RATE OF INVESTMENT TAX CREDIT	E	PERCENT
RLPF	RATIO OF FEMALE NON-INSTITUTIONAL POP. TO TOTAL FEMALE POP.	E	RATIO
RLPM	RATIO OF MALE NON-INSTITUTIONAL POP. TO TOTAL MALE POP.	E	RATIO
RMTCCA	5 YEAR MORTGAGE RATE, CANADA	E	PERCENT
RPOP1824	RATIO OF 18-24 POP TO TOTAL POP	E	RATIO
RPOP2564	RATIO OF 25-64 POP TO TOTAL POP	E	RATIO
RPOP65	RATIO OF 65+ POP TO TOTAL POP	E	RATIO
RPOPBCF	RATIO OF FEMALE POP TO TOTAL POP	E	RATIO
RQGDP	RATIO OF INDUSTRY GDP TOTAL TO EXPEND. GDP TOTAL	E	RATIO
RRATE	REAL CORPORATE INTEREST RATE	I	PERCENT
RRGCGSOFK	SIM-RULE RATE FOR FEDERAL EXPEND. ON OTHER GOODS AND SERVICES	E	RATIO
RRGDPHSC	SIM-RULE RATE FOR GDP IN HOSPITALS & SCHOOLS	E	RATIO
RRGDPPAD	SIM-RULE RATE FOR GDP IN PUBLIC ADMIN.	E	RATIO
RRGIFK	SIM-RULE RATE FOR FEDERAL CAPITAL FORMATION	I	RATIO
RRHST	SALES TAX RATE FOR RESTAURANTS & HOTELS	E	PERCENT
RRIBME	SIM-RULE RATE FOR NOMINAL BUSINESS M&E INVESTMENT	E	RATIO
RRIBMEK	SIM-RULE RATE FOR REAL BUSINESS M&E INVESTMENT	E	RATIO
RRIBNR	SIM-RULE RATE FOR NOMINAL BUSINESS NON-RES. INVESTMENT	E	RATIO
RRIBNRK	SIM-RULE RATE FOR REAL BUSINESS NON-RES. INVESTMENT	E	RATIO
RRIGMEGOV	SIM-RULE RATE FOR NOMINAL GOVT. M&E INVESTMENT	E	RATIO
RRIGMEGOVK	SIM-RULE RATE FOR REAL GOVT. M&E INVESTMENT	E	RATIO
RRIGNRGOV	SIM-RULE RATE FOR NOMINAL GOVT. NON-RES. INVESTMENT	E	RATIO
RRIGNRGOVK	SIM-RULE RATE FOR REAL GOVT. NON-RES. INVESTMENT	E	RATIO
RRRST	SIM-RULE RATE FOR PROV. RETAIL SALES TAX NET OF TOBACCO	E	RATIO
RRST	RETAIL SALES TAX RATE	E	PERCENT
RRTIGST	SIM-RULE RATE FOR FEDERAL GST REVENUES	E	RATIO
RRXWSK	SIM-RULE RATE FOR ROW EXPORTS OF SERVICES	E	RATIO

MNEMONIC	DESCRIPTION	TYPE*	UNITS
RSAVEP	PERSONAL SAVINGS RATE	I	PERCENT
RTB90US	U.S. 90 DAY T-BILLS	I	PERCENT
RTBCA	3 MONTH T-BILL RATE, CANADA	E	PERCENT
RTDPCPP	SIM-RULE FOR CPP DIRECT TAXES ON PERSONS	E	RATIO
RTIGST	GST TAX RATE	E	PERCENT
RTYC_F	FEDERAL CORPORATE TAX RATE ON BUSINESS INCOME	E	PERCENT
RTYC_MAN_F	FEDERAL CORPORATE TAX RATE FOR MFG. ON BUSINESS INCOME	E	PERCENT
RTYC_MAN_TOTAL	TOTAL CORPORATE TAX RATE FOR MFG. ON BUSINESS INCOME	I	PERCENT
RTYC_P	PROVINCIAL CORPORATE TAX RATE ON BUSINESS INCOME	E	PERCENT
RTYC_TOTAL	TOTAL CORP TAX RATE FOR GENERAL BUSINESS	I	PERCENT
RYDIV1	SIM-RULE FOR PROVINCIAL DIVIDEND PAYMENTS	E	RATIO
SALES	SALES OF DOMESTICALLY PRODUCED GOODS, BC	I	MILLIONS OF $C
SALESK	SALES OF DOMESTICALLY PRODUCED GOODS, BC	I	MILLIONS OF $92
SAVEP	TOTAL SAVINGS	I	MILLIONS OF $C
TCCA	TOTAL GOVERNMENT CAPITAL CONSUMPTION ALLOWANCE	I	MILLIONS OF $C
TCCAF	FEDERAL CAPITAL CONSUMPTION ALLOWANCES	I	MILLIONS OF $C
TCCAFCA	FEDERAL GOVT. CCA	E	MILLIONS OF $C
TCCAL	LOCAL CAPITAL CONSUMPTION ALLOWANCES	E	MILLIONS OF $C
TCCAP	PROVINCIAL CAPITAL CONSUMPTION ALLOWANCES	E	MILLIONS OF $C
TD	TOTAL DIRECT TAXES FROM PERSONS TO GOVT.	I	MILLIONS OF $C
TDBF	FEDERAL DIRECT TAX FROM BUSINESS	I	MILLIONS OF $C
TDBP	PROVINCIAL DIRECT TAXES FROM BUSINESS	I	MILLIONS OF $C
TDNRF	FEDERAL DIRECT TAXES FROM NON-RESIDENTS	E	MILLIONS OF $C
TDPCPP	CPP DIRECT TAXES ON PERSONS	I	MILLIONS OF $C
TDPCPPCA	TOTAL REVENUE, CPP/QPP	E	MILLIONS OF $C
TDPSIF	FEDERAL DIRECT TAX FROM CONTRIBUTIONS TO SOC. INS. PLANS	I	MILLIONS OF $C
TDPSIP	PROV. DIRECT TAXES FROM CONT. TO SOC. INS. PLANS	I	MILLIONS OF $C
TDPYF	FEDERAL DIRECT TAX FROM PERSONS, INCOME	I	MILLIONS OF $C
TDPYP	PROVINCIAL DIRECT TAXES FROM PERSONS, INCOME	I	MILLIONS OF $C
TI	TOTAL INDIRECT TAXES, ALL LEVELS	I	MILLIONS OF $C
TICF	FEDERAL CUSTOM IMPORT DUTIES	I	MILLIONS OF $C

MNEMONIC	DESCRIPTION	TYPE*	UNITS
TIEOF	FEDERAL EXCISE AND OTHER INDIRECT TAXES	I	MILLIONS OF $C
TIGAMEP	PROVINCIAL INDIRECT TAX, GAMING PROFITS	I	MILLIONS OF $C
TIGASP	PROVINCIAL INDIRECT TAX, GASOLINE	I	MILLIONS OF $C
TIGST	FEDERAL GOODS AND SERVICE TAX REVENUES	I	MILLIONS OF $C
TIL	TOTAL LOCAL INDIRECT TAXES	I	MILLIONS OF $C
TILCP	PROVINCIAL INDIRECT TAX, LIQOUR COMMISSIONS	I	MILLIONS OF $C
TILS	INDIRECT TAX LESS SUBSIDIES, ALL LEVELS	I	MILLIONS OF $C
TIME	TIME TREND	E	TIME TREND:=1 IN 1960:1
TIOL	OTHER LOCAL INDIRECT TAXES	I	MILLIONS OF $C
TIOP	PROVINCIAL INDIRECT TAX, OTHER	I	MILLIONS OF $C
TIP	TOTAL PROVINCIAL INDIRECT TAXES	I	MILLIONS OF $C
TIPP	PROVINCIAL INDIRECT PROPERTY TAX	I	MILLIONS OF $C
TIRPL	REAL AND PERSONAL INDIRECT PROPERTY TAX	I	MILLIONS OF $C
TIRSP	PROVINCIAL RETAIL SALES TAX NET OF TOBACCO	I	MILLIONS OF $C
TITOBP	PROVINCIAL TOBACCO TAX	I	MILLIONS OF $C
TNR	TRANSFERS TO NON-RESIDENTS	E	MILLIONS OF $C
TOG	OTHER TRANSFERS FROM PERSONS TO GOVT.	I	MILLIONS OF $C
TOPTF	OTHER TRANSFERS FROM PERSONS TO FEDERAL GOVT.	I	MILLIONS OF $C
TOPTL	OTHER TRANSFERS FROM PERSONS TO LOCAL GOVT.	I	MILLIONS OF $C
TOPTP	OTHER TRANSFERS FROM PERSONS TO PROVINCIAL GOVT.	I	MILLIONS OF $C
TRCCAF	SIM-RULE FOR FEDERAL CCA SAVINGS	E	PERCENT
TRCPP	CPP TOTAL REVENUES	I	MILLIONS OF $C
TRDBF	SIM-RULE FOR FEDERAL CORPORATE INCOME TAX	E	PERCENT
TRDBP	SIM-RULE FOR PROVINCIAL CORPORATE INCOME TAX	E	PERCENT
TRDPSIP	SIM-RULE FOR PROV. DIRECT TAXES FROM CONT. TO SOC. INS. PLANS	E	PERCENT
TRDPYF	SIM-RULE FOR FEDERAL INCOME TAXES ON PERSONS	E	PERCENT
TRDPYP	SIM-RULE FOR PROVINCIAL INCOME TAXES ON PERSONS	E	PERCENT
TRDSIF	SIM-RULE FOR FEDERAL DIRECT TAX FROM CONT. TO SOC. INS. PLANS	E	PERCENT
TRF	FEDERAL TOTAL REVENUE	I	MILLIONS OF $C
TRICF	SIM-RULE FOR FEDERAL CUSTOM IMPORT DUTIES	E	PERCENT
TRIEOF	SIM-RULE FOR FEDERAL INDIRECT TAXES (OTHER)	E	PERCENT
TRIGAMEP	SIM-RULE FOR PROV. INDIRECT TAX, GAMING PROFITS	E	PERCENT

MNEMONIC	DESCRIPTION	TYPE*	UNITS
TRIGASP	SIM-RULE FOR PROV GASOLINE TAX	E	PERCENT
TRILCP	SIM-RULE FOR PROV LIQOUR COMMISSION	E	PERCENT
TRIOL	SIM-RULE FOR OTHER LOCAL INDIRECT TAXES	E	PERCENT
TRIOP	SIM-RULE FOR OTHER PROV INDIRECT TAXES	E	PERCENT
TRIPP	SIM-RULE FOR PROV PROPERTY TAXES	E	PERCENT
TRIRPL	SIM-RULE FOR REAL & PERSONAL IND. PROP TAX	E	PERCENT
TRITOBP	SIM-RULE FOR PROV. TOBACCO TAX	E	PERCENT
TRL	LOCAL TOTAL REVENUE	I	MILLIONS OF $C
TROPTF	SIM-RULE FOR FEDERAL OTHER TRANSFERS FROM PERSONS	E	RATIO
TROPTL	SIM-RULE FOR LOCAL TRANSFERS FROM PERSONS	E	PERCENT
TROPTP	SIM-RULE FOR OTHER TRANSFERS FROM PERSONS TO PROVINCES	E	PERCENT
TRP	PROV. TOTAL REVENUE	I	MILLIONS OF $C
TRYROYP	SIM-RULE FOR PROV. ROYALTIES	E	PERCENT
TYICPP	CPP INVESTMENT INCOME	S	MILLIONS OF $C
TYIF	FEDERAL INVESTMENT INCOME	S	MILLIONS OF $C
TYIF$	FEDERAL INVESTMENT INCOME, CANADA	E	MILLIONS OF $C
TYIL	LOCAL INVESTMENT INCOME	S	MILLIONS OF $C
TYIOP	PROVINCIAL INVESTMENT INCOME OTHER THAN ROYALTIES	S	MILLIONS OF $C
TYIP	TOTAL PROVINCIAL INVESTMENT INCOME	I	MILLIONS OF $C
TYROYP	PROVINCIAL INVESTMENT INCOME, ROYALTIES	I	MILLIONS OF $C
UCMEFOR	USER COST OF CAPITAL, M&E, FORESTRY	S	MILLIONS OF $92
UCMEMANO	USER COST OF CAPITAL, M&E, OTHER MANUFACTURING	S	MILLIONS OF $92
UCMEOS	USER COST OF CAPITAL, M&E, OTHER SERVICES	S	MILLIONS OF $92
UCMEPAP	USER COST OF CAPITAL, M&E, PAPER AND ALLIED INDUSTRY	S	MILLIONS OF $92
UCMEPMO	USER COST OF CAPITAL, M&E, OTHER PRIMARY	S	MILLIONS OF $92
UCMETCU	USER COST OF CAPITAL, M&E, TCU	S	MILLIONS OF $92
UCMEWD	USER COST OF CAPITAL, M&E, WOOD	S	MILLIONS OF $92
UCNRFOR	USER COST OF CAPITAL, NON-RES., FORESTRY	S	MILLIONS OF $92
UCNRMANO	USER COST OF CAPITAL, NON-RES., OTHER MANUFACTURING	S	MILLIONS OF $92
UCNROS	USER COST OF CAPITAL, NON-RES., OTHER SERVICES	S	MILLIONS OF $92
UCNRPAP	USER COST OF CAPITAL, NON-RES., PAPER AND ALLIED INDUSTRY	S	MILLIONS OF $92
UCNRPMO	USER COST OF CAPITAL, NON-RES., OTHER PRIMARY	S	MILLIONS OF $92

MNEMONIC	DESCRIPTION	TYPE*	UNITS
UCNRTCU	USER COST OF CAPITAL, NON-RES., TCU	S	MILLIONS OF $92
UCNRWD	USER COST OF CAPITAL, NON-RES., WOOD	S	MILLIONS OF $92
USGDPK	GDP	E	BILLIONS OF $ U.S.92
USHSS	HOUSING STARTS, SINGLES	E	MILLIONS
USIPI	INDUSTRIAL PRODUCTION INDEX	E	INDEX: 1987=100
VPC	VALUE OF PHYSICAL CHANGE IN INVENTORIES, BC	S	MILLIONS OF $C
VPCK	VALUE OF PHYSICAL CHANGE IN INVENTORIES	S	MILLIONS OF $92
WR	AVERAGE WAGE RATE, ALL INDUSTRIES	I	THOUS. OF $C PER WORKER
WRCON	AVERAGE WAGE RATE, CONSTRUCTION	S	THOUS. OF $C PER WORKER
WRFOR	AVERAGE WAGE RATE, FORESTRY	S	THOUS. OF $C PER WORKER
WRHSC	AVERAGE WAGE RATE, HOSP. & SCHOOLS	S	THOUS. OF $C PER WORKER
WRMANO	AVERAGE WAGE RATE, OTHER MFG.	S	THOUS. OF $C PER WORKER
WROS	AVERAGE WAGE RATE, OTHER SERVICES	S	THOUS. OF $C PER WORKER
WRPAD	AVERAGE WAGE RATE, PUBLIC ADMIN.	S	THOUS. OF $C PER WORKER
WRPAP	AVERAGE WAGE RATE, PAPER AND ALLIED	S	THOUS. OF $C PER WORKER
WRPMO	AVERAGE WAGE RATE, OTHER PRIMARY	S	THOUS. OF $C PER WORKER
WRTCU	AVERAGE WAGE RATE, TCU	S	THOUS. OF $C PER WORKER
WRWD	AVERAGE WAGE RATE, WOOD	S	THOUS. OF $C PER WORKER
X	TOTAL EXPORTS (ROW & ROC)	I	MILLIONS OF $C
XC	TOTAL EXPORTS ROC	I	MILLIONS OF $C
XCG	GOODS EXPORTS TO ROC	I	MILLIONS OF $C
XCGK	GOODS EXPORTS TO ROC	I	MILLIONS OF $92
XCGO	OTHER GOODS EXPORTS TO ROC	I	MILLIONS OF $C
XCGOK	OTHER GOODS EXPORTS TO ROC	S	MILLIONS OF $92
XCGRESID	ROC GOODS EXPORTS, RESIDUAL	E	MILLIONS OF $C
XCGRESIDK	ROC GOODS EXPORTS, RESIDUAL	E	MILLIIONS OF $92
XCK	TOTAL. EXPORTS TO ROC	I	MILLIONS OF $92
XCPAP	PAPER AND ALLIED EXPORTS TO ROC	I	MILLIONS OF $C
XCPAPK	PAPER AND ALLIED EXPORTS TO ROC	S	MILLIONS OF $92
XCPM	TOTAL PRIMARY EXPORTS TO ROC	I	MILLIONS OF $C
XCRW	ROC RETAIL & WHOLESALE EXPORTS	E	MILLIONS OF $C
XCRWK	ROC RETAIL & WHOLESALE EXPORTS	E	MILLIONS OF $92

MNEMONIC	DESCRIPTION	TYPE*	UNITS
XCS	SERVICE EXPORTS TO ROC	I	MILLIONS OF $C
XCSK	SERVICE EXPORTS TO ROC	S	MILLIONS OF $92
XCSK_IO	SERVICE EXPORTS TO ROC FOR INPUT/OUTPUT	I	MILLIONS OF $92
XCWD	WOOD EXPORTS TO ROC	I	MILLIONS OF $C
XCWDK	WOOD EXPORTS TO ROC	S	MILLIONS OF $92
XK	TOTAL EXPORTS (ROW & ROC)	I	MILLIONS OF $92
XRES	TOTAL RESOURCE BASED EXPORTS ROC AND ROW	I	MILLIONS OF $C
XW	TOTAL EXPORTS ROW	I	MILLIONS OF $C
XWFOR	ROW FORESTRY EXPORTS	I	MILLIONS OF $C
XWFORK	ROW FORESTRY EXPORTS	S	MILLIONS OF $92
XWG	TOTAL GOODS EXPORTS ROW	I	MILLIONS OF $C
XWGK	TOTAL GOODS EXPORTS ROW	I	MILLIONS OF $92
XWGRESID	ROW GOODS EXPORTS, RESIDUAL	E	MILLIONS OF $C
XWGRESIDK	ROW GOODS EXPORTS, RESIDUAL	E	MILLIIONS OF $92
XWK	TOTAL EXPORTS ROW	I	MILLIONS OF $92
XWMANO	ROW OTHER MANUFACTURING EXPORTS	I	MILLIONS OF $C
XWMANOK	ROW OTHER MANUFACTURING EXPORTS	S	MILLIONS OF $92
XWMFUEL	ROW MINING FUELS EXPORTS	I	MILLIONS OF $C
XWMFUELK	ROW MINING FUELS EXPORTS	S	MILLIONS OF $92
XWMINO	ROW MINING OTHER THAN FUELS EXPORTS	I	MILLIONS OF $C
XWMINOK	ROW MINING OTHER THAN FUELS EXPORTS	S	MILLIONS OF $92
XWPAP	ROW PAPER AND ALLIED EXPORTS	I	MILLIONS OF $C
XWPAPK	ROW PAPER AND ALLIED EXPORTS	S	MILLIONS OF $92
XWPMO	ROW OTHER PRIMARY EXPORTS	I	MILLIONS OF $C
XWPMOK	ROW OTHER PRIMARY EXPORTS	S	MILLIONS OF $92
XWS	TOTAL SERVICES EXPORTS ROW	I	MILLIONS OF $C
XWSK	TOTAL SERVICES EXPORTS ROW	I	MILLIONS OF $92
XWTW	ROW TRANSPORTATION & WHOLESALE EXPORTS	I	MILLIONS OF $C
XWTWK	ROW TRANSPORTATION & WHOLESALE EXPORTS	E	MILLIONS OF $92
XWUTIL	ROW UTILITIES EXPORTS	I	MILLIONS OF $C
XWUTILK	ROW UTILITIES EXPORTS	E	MILLIONS OF $92
XWWD	ROW WOOD EXPORTS	I	MILLIONS OF $C

MNEMONIC	DESCRIPTION	TYPE*	UNITS
XWWDK	ROW WOOD EXPORTS	S	MILLIONS OF $92
YCCA	TOTAL CAPITAL CONSUMPTION ALLOWANCES	I	MILLIONS OF $C
YCCABUS	BUSINESS CAPITAL CONSUMPTION ALLOWANCE	S	MILLIONS OF $C
YCCAME_MAN	TAX DEPRECIABLE YEARS FOR MFG. M&E ASSETS	E	YEARS
YCCAME_NONMAN	TAX DEPRECIABLE YEARS FOR NON-MFG. M&E ASSETS	E	YEARS
YCCANR	TAX DEPRECIABLE YEARS FOR NONRES. CONSTRUCTION ASSETS	E	YEARS
YDIV	DIVIDEND INCOME	I	MILLIONS OF $C
YDPPK	PER CAPITA PERSONAL DISPOSABLE INCOME	I	MILLIONS OF $92
YFARM	FARM INCOME	E	MILLIONS OF $C
YGDPFCCA	TOTAL GDP FACTOR COST SAAR, CANADA	E	MILLIONS OF $92
YGDPFCCA_RAW	TOTAL GDP FACTOR COST, CANADA	I	MILLIONS OF $92
YIDMP	INTEREST AND MISC. INVESTMENT INCOME (PERS. INC. ACCT.)	S	MILLIONS OF $C
YIM	INTEREST AND MISC. INVESTMENT INCOME (INCOME ACCT.)	I	MILLIONS OF $C
YIVA	INVENTORY VALUATION ADJUSTMENT	S	MILLIONS OF $C
YNDIFC	NET DOMESTIC INCOME AT FACTOR COST	I	MILLIONS OF $C
YNETFI	NET FOREIGN INVESTMENT INCOME	E	MILLIONS OF $C
YNIUB	UNINCORPORATED BUSINESS INCOME	S	MILLIONS OF $C
YP	TOTAL PERSONAL INCOME	I	MILLIONS OF $C
YPD	PERSONAL DISPOSABLE INCOME	I	MILLIONS OF $C
YPERMK	PERMANENT INCOME	I	MILLIONS OF $92
YPROFAT	CORPORATION PROFITS AFTER TAX	I	MILLIONS OF $C
YPROFATCA	CANADIAN AFTER TAX CORPORATE PROFITS	E	MILLIONS OF $C
YPROFBT	CORPORATION PROFITS BEFORE TAX	I	MILLIONS OF $C
YSLI	SUPP. LABOUR INCOME	S	MILLIONS OF $C
YT	TOTAL TRANSFERS (FROM GOVT., CORPORATIONS, AND NON-RESIDENTS)	I	MILLIONS OF $C
YTCORP	TRANSFERS FROM CORPORATIONS TO PERSONS	S	MILLIONS OF $C
YTNR	TRANSFERS TO PERSONS FROM NON-RESIDENTS	E	MILLIONS OF $C
YTRANSK	TRANSITORY INCOME	I	MILLIONS OF $92
YWS	WAGES, SALARIES & SUPPLEMENTARY LABOUR INCOME	I	MILLIONS OF $C
YWSCON	WAGES AND SALARIES, CONSTRUCTION	I	MILLIONS OF $C

MNEMONIC	DESCRIPTION	TYPE*	UNITS
YWSFOR	WAGES AND SALARIES, FORESTRY	I	MILLIONS OF $C
YWSHSC	WAGES AND SALARIES, HOSPITALS & SCHOOLS	I	MILLIONS OF $C
YWSMAN	WAGES AND SALARIES, MANUFACTURING	I	MILLIONS OF $C
YWSMANO	WAGES AND SALARIES, OTHER MANUFACTURING	I	MILLIONS OF $C
YWSOS	WAGES AND SALARIES, OTHER SERVICES	I	MILLIONS OF $C
YWSPAD	WAGES AND SALARIES, PUBLIC ADMIN.	I	MILLIONS OF $C
YWSPAP	WAGES AND SALARIES, PAPER AND ALLIED	I	MILLIONS OF $C
YWSPMO	WAGES AND SALARIES, OTHER PRIMARY	I	MILLIONS OF $C
YWSTCU	WAGES AND SALARIES, TCU	I	MILLIONS OF $C
YWSWD	WAGES AND SALARIES, WOOD	I	MILLIONS OF $C
YWS_P	WAGES, SALARIES, & SUPP. LABOUR INCOME (PERS. INC. ACCT.)	I	MILLIONS OF $C
Y_RESID	RESIDUAL ERROR OF ESTIMATE, INCOME SIDE	E	MILLIONS OF $C
ZCALC	TIME TREND: CONSUMPTON EXPENDITURES ON ALCOHOL	E	TIME TREND:=1.0 IN 1960:1
ZCAP	TIME TREND: CONSUMPTON EXPENDITURES ON AUTOS & PARTS	E	TIME TREND:=1.0 IN 1960:1
ZCDO	TIME TREND: CONSUMPTON EXPENDITURES ON OTHER DURABLES	E	TIME TREND:=1.0 IN 1960:1
ZCEGOF	TIME TREND: CONSUMP. EXPEND. ON ELECT., GAS, & OTHER FUELS	E	TIME TREND:=1.0 IN 1960:1
ZCFB	TIME TREND: CONSUMP. EXPEND. ON FOOD, & NON-ALC. BEVERAGES	E	TIME TREND:=1.0 IN 1960:1
ZCFUEL	TIME TREND: CONSUMPTON EXPEND. ON FUELS AND LUBRICANTS	E	TIME TREND:=1.0 IN 1960:1
ZCNDO	TIME TREND: CONSUMPTON EXPEND. ON OTHER NON-DURABLES	E	TIME TREND:=1.0 IN 1960:1
ZCRENT	TIME TREND: CONSUMP. EXPEND. ON PAID AND IMPUTED RENT	E	TIME TREND:=1.0 IN 1960:1
ZCRH	TIME TREND: CONSUMP. EXPEND. ON RESTAURANTS AND HOTELS	E	TIME TREND:=1.0 IN 1960:1
ZCSD	TIME TREND: CONSUMPTON EXPENDITURES ON SEMI-DURABLES	E	TIME TREND:=1.0 IN 1960:1
ZCSO	TIME TREND: CONSUMPTON EXPENDITURES ON OTHER SERVICES	E	TIME TREND:=1.0 IN 1960:1
ZEMPOS	TIME TREND: OTHER SERVICES EMPLOYMENT	E	TIME TREND:=1.0 IN 1960:1
ZGDPFCK	TIME TREND: GDP AT FACTOR COST	E	TIME TREND:=1.0 IN 1960:1
ZHIPM	TIME TREND: RESIDENTIAL INVESTMENT, MULTIPLES	E	TIME TREND:=1.0 IN 1960:1
ZHIPS	TIME TREND: RESIDENTIAL INVESTMENT, SINGLES	E	TIME TREND:=1.0 IN 1960:1
ZIRTRANSK	TIME TREND: RESIDENTIAL INVESTMENT TRANSFER COSTS	E	TIME TREND:=1.0 IN 1960:1
ZLPRF	TIME TREND: FEMALE PARTICIPATION RATE	E	TIME TREND:=1.0 IN 1960:1
ZLPRM	TIME TREND: MALE PARTICIPATION RATE	E	TIME TREND:=1.0 IN 1960:1
ZTFPCON	TIME TREND: CAPACITY OUTPUT, CONSTRUCTION	E	TIME TREND:=1.0 IN 1960:1
ZTFPFOR	TIME TREND: CAPACITY OUTPUT, FORESTS	E	TIME TREND:=1.0 IN 1960:1

MNEMONIC	DESCRIPTION	TYPE*	UNITS
ZTFPMANO	TIME TREND: CAPACITY OUTPUT, OTHER MFG.	E	TIME TREND:=1.0 IN 1960:1
ZTFPOS	TIME TREND: CAPACITY OUTPUT, OTHER SERVICES	E	TIME TREND:=1.0 IN 1960:1
ZTFPPAP	TIME TREND: CAPACITY OUTPUT, PAPER AND ALLIED	E	TIME TREND:=1.0 IN 1960:1
ZTFPPMO	TIME TREND: CAPACITY OUTPUT, OTHER PRIMARY	E	TIME TREND:=1.0 IN 1960:1
ZTFPTCU	TIME TREND: CAPACITY OUTPUT, UTILITIES	E	TIME TREND:=1.0 IN 1960:1
ZTFPWD	TIME TREND: CAPACITY OUTPUT, WOOD	E	TIME TREND:=1.0 IN 1960:1
ZTOB	TIME TREND: CONSUMPTON EXPENDITURES ON TOBACCO	E	TIME TREND:=1.0 IN 1960:1
ZTYIL	TIME TREND: LOCAL INVESTMENT INCOME	E	TIME TREND:=1.0 IN 1960:1
ZTYIOP	TIME TREND: PROV. INVESTMENT INCOME OTHER THAN ROYALTIES	E	TIME TREND:=1.0 IN 1960:1
ZWRTCON	TIME TREND: LABOUR PRODUCTIVITY, CONSTRUCTION	E	
ZWRTFOR	TIME TREND: LABOUR PRODUCTIVITY, FORESTRY	E	
ZWRTHSC	TIME TREND: LABOUR PRODUCTIVITY, HOSP. & SCHOOLS	E	
ZWRTMANO	TIME TREND: LABOUR PRODUCTIVITY, OTHER MFG.	E	
ZWRTPAD	TIME TREND: LABOUR PRODUCTIVITY, PUBLIC ADMIN.	E	
ZWRTPAP	TIME TREND: LABOUR PRODUCTIVITY, PAPER AND ALLIED	E	
ZWRTPMO	TIME TREND: LABOUR PRODUCTIVITY, OTHER PRIMARY	E	
ZWRTTCU	TIME TREND: LABOUR PRODUCTIVITY, TCU	E	
ZWRTWD	TIME TREND: LABOUR PRODUCTIVITY, WOOD	E	
ZXCWDK	TIME TREND: ROC WOOD EXPORTS	E	TIME TREND:=1.0 IN 1960:1
ZXMINO	TIME TREND: ROW EXPORTS, MINING OTHER THAN FUELS	E	TIME TREND:=1.0 IN 1960:1
ZXWMANO	TIME TREND: ROW OTHER MANUFACTURING EXPORTS	E	TIME TREND:=1.0 IN 1960:1
ZXWMFUEL	TIME TREND:ROW MINING FUELS EXPORTS	E	TIME TREND:=1.0 IN 1960:1
ZXWPMO	TIME TREND: ROW OTHER PRIMARY EXPORTS	E	TIME TREND:=1.0 IN 1960:1
ZYCCABUS	INTERCEPT TERM FOR BUSINESS CAPITAL CONSUMP. ALLOWANCE	E	CONSTANT
Z_MEFOR	PRESENT VALUE OF TAX DEPREC., FORESTRY M&E	I	MILLIONS OF $92
Z_MEMAN	PRESENT VALUE OF TAX DEPREC., MFG. M&E	I	MILLIONS OF $92
Z_MEMANO	PRESENT VALUE OF TAX DEPREC., OTHER MFG. M&E	I	MILLIONS OF $92
Z_MEOS	PRESENT VALUE OF TAX DEPREC., OTHER SERVICES M&E	I	MILLIONS OF $92
Z_MEPAP	PRESENT VALUE OF TAX DEPREC., PAPER AND ALLIED M&E	I	MILLIONS OF $92
Z_MEPMO	PRESENT VALUE OF TAX DEPREC., OTHER PRIMARY M&E	I	MILLIONS OF $92
Z_METCU	PRESENT VALUE OF TAX DEPREC., TCU M&E	I	MILLIONS OF $92
Z_MEWD	PRESENT VALUE OF TAX DEPREC., WOOD M&E	I	MILLIONS OF $92

MNEMONIC	DESCRIPTION	TYPE*	UNITS
Z_NRFOR	PV OF TAX DEPREC. NON-RES. CONSTRUCT., FORESTRY	I	MILLIONS OF $92
Z_NRMAN	PV OF TAX DEPREC. NON-RES. CONSTRUCT., MFG.	I	MILLIONS OF $92
Z_NRMANO	PV OF TAX DEPREC., NON-RES. CONSTRUCT., OTHER MFG.	I	MILLIONS OF $92
Z_NROS	PRESENT VALUE OF TAX DEPREC., NON-RES. CONSTRUCT., OTHER SERVICES	I	MILLIONS OF $92
Z_NRPAP	PV OF TAX DEPREC., NON-RES., CONSTRUCT., PAPER AND ALLIED	I	MILLIONS OF $92
Z_NRPMO	PRESENT VALUE OF TAX DEPREC., NON-RES. CONSTRUCT., OTHER PRIMARY	I	MILLIONS OF $92
Z_NRTCU	PRESENT VALUE OF TAX DEPREC., NON-RES. CONSTRUCT., TCU	I	MILLIONS OF $92
Z_NRWD	PRESENT VALUE OF TAX DEPREC., NON-RES. CONSTRUCT., WOOD	I	MILLIONS OF $92

GLOSSARY OF ABBREVIATIONS

CAP. ASSIT.	Capital Assistance
CCA	Capital Consumption Allowance
C-D PROD. FUNC.	Cobb-Douglas Production Function
CONSTRUCT.	Construction
CPP	Canadian Pension Plan
DEPREC.	Depreciation
EEC	European Economic Community
GDP	Gross Domestic Product
GOVT.	Government
IND.	Industry
M&E	Machinery and Equipment
MFG.	Manufacturing
MISC.	Miscellaneous
NON-ALC.	Non-Alcoholic
NON-RES.	Non-Residential
PERS. INC. ACCT.	Personal Income Account
POP.	Population
PV	Present Value
QPP	Quebec Pension Plan
ROC	Rest of Canada
ROW	Rest of World
SIM. RULE	Simulation Rule
SOC. INS.	Social Insurance
SUPP.	Supplementary
TCU	Transportation, Communications, and Utilities
TRANS. AND WHOLE.	Transportation and Wholesaling

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