

## Appendix III: Quality Assessment of Estimates

Quality assessments for the major components of the Income and Expenditure Accounts, and for the major industries are reprinted with minor revisions from the Statistics Canada publications *Provincial Economic Accounts*<sup>1</sup> and *Provincial Gross Domestic Product by Industry*. The explanation of the rating systems is also drawn from these sources.

### Income and Expenditure Accounts

A quality rating of **1** is assigned when three conditions are met:

- The national estimates are deemed to be of good quality.
- The provincial estimation or allocation presents no major conceptual problem.
- The estimation or allocation procedure is appropriate (i.e., is consistent with national accounting practices and relies on directly relevant information) and uses information of good quality (i.e., which requires minimal adjustments for classification, coverage and valuation).

A quality rating of **2** is assigned when one of the conditions just outlined is not realized. In this case:

- The provincial statistical information may be of lower quality.
- The provincial allocation may present a conceptual problem or it may be based on related indicators instead of directly relevant information.

A quality rating of **3** indicates that 2 or more conditions necessary for a rating of 1 are not satisfied:

- The national estimates may be subject to a greater margin of error.
- There may be a conceptual problem with the provincial allocation.
- The provincial information may be less reliable and as a result the estimation or allocation method may not be entirely appropriate.

The annual ratings in the following tables are based on the ratings given in Statistics Canada catalogue 13-213, while the quarterly ratings are BC STATS assessments. For quarterly constant dollar data, the lower of the quarterly and constant dollar ratings would apply.

<i>Income Account</i>	<i>Rating (Annual)</i>	<i>Rating (Quarterly)</i>
Wages, salaries & supplementary labour income	1	1
Corporation profits before taxes	3	3
Interest and miscellaneous investment income	2	2
Accrued net income of farm operators from farm production	1	2
Net income of non-farm unincorporated business, including rent	3	3
Inventory valuation adjustment	3	3
Indirect taxes less subsidies	1	1-2
Capital consumption allowances	2	3

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<i>Expenditure Account</i>	<i>Rating (Current)</i>	<i>Rating (Constant)</i>	<i>Rating (Quarterly)</i>
Personal expenditure on :			
Durable goods	1	1	1
Semi-durable goods	1	1	1
Non-durable goods	1	1	1
Services	2	3	2-3
Government current expenditure on goods & services	1	3	1-2
Government investment in fixed capital:			
Construction	1	2	2
Machinery & equipment	2	2	3
Government investment in inventories	1	1	2
Business investment in fixed capital:			
Residential construction	1	1	1-2
Non-residential construction	1	2	2
Machinery & equipment	2	2	3
Business investment in inventories:			
Non-farm	3	3	3
Farm & grain in commercial channels	1	1	3
External trade, goods			
Exports, rest of Canada	2	3	3
Exports, rest of world	1	2	1
Imports, rest of Canada	2	3	3
Imports, rest of world	2	3	3
External trade, services			
Exports, rest of Canada	3	3	3
Exports, rest of world	3	3	3
Imports, rest of Canada	3	3	3
Imports, rest of world	3	3	3

### Industry Account

A quality rating of **1** means that census establishment data are used to arrive at both the national benchmark and the provincial distribution. Adjustments for coverage, valuation and classification are minimal for these estimates.

A quality rating of **2** refers to estimates which use establishment-based data to obtain indicators or proxies for distributing national benchmarks with a rating of 2 or better.

A quality rating of **3** is applied to industry estimates which do not use establishment-based proxies to distribute national GDP benchmarks.

The quality of the constant price estimates depends on the assessment of current price values and the quality of available price deflators. By definition, the quality of constant price estimates cannot exceed that of the current price series. The constant price rating is the same as the current price rank if the deflators adequately reflect

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provincial pricing structures. A lesser quality rating is given where:

- National price indices are used when provincial prices would be more appropriate.
- Provincial prices are built from partial information.
- Proxies are used to develop constant price series.

These quality ratings by industry also take into account the allocator used for the industry projections. If the informa-

tion used in the projections does not reflect output or value added, its quality rating is reduced.

For some industries, the ratings are derived from the ratings available at a more detailed level of aggregation. In all cases, it is important to note that the historical data, as well as the current dollar estimates for the years from 1991 on, are BC STATS data. The BC STATS estimates would usually be one level lower on the rating scale.

<i>Goods-producing industries</i>	<i>Rating (Current)</i>	<i>Rating (Constant)</i>
<b>Business sector</b>		
Agriculture	1	1
Fishing & trapping	3	3
Forestry & logging	2	3
Mining		
Metals	2	2
Industrial minerals	2-3	2-3
Crude petroleum & natural gas	2	2
Coal	2	2
Services related to mining	3	3
Manufacturing		
Food & beverages	2	2
Paper & allied	1	1
Petroleum & coal products	2	3
Chemicals	2	2
Wood	1	2
Furniture & fixtures	1	1
Primary metal products	1	2
Metal fabricated products	1	1
Machinery & equipment	1	1
Transportation equipment	2	2
Electrical & electronic equipment	2	2
Non-metallic mineral products	1	1
Miscellaneous manufacturing	1	2
Construction		
Residential	3	3
Non-residential	3	3
Utilities	1-2	2-3
<b>Non-business sector</b>	2	3

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<i>Service-producing industries</i>	<i>Rating (Current)</i>	<i>Rating (Constant)</i>
Business sector		
Transportation & storage	3	3
Communications	2	3
Wholesale trade	2	2
Retail trade	2	2
Finance, insurance & real estate		
Government royalties	1	2
Owner occupied dwellings	3	3
Other FIRE	3	3
Services to business	1	2
Education	3	3
Health services	3	3
Accommodation & food	2	3
Other services	1-2	2-3
<b>Non-business sector</b>		
Education	2	2
Health services	2-3	2-3
Public administration & defence		
Federal	1	2
Provincial	1	2
Local	1	2
Other services	3	3

### Government Sector Revenue and Expenditure Data

Government sector data for the most recent year may include BC STATS estimates. The quality ratings in this section have been assigned by BC STATS based on the methods used to create the estimates. Since most of the data in the tables represent a composite of many individual series, the ratings should be viewed as average measures.

A rating of **1** indicates that the estimates for the current year originate with Statistics Canada or that the allocators used to

extrapolate the data are very closely related to the actual estimate.

A rating of **2** indicates that the estimates for the current year are based on the growth rate of a related series, which historically is usually close to the actual growth rate.

A rating of **3** indicates that the series used to extend the data will usually, but not always, have a similar growth rate.

A rating of **4** indicates that the series used to extend the data can have a growth rate that is quite different from the growth rate of the series in the BCEA.

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The overall estimates for the government sector generally have a higher quality rating than the data which are disaggregated by level of government. For example, total investment in fixed capital and inventories is estimated by Statistics Canada as part of the Expenditure Account. The data for the latest year are

calculated by applying the growth rate of total government investment in fixed capital and inventories to the estimates for each level of government. Although growth rates may vary between levels of government, the total is consistent with published data.

<b><i>Federal Government Revenues and Expenditures</i></b>	<b><i>Rating</i></b>
Direct taxes from persons	2-3
Direct taxes from business	3
Direct taxes from non-residents	1
Indirect taxes	3
Other transfers from persons	2
Investment income	3
Current expenditures on goods and services	2
Transfer payments to persons	2-3
Subsidies	3
Capital assistance	4
Transfers to non-residents	1
Transfers to provincial governments	3
Transfers to local governments	3
Interest on the public debt	1
Capital consumption allowances	1
Investment in fixed capital and inventories	3

<b><i>Provincial Government Revenues and Expenditures</i></b>	<b><i>Rating</i></b>
Direct taxes from persons	3
Direct taxes from business	3-4
Indirect taxes	1
Other transfers from persons	1
Investment income	3-4
Transfers from federal government	3
Transfers from local governments	3
Current expenditures on goods and services	2
Transfer payments	3-4
Subsidies	3
Capital assistance	1
Transfers to local governments	1

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<b><i>Provincial Government Revenues and Expenditures (continued)</i></b>	<b><i>Rating</i></b>
Interest on the public debt	1
Capital consumption allowances	1
Investment in fixed capital and inventories	3-4

<b><i>Local Government Revenues and Expenditures</i></b>	<b><i>Rating</i></b>
Indirect taxes	3-4
Other transfers from persons	4
Investment income	2
Transfers from federal government	3
Transfers from provincial government	1
Current expenditures	1
Capital consumption allowances	1
Investment in fixed capital and inventories	3-4

<b><i>Hospital Revenues and Expenditures</i></b>	<b><i>Rating</i></b>
Transfers from persons	2-3
Investment income	1
Transfers from provincial government	1
Transfers from local government	1
Current expenditures on goods and services	1
Capital consumption allowances	1
Investment in fixed capital and inventories	3-4

<b><i>CPP Revenues and Expenditures</i></b>	<b><i>Rating</i></b>
Direct taxes	3
Investment income	1
Transfers to persons	2
Transfers to nonresidents	2

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1. *Provincial Economic Accounts, 1986-1995*, Catalogue 13-213, Statistics Canada, May 1996, and *Provincial Gross Domestic Product by Industry, 1984-1995*, Catalogue 15-203, Statistics Canada, May 1996