

13F0025XPE

c. 3



National Accounts and Environment Division

THE HISTORY OF REVISIONS TO THE PROVINCIAL
GOVERNMENT REVENUE AND EXPENDITURE SERIES

Discussion Paper

STATISTICS STATISTIQUE
CANADA CANADA

LIBRARY
BIBLIOTHÈQUE



Statistics Statistique
Canada Canada

Canada

***THE HISTORY OF REVISIONS TO THE PROVINCIAL GOVERNMENT
REVENUE AND EXPENDITURE SERIES***

Leslie Kiss
National Accounts and Environment Division
Statistics Canada

March 1992

INTRODUCTION

Gauging the reliability of national accounts statistics is a difficult but important task. One method is to study the history of revisions. The history of revisions has been examined previously for the major components of the Gross Domestic Product (GDP) (see Statistics Canada, 1977 and 1990). This paper reports on a further effort along these lines, to evaluate the revisions to estimates for one sector of the national accounts, namely the provincial government sub-sector. The pattern of revisions was studied over a twenty year period to assess whether the revision record has been improving, deteriorating, or remaining stable. In particular, an effort was made to establish which components within the government sector have had the largest revisions and to detect the reasons underlying such cases. In order to understand the revision patterns, the report will begin with descriptions of the National Accounts revision cycle, current data sources and methods, and data reliability of the provincial accounts.

The focus of this report is the magnitude of the revisions. This measure is often used as an indication of the reliability of the accounts, however, it can be misleading. Large revisions may be the result of an improved methodology and/or the inclusion of more current data, whereas small revisions may be the result of lack of follow-up work or lack of up-to-date data. While the extent of the revisions does not reflect the reliability of the "final" estimate, it does provide a means to judge the usefulness of the preliminary estimates.

THE REVISION CYCLE

Regular Revisions of the Quarterly Income and Expenditure Accounts

Estimates of the Income and Expenditure Accounts are published on a quarterly basis, approximately 60 days after the end of the quarter. The preliminary estimate of a quarter is revised in the following quarters of that same calendar year. Following this, quarterly estimates are revised in the first quarter of the four subsequent years. For example, the second quarter estimates for 1991 will be revised in the third and fourth quarters of 1991, and the first quarter in 1992, 1993, 1994, and 1995. The "last" revision, occurring four years after the preliminary estimate is considered to be "final". The initial estimates are based on limited sources of information. The regular revisions incorporate more current sources of data which take a lengthy time to collect, process, and include in the series.

Historical Revisions

Another type of revisions, called historical, are larger in nature, irregular, and cover a longer time period. They are the result of changes in methodology and the inclusion of special benchmark data. In order not to produce breaks in the series, the "final" revisions of past series are reconciled to reflect these changes.

The end result of this analysis is to provide suggestions to reduce the magnitude of revisions. This may be possible with "regular" revisions, however it is not possible to predict the way in which the series will be revised historically. The effects of the historical revision are very difficult to remove, and no attempt has been made to eliminate them nor to reflect the historical changes in past revisions leading up to the "final" revision. For the purposes of this paper, the "regular" revisions will be investigated while the special effects of the historical revisions will not be analyzed.

The following list indicates the historical revisions occurring in the quarterly publication during the time period under analysis.

- .First Quarter 1972
Revision from 1947 to 1971 inclusive.
- .First Quarter 1977
Larger than normal quarterly revisions.
- .First Quarter 1983
Revision from 1976 to 1983.
- .First Quarter 1986
Comprehensive revision from 1961 to 1985.

In reviewing the series for large changes in growth rates due to the historical revisions listed above, no unusual revisions occurred during the first three historical revisions. The 1986 revision had a noticeable influence on the size of the revisions for seven of the Provincial Government Revenue and Expenditure series. They include: total current expenditure, total revenue, indirect taxes, subsidies, capital assistance, tax collections from corporations and government business enterprises, and interest on the public debt. In preparation for the 1986 revision, the complete revision of the estimates for the 1981-84 period which would have customarily been published in the first quarter of 1985, was not carried out. The lack of revisions for this time period has also influenced the size of the revisions.

DATA SOURCES

Public Account Data Source and Work Schedule

The quarterly National Accounts publication provides estimates of government revenue and expenditure. This is on the basis of total government, as well as by government level, namely, federal, total provincial, and total local. This report focuses on the total provincial government sector as defined by the National Accounts, and is not broken down by individual provinces. However, the Provincial Economic Accounts (PEA) publish government revenue and expenditure by province.

The central data source for the Provincial Government sector are the provincial government Public Accounts. These are final annual statements of government revenue and expenditure, recorded on a fiscal year basis, and arrive at STC (OID - Operations Integration Division) between 10 and 14 months after the close of the reference period. Included in the definition of provincial government accounts are the financial statements for provincial extra-budgetary entities (special funds) such as boards, commissions, agencies and crown corporations. These statements may arrive as late as 18 months after the close of the reference period. For example, OID will receive most of the 1990-91 fiscal year Public Accounts between January 1992 and May 1992. Most of the "special funds" statements will have arrived by September 1992.

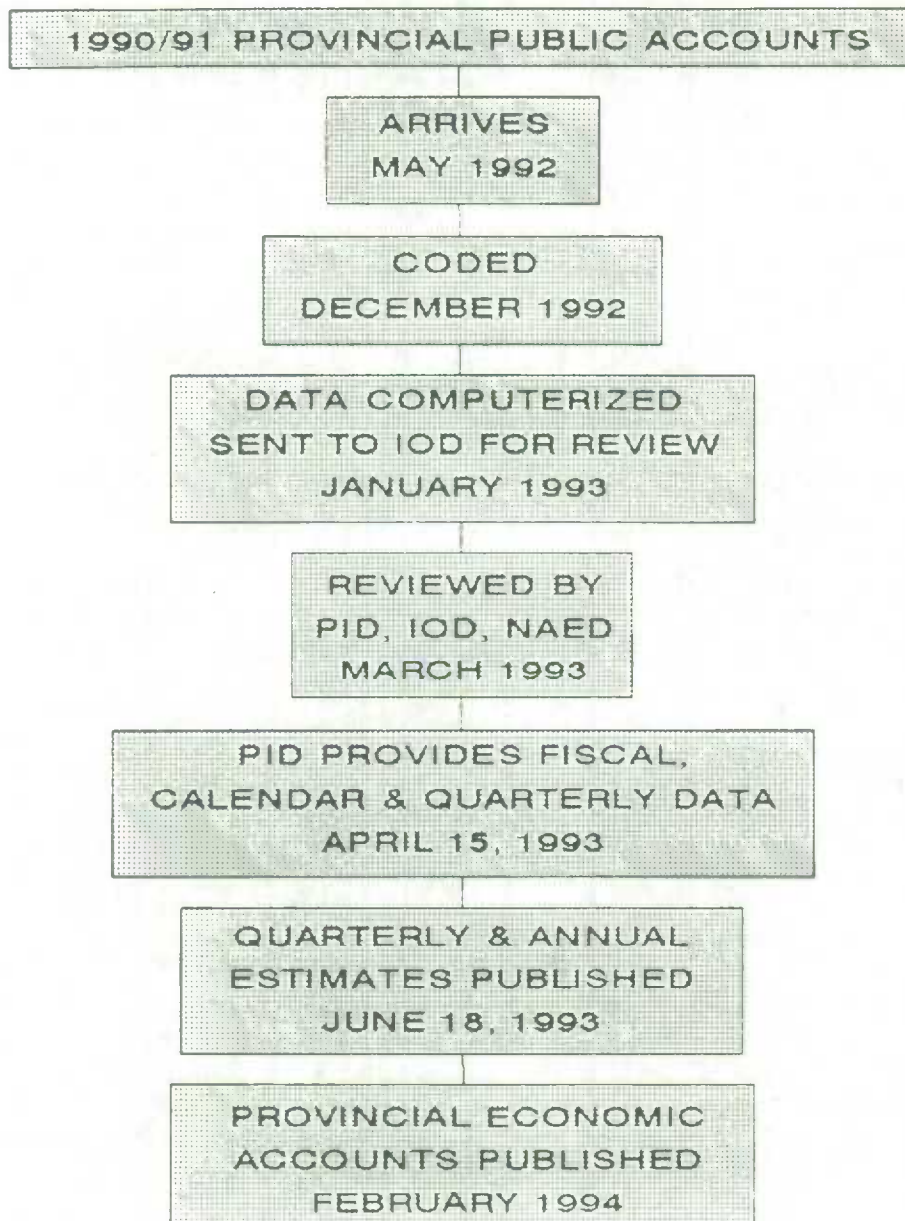
OID then codes and enters the Public Accounts and financial statements according to the Canadian System of National Accounts classifications. The database is made available to the Public Institutions Division (PID). This process takes 4 to 6 months for a total of 14 to 20 months after the close of the reference period. For the 1990-91 example, this task would be completed and PID would have the data by the end of December 1992.

The fiscal-year annual data are loaded onto a main-frame database system, deposited onto a tape, and handed over to Input Output Division (IOD) for review and consultation 21 to 22 months after the close of the reference period. For the 1990-91 fiscal year, this would imply the end of January 1993.

A review process mainly involving PID and IOD, but to an extent NAED (National Accounts and Environment Division) as well, continues from that time until closing in June. Typically an interim cut-off date, of the end of the 24th month after the close of the reference period, is set for concluding any

modifications/revisions/reclassifications to the data. Continuing with the 1990-91 example, March 1993 would be the interim cut-off date.

PID incorporates all necessary fiscal year changes into the database and disseminates fiscal year benchmarks. By the 15th of the 25th month PID is obliged to provide fiscal year, calendar year, and quarterly data on the Public Accounts year. Combined fiscal years are used to make a calendar year annual account (ie. 1989-90 and 1990-91 for a 1990 benchmark). For the 1990-91 Public Accounts, the deadline for providing this information is April 15, 1993.



PID then concentrates on the post Public Accounts years. However, revisions to Public Accounts data are often made up to a few days before publication in the 27th month after the end of the reference year. For 1990-91, the publication date for catalogue number 13-001 (National Income and Expenditure Accounts - Quarterly Estimates) will probably be June 18, 1993. Catalogue number 13-201 (National Income and Expenditure Accounts - Annual Estimates) has been produced at the end of September, but starting this year it will be released in July.

The PEA are published in the 35th month after the end of the reference period. The Provincial Economic Accounts (catalogue number 13-213) will publish the 1990-91 fiscal-year in the 1992 edition which will be released in February 1994.

Data Sources and Methods for the Quarterly Estimates

The Public Accounts are the final statement of the provinces' revenue and expenditure. By following the example of the 1990-91 fiscal year, there is a notable 3 year time lag involved in publishing the 1990 Accounts by calendar year. However, Income and Expenditure does publish quarterly provincial revenue and expenditure preliminary estimates approximately 2 months after the close of the quarter.

The data sources used by STC to calculate estimates for quarterly revenue and expenditure components include: survey data from the Quarterly Provincial Income and Expenditure System (QPIES - these are provincial government accounting database printouts or in some cases data in electronic format), quarterly and monthly financial reports (published and unpublished), provincial government budgets including expenditure estimates, the latest Public Accounts, and special fund financial statements.

PID provides most of the data used by NAED in the quarterly publication for the provincial government sub-sector. However, for some particular series, PID or NAED make adjustments to the data and/or use other sources of data. These exceptions, outlined below, include:

1. Transfer Payments from the Federal Government

Government of Canada monthly expenditure data are used as the source instead of provincial revenue estimates. These data are highly reliable and their use eliminates timing problems and the need for reconciliation.

2. Personal Income Taxes

All provinces except for Quebec have an agreement with the federal government whereby Revenue Canada - Taxation collects their provincial personal income taxes as well as those belonging to the federal government, concurrently.

Timely and accurate provincial personal income tax data are available from Revenue Canada and Supply and Services, and for the province of Quebec, from Le Bureau de la statistique du Québec (via PID).

These data are not usually revised. Any adjustments for prior year misallocations of tax, between the federal, provincial, CPP and UIC taxes, are made to current period collections and not allocated back to the relevant period.

3. Corporate Income Tax Collections

A federal-provincial agreement with all provinces except for Quebec, Ontario and Alberta, allows the federal government (via Revenue Canada - Taxation) to collect corporate income taxes on behalf of the provinces at the same time as federal corporate taxes are collected.

The provincial estimates, collected on behalf of the provinces by Revenue Canada and the Department of Supply and Services, are reliable and timely.

These data are not usually revised. Any adjustments for prior year misallocations of tax (between federal and provincial) are made to current period collections and not allocated back to the relevant period.

The provinces of Quebec, Ontario and Alberta provide these figures to STC directly (via PID). The reliability of the data have improved, however, any revisions to the Tax Collection series are primarily due to amendments from these provinces. For example, previous to 1989, Quebec provided a figure for Tax Collections that was not definitionally compatible to the SNA, requiring the number to be disaggregated. Adjustments such as this often require revisions.

4. Corporate Income Tax Liabilities

The provincial and federal current income tax liabilities benchmark is provided by Revenue Canada.

The income tax liability data (from Revenue Canada) are processed by Industrial Organization and Finance Division to derive the industrial distribution. These data are 2 to 3 years behind the currently estimated period.

5. Indirect Taxes

The reliability of these data varies greatly from component to component. Taxes which are important to the provinces are closely watched and are subject to very few revisions, such as gasoline taxes and other sales taxes. Others which have a low reporting rate, like those levied on pari-mutuel horse races, are often placed in a miscellaneous category and the breakdown must be estimated by PID.

6. Investment Income

This category can be broken down into three segments. First, interest on government held funds or interest on loans and advances are dealt with in the conventional way described earlier (ie. estimated by quarterly and monthly financial reports, etc.).

Next, the total of investment income and remitted trading profits are calculated quarterly by PID. The remitted trading profit estimates are based on the following sources: PID survey data of enterprises as well as corporate financial statements. These data are allocated provincially on the basis of enterprise ownership (ownership is defined as holding 50% or more).

Lastly, imputed banking service is calculated quarterly by the Investment Income section of NAED. This imputed amount is included in the accounts to capture the value of bank services for which there are no explicit charges. The total imputed interest is equal to the difference between interest received and paid by banks and is distributed between persons, corporations and government. These data are obtained from: the Office of the Superintendent of Financial Institutions, the Bank of Canada, government business enterprises (GBE's), credit unions, and trust and mortgage loan companies (cat. 61-006).

7. Transfers from Local Governments

This series is an exception to the rule of using the expenditure of the transferring level of government as the revenue of the receiving level of government. Rather, provincial government receipts of these transfers are used for the local sub-sector expenditure series. Estimates are calculated in the conventional way.

8. Investment in Fixed Capital

This series is broadly composed of: non-residential construction, machinery and equipment, and residential construction. Estimates for non-residential construction and machinery and equipment are derived from the Investment and Capital Stock Division annual survey of Private and Public Investment. The survey reports investment information about the previous, present, and subsequent year. For example, in the fall of 1991, businesses provided finalized investment information for the 1990 fiscal year, an estimate for 1991, and a forecast for 1992. Quarterly estimates are based on indicators such as: production, import, and export data for machinery and equipment. The indicator for construction products is labour and materials used in construction activity. The survey forecasts are used to some extent in the quarterly estimates, but only in conjunction with other indicators. Estimates for non-residential construction machinery and equipment are often revised.

DATA RELIABILITY

The province of Quebec (via Le Bureau de la statistique du Québec), unlike the other provinces, calculates their own quarterly revenue and expenditure estimates according to the SNA structure, and provides this information to STC. The estimates are based on information received from entities within the provincial government and they are reconciled to STC's Public Accounts benchmarks once a year. They estimate all components except: capital consumption allowances, imputed banking services, and investment in fixed capital. Presently, their estimates are considered to be highly reliable and any changes made to the data are done in conjunction with the province.

PID presently has a good relationship with the four largest provinces, namely, Quebec, Ontario, B.C. and Alberta. Generally the data are timely and accurate, but any data problems found by PID are immediately shared with the provinces, who in turn attempt

to solve the problem.

However, provinces with fewer resources cannot always provide STC with data which are timely, or highly accurate, or consistent between periods. For example, Saskatchewan in 1990 provided their data to STC on a net basis. The following year, the data were on a gross basis due to time constraints. The Yukon and Nova Scotia are often very late in providing their data, and quarterly data have not been provided to STC for years.

The reliability of data received from the other provinces varies greatly series to series and province to province. For example, sales tax collections data, an important information series to provinces, are available in the form of financial statements, are generally very accurate and are produced on a regular and punctual basis. Data which are perceived to be less important to provinces are sometimes aggregated with other series and are not meaningful for SNA purposes. The aggregate series are accurate but the SNA breakdowns of the series are less reliable.

Two examples of data quality which are less reliable are that of: interest on the public debt, and current expenditure on goods and services. Provincial interest on the public debt can be quite variable year to year and province to province. For example, if a province sells a business enterprise they have borrowed for, interest payments will decrease, assuming the income gained is used to pay off some of the debt. Some provinces' debts are financed with long-term instruments, while others have a mix of long and short term. This information is constantly changing. When a province renews its debt it could be at a lower rate, while other times they may be locked into higher long term rates.

The western provinces: B.C., Alberta, Saskatchewan, and Manitoba, have the policy of borrowing heavily on the behalf of GBE's. To keep track of this information, PID has instituted a program to closely monitor interest on the public debt and investment income of those provinces. However, due to the sensitive and volatile nature of the data, the series is difficult to estimate. The program to date has met with limited success with potential gains not yet realized.

For the second example, current expenditure on goods and services, there are literally thousands of expenditure items in this category which must be received, coded, aggregated, and reviewed every quarter. Sheer numbers make this task impossible to complete. There are also definitional differences regarding "expenditure on goods and services" between the provinces and the

SNA and consequently, these data (and other series where source data are unavailable or presented in an aggregate form) are not very meaningful to SNA.

In cases such as expenditure on goods and services, where information on a quarterly basis is not very reliable or not available (often the quarterly financial reports do not arrive in time for the current quarter), a mixture of procedures are used to estimate. These include: provincial budget estimates, projections of provincial quarterly patterns, splitting of observable aggregates using historical relationships, relevant information from other provinces, other STC data such as labour income in the case of goods and services expenditure, and press releases regarding provincial expenditure or program changes.

OUTLINE

In this study the revision patterns of the revenue and expenditure components of the aggregate provincial government sub-sector are examined from 1970 to 1990. The most recent year with data for all four quarters and one annual revision is 1990, however, 1987 is the last year for which there is a completed set of annual revisions. The results of any analysis involving the years 1988 to 1990 must be interpreted with caution as more revisions will occur in the future. The data are split into two time intervals, covering two decades, 1970-80 and 1981-90. Emphasis will be placed on the last ten years as it is a better indicator of the current situation, and is more useful for generating recommendations to eliminate future revisions. As well, detailed documentation recording explanations for revisions is incomplete for the 1970's and early 1980's. The 1970-80 time period will be used more for comparison purposes.

The revisions are calculated on an annual basis, as quarterly revisions pose many analytical problems. Quarter one of any year is revised three consecutive quarters within the same year, quarter two is revised twice, quarter three once. Following this, all four quarters are revised in the first quarter for four consecutive years. This results in seven revisions for quarter one, down to four revisions for quarter four. In order to equally compare each of the four quarters, only annual revisions are examined.

SUMMARY MEASURES

National accounts researchers are generally more concerned with growth rates from quarter to quarter, or year to year, than the actual levels. In the PEA for example, the addition of a large sum to the preliminary estimates could modify the levels substantially, but if the amount was placed evenly across the quarters then it would not change the growth rates. All series, except Net Lending, Saving, and Transfer Payments from Local Governments, are evaluated in terms of revisions to growth rates. The other three series, which are more volatile, are calculated and analyzed as percentages of current dollar GDP. Table A will be helpful to explain how the growth rates have been derived (see examples below table).

Table A Annual Revisions			
	1970	1971	1972
1970 Q4	P		
1971 Q1	R1		
1971 Q4		P	
1972 Q1	R2	R1	
1972 Q4			P
1973 Q1	R3	R2	R1
1973 Q4			
1974 Q1	R4	R3	R2
1974 Q4			
1975 Q1		R4	R3
1975 Q4			
1976 Q1			R4
P = Preliminary R2 = Second Revision R3 = Third Revision R4 = Fourth Revision R1 = First Revision			

The 1971 preliminary (P) growth rate is calculated by:

$$1971 P / 1970 R1 * 100 - 100$$

The 1971 second revision (R2) growth rate is calculated by:

$$1971 R2 / 1970 R3 * 100 - 100$$

The 1971 fourth revision (R4) growth rate is calculated by:

$$1971 R4 / 1970 R4 * 100 - 100 \quad \text{etc.}$$

ANALYSIS OF REVISIONS

Table B, on the following page, compares the mean total revisions and standard deviations to annual growth rates, measuring the difference between the "final" estimates and the initial estimates. In general, the table displays lower revisions for the most recent period, 1981-88, in comparison to the latter period, 1970-80. As well, there is a distinct downward bias in the preliminary estimates as shown by the few negative mean revisions. Turning attention to the standard deviations presented in the table reveals that about 60% have decreased in the most recent period as compared to the earlier period.

Table B reveals some series with fairly large revisions and standard deviations. Total Current Expenditure reveals larger mean revisions and standard deviations than did Total Revenue. This does not imply that the revisions to individual components of expenditure are generally larger than those for revenue components since these are likely to be offsets, with one component being revised upward and another downward. The aggregate measure of Total Revenue is likely to be quite accurate, as this is an important estimate for all governments, whereas, the categorization of the sources of revenue is probably less consequential.

Two correlation matrixes, Tables C and D, display the relationships among the revisions of each series from 1970 onward. Table C correlates the first revisions (R1-P), and Table D, the total revisions (R4-P) of levels as a percent of GDP. Table D in comparison to Table C, contains many more correlations which attain a level greater than 0.50. However, the tables were analyzed together to investigate consistent trends.

Focusing on the revenue based correlations of both tables, few exceed a level of 0.50, however, many are negatively correlated. These correlations weakly support the hypothesis that Total Revenue preliminary estimates tend to be substantially more accurate than the components. Two series, Investment Income and Direct Taxes from Persons, reveal strong positive correlations with Total Revenue. These high correlations are not surprising as both series constitute a large portion of Total Revenue.

TABLE B
MEAN REVISIONS AND STANDARD DEVIATIONS TO ANNUAL GROWTH RATES OF
PROVINCIAL REVENUE AND EXPENDITURE (PERCENTAGE POINTS)

	1970-1980		1981-1988	
	MEAN	STANDARD DEV	MEAN	STANDARD DEV
REVENUE				
Direct taxes:				
From persons	1.62	2.82	1.16	2.28
From corporations & gov't business enterprises	1.92	4.66	2.03	13.59
Tax collections	1.01	4.60	0.55	8.57
Indirect taxes	0.48	1.72	-0.08	1.37
Other current transfers from persons	0.43	3.02	-1.47	3.45
Investment income	4.85	6.16	1.18	3.08
Transfer payments from other levels of gov't:				
From federal	-0.04	0.25	0.01	0.22
From local	Not Available		Not Available	
Total revenue	1.34	1.08	0.54	1.33
CURRENT EXPENDITURE				
Current expenditure on goods & services	3.03	4.25	0.73	3.14
Transfer payments:				
To persons	1.84	4.06	0.28	2.64
To business:				
Subsidies	6.73	13.78	5.25	12.92
Capital assistance	4.72	44.80	6.67	34.99
To other levels of government:				
To local	1.07	4.22	-0.72	3.86
To hospitals	0.55	2.75	0.88	4.04
Interest on the public debt	3.83	3.91	2.95	2.43
Total current expenditure	2.36	2.05	0.86	2.72
Saving (total revenue - total expenditure)	Not Available		Not Available	
Add: Capital consumption allowances	4.35	6.41	-4.99	5.69
Deduct: Investment in fixed capital	-2.10	6.42	0.85	5.50
Equals: Net lending	Not Available		Not Available	

This table shows the mean revisions and standard deviations to annual growth rates, measuring the difference between the "final" estimates and the initial estimates (including 1988 as it is missing only one annual revision and is not likely to change greatly).

TABLE C Correlations of First Revisions (R1-F) to the Levels of Provincial Government Revenue & Expenditure as a Percent of GDP from 1970 to 1990.

	Direct taxes from persons	Direct taxes from corp's & GBE's	Tax collections from corp's & GBE's	Indirect taxes	Other current transfers from persons	Investment income	Transfer payments from local gov't	Transfer p payments from fed. gov't	Total revenue	Current expend. on goods & services	Transfer p payments to persons	Transfer payments- subsidies	Transfer pa payments- capital assistance	Transfer p payments to local gov't	Transfer p payments to hospitals	Interest o on the public debt	Total current expenditure	Capital consumption allowance	Investment in fixed capital
Direct taxes from persons	1.00																		
Direct taxes from corporations & GBE's	-0.33	1.00																	
Tax collections from corporations & GBE's	0.14	0.18	1.00																
Indirect taxes	-0.07	0.10	-0.34	1.00															
Other current transfers from persons	0.09	-0.11	0.01	-0.40	1.00														
Investment income	0.35	-0.24	0.06	-0.16	0.25	1.00													
Transfer payments from local government	-0.03	0.06	-0.42	0.57	0.10	-0.02	1.00												
Transfer payments from federal government	0.00	-0.03	0.21	-0.01	-0.30	-0.22	0.23	1.00											
Total revenue	0.67	0.04	0.05	0.26	0.11	0.73	0.27	-0.14	1.00										
Current expenditure on goods & services	0.48	-0.21	-0.19	0.18	-0.16	0.43	0.38	0.21	0.57	1.00									
Transfer payments to persons	0.30	0.09	-0.08	-0.13	0.34	0.42	0.32	-0.05	0.48	0.46	1.00								
Transfer payments- subsidies	-0.02	-0.40	-0.25	0.19	0.13	0.02	0.42	0.13	-0.03	0.26	0.01	1.00							
Transfer payments- capital assistance	-0.04	0.28	0.41	0.29	-0.35	0.18	0.15	0.02	0.28	0.40	0.09	0.17	1.00						
Transfer payments to local government	0.26	0.02	-0.16	0.58	-0.03	-0.12	0.47	-0.04	0.32	0.25	0.00	-0.16	-0.03	1.00					
Transfer payments to hospitals	-0.27	0.18	-0.40	0.17	0.03	0.00	0.36	0.00	-0.03	0.23	0.38	0.28	0.00	0.02	1.00				
Interest on the public debt	-0.11	0.13	-0.12	0.55	-0.34	-0.16	0.61	0.43	0.09	0.21	0.05	0.58	0.31	0.16	0.25	1.00			
Total current expenditure	0.31	-0.05	-0.28	0.39	-0.03	0.27	0.70	0.19	0.52	0.82	0.63	0.44	0.34	0.40	0.53	0.54	1.00		
Capital consumption allowances	0.38	-0.02	-0.21	0.00	0.28	0.07	-0.07	-0.46	0.28	0.13	0.35	-0.44	-0.19	0.36	-0.05	-0.48	0.08	1.00	
Investment in fixed capital	-0.09	0.46	0.34	0.14	-0.12	0.06	0.03	-0.04	0.20	-0.16	0.00	-0.24	0.43	-0.03	0.06	0.06	-0.08	-0.06	1.00

TABLE D Correlations of Total Revisions (R4-P) to the Levels of Provincial Government Revenue & Expenditure as a Percent of GDP from 1970 to 1988.

	Direct taxes from persons	Direct taxes from corp's & GBE's	Tax collections from corp's & GBE's	Indirect taxes	Other current transfers from persons	Investment income	Transfer payments from local gov't	Transfer payments from fed. gov't	Total revenue	Current expend. on goods & services	Transfer payments to persons	Transfer payments- subsidies	Transfer payments- capital assistance	Transfer payments to local gov't	Transfer payments to hospitals	Interest on the public debt	Total current expenditure	Capital consumption allowance	Investment in fixed capital
Direct taxes from persons	1.00																		
Direct taxes from corporations & GBE's	-0.01	1.00																	
Tax collections from corporations & GBE's	-0.08	0.12	1.00																
Indirect taxes	-0.05	-0.26	0.11	1.00															
Other current transfers from persons	0.16	-0.33	0.23	0.10	1.00														
Investment income	0.35	-0.12	0.10	-0.06	0.82	1.00													
Transfer payments from local government	0.10	-0.31	-0.08	0.38	0.62	0.65	1.00												
Transfer payments from federal government	-0.08	-0.27	0.27	0.31	0.03	-0.09	0.19	1.00											
Total revenue	0.63	0.03	0.14	0.33	0.66	0.80	0.63	0.03	1.00										
Current expenditure on goods & services	0.60	-0.29	0.02	0.06	0.66	0.69	0.56	0.13	0.72	1.00									
Transfer payments to persons	0.59	0.16	0.21	0.05	0.51	0.62	0.41	-0.14	0.76	0.69	1.00								
Transfer payments- subsidies	0.03	-0.66	0.18	0.44	0.65	0.53	0.59	0.39	0.45	0.58	0.26	1.00							
Transfer payments- capital assistance	0.37	0.26	0.15	0.41	-0.17	-0.03	0.00	0.04	0.37	0.13	0.33	0.18	1.00						
Transfer payments to local government	0.63	-0.30	-0.23	0.26	0.22	0.24	0.39	0.21	0.50	0.43	0.21	0.15	-0.05	1.00					
Transfer payments to hospitals	0.38	-0.21	0.23	0.39	0.36	0.40	0.24	0.25	0.57	0.52	0.46	0.60	0.44	0.33	1.00				
Interest on the public debt	-0.19	-0.14	0.49	0.46	0.12	0.08	0.07	0.36	0.17	0.12	0.07	0.63	0.54	-0.23	0.54	1.00			
Total current expenditure	0.58	-0.31	0.18	0.32	0.65	0.67	0.58	0.24	0.81	0.91	0.73	0.74	0.36	0.47	0.76	0.41	1.00		
Capital consumption allowances	0.53	0.29	-0.21	-0.24	0.08	0.17	0.20	-0.36	0.31	0.26	0.51	-0.45	-0.13	0.32	-0.22	-0.75	0.05	1.00	
Investment in fixed capital	-0.19	0.55	0.29	-0.02	-0.34	-0.13	-0.18	-0.41	-0.09	-0.28	0.15	-0.35	0.34	-0.39	-0.04	0.17	-0.19	0.04	1.00

A look at the expenditure based correlations discloses that few series in the tables surpass the 0.50 measure, however, nearly all are positive. This suggests there is a tendency for underestimation of the preliminary estimates. Three of the series, Current Expenditure on Goods & Services, Transfer Payments to Persons, and Transfer Payments to Hospitals, are positively correlated to Total Current Expenditure with levels above 0.50. This is anticipated as all three form a large portion of the total. As well, Interest on the Public Debt is positively correlated with Subsidy Transfer Payments. This last correlation is unexpected, however, the relationship is consistent. A test of the other revisions reveals that both the second (R2-R1) and the third (R3-R2) revisions of these series are correlated.

An examination of revenue based series correlated with those of expenditure reveals that most do not exceed 0.50. However, that statement aside, Total Current Expenditure is positively correlated with both Total Revenue and Transfer Payments from Local Governments. The two series, Capital Consumption Allowances and Investment in Fixed Capital do not have strong correlations with other series. The one surprising exception is the negative relationship of Capital Consumption Allowances with Interest on the Public Debt. A further investigation reveals that negative correlations above 0.50 were found for the second, third, and fourth revisions, indicating a consistent trend.

The individual series have been broken up into three broad groups, namely: series with low revisions and no revision pattern, series with large revisions and no revision pattern, and series with a revision pattern. Each series were analyzed for the following: decreases or increases of the mean revisions and standard deviations in 1981-90 as compared to 1970-80, large revisions to annual growth rates, tests of mean revision changes for which there are statistically significant differences from zero, and recognizable patterns to the revisions.

The series were also examined to determine whether progressions from growth to recessions change the pattern of revisions. Recessions have been simply defined for the purposes of this report as two consecutive quarters of negative GDP constant dollar growth. Over the twenty year period, this transpired the following four times:

- 1970 quarter 1 to 1970 quarter 2,
- 1980 quarter 2 to 1980 quarter 3,
- 1981 quarter 3 to 1982 quarter 4, and
- 1990 quarter 2 to 1991 quarter 1.

The analysis of growth rate revisions are on an annual basis, so the revisions of the following years were examined: 1970, 1980, 1981, 1982, and 1990. Three problems should be noted in the examination of the effects of the recession. The first involves the confounding influence of the generally large fourth annual revisions in 1982 which are due to the historical revision. The second is that there has only been one annual revision for 1990, which is too soon to determine preliminary estimation problems. Lastly, although there are some quarters which display negative GDP growth, there is only one negative annual growth rate during the period under study, namely 1982. In fact, there were no large revisions for any of the series which coincided with recessions or expansions in the economy.

Series With Low Annual Growth Rate Revisions And No Revision Pattern

The following nine series, when analyzed were found to contain low growth rate revisions. They include: Direct Taxes from Persons, Indirect Taxes, Other Current Transfers from Persons, Transfer Payments from the Federal Government, Transfer Payments from Local Government, Total Revenue, Transfer Payments to Local Government, Transfer Payments to Hospitals, and Total Current Expenditure. From 1980 to 1988, most of the total revisions (R4-P) of these series are 4% or less, and many are under 2%.

Transfer Payments from the Local Government, is the smallest series in comparison to the others. Analysis based on levels as a percent of GDP, reveals that the series makes up about 0.02% of GDP and the revisions as a percent of GDP are almost unobservable. Although the series does not constitute a large portion of GDP, when analyzed in terms of growth rates, it is quite unstable, indicating that within the series there are some fairly large changes to the levels.

These same nine series do not show any pattern to the revisions, regardless whether the whole time series is analyzed or just the last five to ten years. An example of this is Indirect Taxes (see appendix for Tables and Figures 1 and 2). The revisions to levels as a percent of GDP are low, except for 1982 to 1985, due to the 1986 historical revision. The total (R4-P) growth rate revisions are low, the highest recorded is 3.17% in 1976. There is no systematic bias in the series, about half, 11 out of 19, are positive in sign and the rest, negative. The first revision gives little indication of the size or sign of the total revision.

The growth rates for all of the series in 1981-90 were compared to that of 1970-80. Four of the series (Direct Taxes from Persons, Indirect Taxes, Transfer Payments from the Federal Government, and Transfer Payments to Local Government) show mean total revisions and standard deviations which have decreased in 1981-90. The total mean revision of Total Revenue and Total Current Expenditure decreased in 1981-90, however, the standard deviation increased slightly. The series, Transfer Payments to Hospitals, shows a slight increase in the mean revision in 1981-90, and close to a two-fold increase in the standard deviation. Other Current Transfers from Persons shows a larger mean revision and a slightly larger standard deviation in 1981-90.

The mean revision changes of each series was tested for statistically significant differences from zero during 1981-90. None of the series examined, excluding two, had an average annual revision in 1981-90 which was large enough to be statistically significant. The first exception, Total Current Expenditure, tested statistically significant in the first annual revision. The second, Direct Taxes from Persons, tested significant in the second annual revision.

The two aggregate series, Total Current Expenditure and Total Revenue constitute a large percentage of GDP, approximately 20% each (see Tables and Figures 3 to 6 in appendix). Due to the size of these series, the regular revisions are not resulting in large growth rates. However, when the revisions are examined as a percent of GDP, some are as large as 0.5% for Total Revenue and more than 1% for Total Current Expenditure. Both series have a tendency for upward revisions, or in other words, a downward bias. As these two series are sum of many other series, a detailed look at the revisions of other series will provide information as to why there are large level changes in these series.

Given that these series do not have large mean revisions and do not exhibit a regularity to the revisions, no recommendations will be specifically directed towards these particular series.

Series With Large Mean Annual Revisions And No Revision Pattern

The following six series fall into the category of having large mean annual revisions and no apparent pattern to the revisions.

Savings and Net Lending

The first two are Savings and Net Lending (Figures and Tables 7 and 8). These two series have been analyzed in terms of levels as a percent of current dollar GDP rather than growth rates because the series are very volatile. Both series are residually derived, so the revisions made to both are the result of all the changes to the levels within categories of the provincial revenue and expenditure accounts. The total percent revisions of both series extend as far as 1.2% of GDP in the 1980's (ignoring the effects of the historical revision). There is a tendency for the initial estimates to be biased upwards. The series show larger total mean revisions and standard deviations in 1981-90 over 1970-80. There is no pattern to the revisions.

Direct Taxes from Corporate and Government Business Enterprises

There are a few large revisions observed in this series in the 1980's, ranging from 11.83% to -25.71% (see Figure and Table 10), as well, a slight downward bias is shown in the preliminary estimates. There is a slight increase of the mean total revision and a three-fold increase in the standard deviation in 1981-90 over 1970-80. However, there is no order or consistency to the revisions. For example, in 1982 the total growth rate revision was 3.57%, while in 1983, it was -30.93%. Significant t-tests are found in the second revisions (R2-R1) of both 1970-80 and 1981-90.

This series makes up approximately 3% of Total Revenue, so although revisions to the series generate large growth rate fluctuations, the adjustments to the levels are small. The percent changes of total revisions as a proportion of GDP are all under 0.12% of GDP in 1981-90 (see Figure and Table 9).

Subsidy Transfer Payments to Business

This series contains some larger revisions, ranging from -22.94% to 6.88%, with most of them occurring in the 1970's and early 80's (see Figure and Table 12). This is consistent with results from a time comparison of the mean total revisions and standard deviations, both of which show a decrease in 1981-90 over 1970-80. The only significant t-test occurred in the third revision (R3-R2) during 1970-80.

There is no apparent revision pattern, however the total revision from 1984 forward, exhibits a decrease from previous years, with the largest at -9.84%. As well, the preliminary estimates have a tendency to be downward biased. The level

changes, when examined in relationship to Total Current Expenditure, are quite small. This series makes up approximately 4% of Total Current Expenditure, so although revisions to the series generate large growth rate changes, the revisions to the levels are quite small. The total revisions for 1981-90 average less than 0.2% of GDP (see Figure and Table 11).

Transfer Payments to Business: Capital Assistance

This series is also volatile, with large negative and positive growth rate revisions, often cancelling one another out within the same year (Figure and Table 14). However, examination of the t-tests in 1970-80 or 1981-90 revealed that none of the revisions are significantly different from zero. The mean total (R4-P) revision increased slightly in 1981-90 over 1970-80, nevertheless, the standard deviation decreased.

The levels of this series, make up less than 1% of Total Current Expenditure and the total revisions from 1981 to 1990 average 0.03% of GDP (Figure and Table 13). The revisions to growth rates may be large but the changes in levels relative to other series are not.

Current Expenditure on Goods and Services

This series does not have growth rates which are as substantial as some of the above mentioned series, the largest total revision was 9% in the mid 1970's (Figure and Table 16). However, it forms the considerable portion of Total Current Expenditure, more than 30% of the total, and represents about 6% of GDP (Figure and Table 15). A 4% revision change in this series is much larger in terms of absolute levels than a 17% revision change in the Capital Assistance Series. The total revisions from 1981-90 average 0.4% of GDP. Revisions to this series have broad implications and merit close attention within a national accounts context as it is a component of GDP.

The preliminary estimates tend to be downward biased. This bias is consistent from 1970 to 1983 for levels as a percent of GDP, as demonstrated by the succession of positive total revisions. The pattern is unpredictable from 1984 onward. Both the total mean growth rate revision and standard deviation have decreased in 1981-90 over 1970-80. No t-tests were significantly different from zero in 1981-90, one difference was found in the total revision (R4-P) of 1970-81.

Series With A Revision Pattern

The following six series were selected on the criteria of a pattern to the revisions.

Tax Collections from Corporate and Government Business Enterprises

From 1986 to 1989, there were a number of larger revisions ranging from 6 to 12% (Figure and Table 18). This is an increase from the 1970's and early 80's. Tax Collections represent a small part of Total Revenue, only about 3%, and the total revisions from 1981 to 1990 average less than 0.1% of GDP (Figure and Table 17). The growth rates in this series may be large, but they represent a small change overall.

In analyzing the pattern of these revisions from 1985 onward, the total revisions are low due to the cancelling out effect of negative and positive revisions. The first revision does give an indication of the sign of the total revision, i.e., if the first revision was negative between 1982 and 1988, then the total was as well. However, this is the extent to the pattern, as the total size of the revision cannot be predicted and nor is there any consistency with the direction of the revision over time.

The revisions increased in the mid to late eighties, however, the total revision (R4-P) actually decreased due to the cancelling out effect of negative and positive revisions within the same year. The mean total revision, while small during the twenty year time period, decreased by half in 1981-90 over 1970-80. However, the standard deviation almost doubled during the same time period. The third mean revision of 1981-90 was the only statistically significant difference from zero.

Transfer Payments to Persons

This series has low growth rate revisions and this is supported by the lack of any significant t-tests in either of the two ten-year periods (Figure and Table 20). As well, the mean total revisions and standard deviations decreased in 1981-90 over 1970-80. The series represents about 4% of GDP, and the total revision from 1981 to 1990 averages less than 0.2% of GDP (Figure and Table 19).

Since 1983 there has been a tendency in this series for the

preliminary growth rate to overestimate the actual (ie. the fourth) growth rate. This overestimation ranges from -3.23% to -0.28%. The history of revisions of Transfer Payments to Persons does not support the hypothesis that there will always be overestimations. For example, from 1979 to 1982 the series underestimated the total growth rate, from 1976 to 1978 the total rate was overestimated, and from 1973 to 1975 the total rate was underestimated.

Investment Income

Investment Income represents about 13% of Total Revenue and approximately 3% of GDP (Figure and Table 21). The series is fairly consistent during the eighties, with total revisions (R4-P) of less than 4% (Figure and Table 22). The pattern found with these revisions involves the sign of the first revision (R1-P) corresponding to the sign of the total revision (R4-P) from 1984 onward. However, the first revision does not give an indication of the size of the total revision.

The mean total revision and standard deviation in 1981-90 have both decreased by more than half over 1970-80. Two t-tests were significant, both in 1981-90, one in the third revision (R3-R2) and the other in the total revision (R4-P).

Interest on The Public Debt

The magnitude of growth rate revisions are not large, especially from 1983 onward (Figure and Table 24). The series represents about 13% of the Total Current Expenditure, and roughly 3% of GDP (Figure and Table 23). There are a couple of outstanding revisions in the early eighties, but most of the total revisions in the mid to late eighties are around 3%. The total revisions from 1981 to 1990 average 0.3% of GDP.

The revisions were tested for a significant difference from zero: the first, second and total revision of 1981-90 tested significant; the third and total revision of 1970-80 were also significant. However, both the total mean revision and standard deviation have decreased slightly in 1981-90 over 1970-80.

There is a strong tendency for the preliminary estimates to underestimate the final estimates, in other words they exhibit a downward bias. As well, the third revision forms the largest component of the total revision. It is the third revision of any year when data from the Provincial Public Accounts are included.

For this series it seems that the estimates are not capturing the magnitude of the interest paid. From 1970 to 1987, the revisions were upward, with the exception of 1976. The last year under analysis, 1988, is another exception. This year is missing the last annual revision, however, based on the record of the series, the fourth revision changes very little from the third.

The connection between the rising and falling of interest rates of provincial bonds and 3 month treasury bills was examined along side the mean total revision of the series. When interest rates decreased or increased, the size of the total revision did not necessarily decrease or increase. Other possibilities which may contribute to the underestimation which were not investigated, include: the fluctuation in Canadian currency against the United States, and especially European and Japanese currencies; the size of the total provincial debt and deficit; and, whether or not specific provinces are contributing more heavily to the underestimation phenomenon.

Capital Consumption Allowance

This series has fairly large total revisions from 1982 onward, ranging from 4 to 12% (Figure and Table 26). The levels in this series are not very large in comparison to others, representing less than 1% of GDP (Figure and Table 25). The size of the growth rate revisions are due in part, to relatively small level changes. The revision pattern of this series is the strong tendency in the eighties (1982 to 1987) for the preliminary growth rate to overestimate the actual or fourth growth rate. However, unless there is a large fourth revision in 1988, this pattern may no longer exist. As well, this tendency is not supported in earlier time periods. From 1970 to 1975, the preliminary rate underestimated the actual rate, and from 1976 to 1981 there was no set pattern.

This overestimation is observed in the negative total mean revision of 1981-90, which is a small increase over the 1970-80 mean revision. However, the standard deviation decreased slightly in the eighties. The total (R4-P) revision of 1981-90 tested significant as well as the first (R1-P) and total revision of 1970-80.

Investment in Fixed Capital

The revisions in this series occur almost without exception, in the first and second revisions. The series represents about 1% of GDP and the revisions to levels as a percent of GDP are very small, generally less than 0.1% (Figure and Table 27). The growth rate revisions are around 2% or less, although there are a few exceptions, such as the second revision (R2-R1) in 1985 of 11.28% (Figure and Table 28).

The arrangement examined in this series is the tendency for the preliminary growth rate to underestimate the actual or fourth growth rate in each year from 1984 onward. The average total revision (excluding one large revision) for this time period is 1.7%. However, this tendency is not consistent, as the preliminary growth rate overestimated the actual growth rate from 1976 to 1980.

The total mean revision and the standard deviation decreased for 1981-90 over 1970-80. As well, none of the mean revisions in either ten year period were significantly different from zero.

TABLE C
SUMMARY TABLE
OF REVISION
RECORD

	1981-88 OVER 1970-80			
	MEAN REVISION	STANDARD DEVIATION	SIGNIFICANT T-TESTS	
			1970-80	1981-88
REVENUE				
Direct taxes:				
From persons	Improved	Improved		2
From corp's & gov't bus. enterprises	Deteriorated	Deteriorated	2	2
Tax collections	Improved	Deteriorated		3
Indirect taxes	Improved	Improved		
Other current transfers from persons	Deteriorated	Deteriorated	3	
Investment income	Improved	Improved	3, T	
Transfer payments from other levels of government:				
From federal	Improved	Improved		
From local	*Improved	*Unchanged	3, T	
Total revenue	Improved	Deteriorated	3, T	
CURRENT EXPENDITURE				
Current expenditure on goods & services	Improved	Improved	T	
Transfer payments:				
To persons	Improved	Improved		
To business:				
Subsidies	Improved	Improved	3	
Capital assistance	Deteriorated	Improved		
To other levels of government:				
To local	Improved	Improved		
To hospitals	Deteriorated	Deteriorated	3	
Interest on the public debt	Improved	Improved	3, T	1, 3, T
Total current expenditure	Improved	Deteriorated	T	1
Saving (total revenue - total expenditure)	*Deteriorated	*Deteriorated	3, T	
Add: Capital consumption allowances	Deteriorated	Improved	1, T	T
Deduct: Investment in fixed capital	Improved	Improved		
Equals: Net lending	*Deteriorated	*Deteriorated	3	

IMPROVED = MEAN TOTAL GROWTH RATE REVISION (R4-P) OR STANDARD DEVIATION HAS DECREASED IN 1981-88 COMPARED TO 1970-80.

DETERIORATED = MEAN TOTAL GROWTH RATE REVISION (R4-P) OR STANDARD DEVIATION HAS INCREASED IN 1981-88 OVER 1970-80.

UNCHANGED = RELATIVELY NO CHANGE BETWEEN 1970-80 AND 1981-88.

* = SERIES HAS BEEN ANALYZED IN TERMS OF LEVELS AS A PERCENT OF GDP INDT GROWTH RATES.

SIGNIFICANT T-TESTS: 1 = SIGNIFICANT IN THE FIRST REVISION (R1-P), 2 = SECOND REVISION (R2-R1),

3 = THIRD REVISION (R3-R2), 4 = FOURTH REVISION (R4-R3), T = TOTAL REVISION (R4-P).

SUMMARY AND RECOMMENDATIONS

Table C provides an overview of the revision record for each series. Two thirds of the series display an improvement in mean revisions and standard deviations in 1981-88 as compared to 1970-80. As well, the mean revisions which are significantly different from zero have decreased greatly in 1981-88 over 1970-80.

For the series which fall under the category of exhibiting a revision pattern (Tax Collection, Transfer Payments to Persons, Investment Income, and Interest on the Public Debt), no adjustments are advised. Although there is some type of pattern exhibited in the series, no one series has a consistent pattern in the twenty year period under review. It is suggested that the revisions of these series continue to be examined in the future for patterns.

The category "Interest on The Public Debt" is the only one for which a bias adjustment in the preliminary estimate is clearly warranted. Due to the distinct downward bias in the preliminary estimates and the number of significant t-tests, the preliminary growth rate estimates should be increased between the range of 2 to 3 percent. A frequency distribution of the total growth rate revisions from 1970 to 1988 reveals that 75% of the series have been revised 2% or more.

Frequency Distribution

Percent Growth Rate Revision			Number of Years	Percent
-	-	1.9%	5	26%
2.0%	-	4.9%	10	53%
5.0%	-	7.9%	2	11%
8.0%	-	+	2	11%

One difficulty encountered in any historical analysis of revisions involves uncovering the underlying causes of large changes. The documentation for revisions which occurred in the seventies and early eighties is incomplete. However, papers are now being published, which explain the reasons for any large changes annually (see for example Bertrand, 1991). This is a logical beginning and to continue the process it is suggested that: the provincial government data base be maintained, incorporating

the revisions of years to come, so that any changes to revision patterns or any new patterns can be observed; as well, that documentation be recorded at a more detailed level, such as that of provincial government revenue and expenditure.

For the series which do not show a pattern, there is insufficient evidence to suggest any changes based on this analysis. However, considering that most of the revisions are not significantly different from zero, there may be no cause for concern.

Communication with PID indicated that timeliness and accuracy could be improved in the future. They are presently working towards receiving computer readable data from the provinces which corresponds to the SNA coding system, concepts and definitions. Currently the division is in the process of instituting a new improved computerized system of capturing, processing, and editing the provincial government accounts. They stated that communication with the provinces has improved in the last few years and that they would like this trend to continue. As well, they stressed the need to enhance their workforce with an increased number of professionals and identified their needs for a more powerful computer system.

Finally, it is realized that this report did not cover all the bases of analysis in the area of provincial government revenue and expenditure. One recommendation to further the research in this area is to analyze the data at the provincial level to determine which are the source of the largest revisions and which have the greatest impact on revisions to the aggregate estimate.

REFERENCES

- Clift, B., and S. Wells, "The Reliability of the Canadian National Accounts Estimates," **Canadian Economic Observer**, Statistics Canada, Catalogue 11-010, February 1990, pp. 3.1-3.18.
- Bertrand, C., "Data Revisions for the Period 1987-1990," **National Income and Expenditure Accounts**, Catalogue 13-001, second quarter 1991, pp. xxix-xlvi.
- Kenney, P.B., "Revisions to Quarterly Estimates of Gross Domestic Product," **Economic Trends**, number 381, July 1985, pp. 97-112.
- King, D., "Accuracy of the Quarterly GNP Estimates," **Business Economics**, volume 17, May 1982, pp. 10-16.
- Statistics Canada, "Guide to the Income and Expenditure Accounts," **National Income and Expenditure Accounts**, Catalogue 13-603E, No.1.
- Statistics Canada, "Revisions to the Income and Expenditure Accounts," **National Income and Expenditure Accounts**, Catalogue 13-001, first quarter 1977, pp. xxiii-xxxii.

Figure 1

INDIRECT TAXES

REVISIONS TO LEVELS AS A PERCENT OF GDP

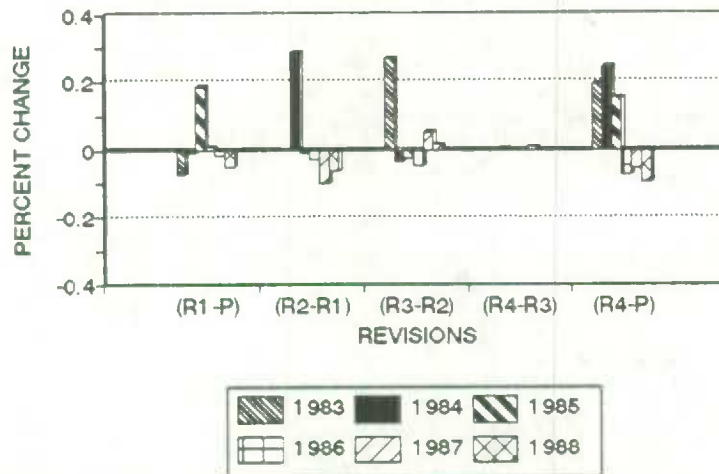


Table 1

INDIRECT TAXES

RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP

1970 - 1990

ANNUAL REVISION

REVISIONS

	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	4.66	4.66	4.73	4.78	4.78	0.00	0.07	0.05	0.00	0.13
1971	4.68	4.66	4.72	4.73	4.69	-0.02	0.06	0.01	-0.04	0.01
1972	4.74	4.80	4.88	4.84	4.84	0.06	0.08	-0.04	-0.00	0.11
1973	4.71	4.82	4.78	4.86	4.86	0.12	-0.04	0.08	-0.00	0.16
1974	4.67	4.71	4.74	4.76	4.76	0.04	0.03	0.02	-0.00	0.09
1975	4.44	4.48	4.45	4.40	4.41	0.03	-0.03	-0.05	0.00	-0.04
1976	4.54	4.57	4.56	4.59	4.58	0.03	-0.02	0.03	-0.00	0.04
1977	4.56	4.63	4.63	4.61	4.61	0.06	0.01	-0.03	0.00	0.04
1978	4.33	4.35	4.35	4.36	4.32	0.02	0.00	0.01	-0.05	-0.01
1979	4.38	4.39	4.35	4.32	4.32	0.01	-0.04	-0.03	-0.00	-0.07
1980	4.29	4.23	4.17	4.20	4.20	-0.06	-0.06	0.03	0.00	-0.09
1981	4.26	4.16	4.24	4.25	4.25	-0.09	0.08	0.01	0.00	-0.00
1982	4.60	4.64	4.60	4.60	4.79	0.04	-0.03	0.00	0.19	0.19
1983	4.80	4.73	4.73	4.99	4.99	-0.07	0.00	0.27	-0.00	0.19
1984	4.78	4.77	5.06	5.03	5.03	-0.01	0.29	-0.03	0.00	0.25
1985	4.96	5.15	5.14	5.12	5.12	0.18	-0.01	-0.02	-0.00	0.15
1986	5.29	5.30	5.27	5.22	5.22	0.01	-0.03	-0.05	-0.00	-0.07
1987	5.34	5.32	5.22	5.28	5.28	-0.02	-0.10	0.05	0.01	-0.06
1988	5.46	5.41	5.35	5.36		-0.05	-0.06	0.02		-0.10
1989	5.47	5.42	5.45			-0.05	0.03			
1990	5.43	5.55				0.11				

Figure 2

INDIRECT TAXES

ANNUAL GROWTH RATE REVISIONS

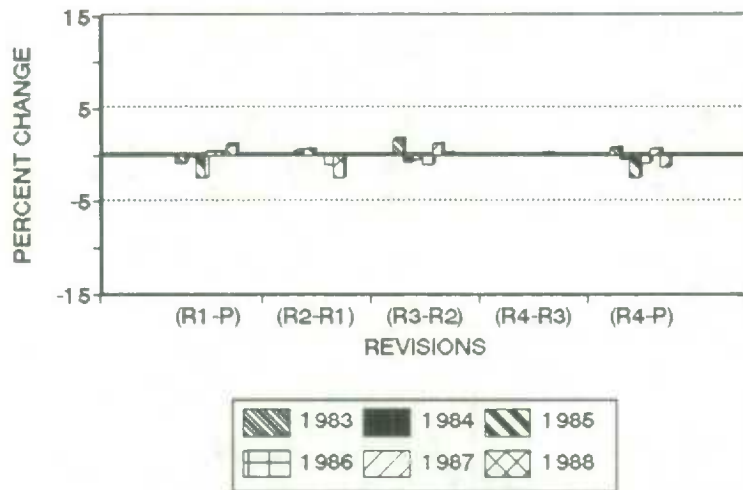


Table 2

INDIRECT TAXES

ANNUAL GROWTH RATES - PROVINCIAL

CURRENT DOLLAR, 1970 - 1990

	ANNUAL REVISION					REVISIONS				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	7.21	7.21	7.17	8.39	8.39	0.00	-0.04	1.22	0.00	1.18
1971	9.61	7.45	7.76	7.95	7.11	-2.16	0.31	0.19	-0.84	-2.51
1972	13.56	13.39	15.15	15.22	15.22	-0.17	1.76	0.08	0.00	1.66
1973	15.01	15.95	15.83	17.81	17.81	0.93	-0.11	1.98	0.00	2.80
1974	15.48	17.53	16.28	16.75	16.75	2.05	-1.25	0.47	0.00	1.27
1975	6.17	6.44	5.40	4.24	4.30	0.27	-1.03	-1.16	0.06	-1.87
1976	17.10	18.70	19.51	20.27	20.27	1.59	0.82	0.76	0.00	3.17
1977	9.84	11.82	11.29	10.59	10.60	1.98	-0.53	-0.71	0.01	0.76
1978	3.58	3.92	4.68	4.95	3.79	0.34	0.76	0.27	-1.17	0.20
1979	15.21	15.26	13.98	14.43	14.33	0.04	-1.27	0.44	-0.10	-0.88
1980	9.79	9.16	8.45	9.26	9.26	-0.63	-0.71	0.81	0.00	-0.53
1981	15.60	14.69	16.17	16.42	16.42	-0.91	1.48	0.25	0.00	0.82
1982	16.12	14.84	13.72	13.72	18.40	-1.28	-1.12	0.00	4.68	2.28
1983	12.16	11.29	11.29	12.96	12.92	-0.87	0.00	1.67	-0.04	0.76
1984	10.95	10.72	11.12	10.39	10.42	-0.23	0.40	-0.74	0.03	-0.53
1985	11.75	9.29	9.89	9.36	9.35	-2.45	0.59	-0.53	-0.01	-2.40
1986	8.79	9.10	8.98	8.01	7.94	0.31	-0.12	-0.97	-0.07	-0.85
1987	9.90	10.15	9.10	10.28	10.47	0.25	-1.05	1.18	0.18	0.57
1988	12.59	13.62	11.19	11.33		1.03	-2.43	0.14		-1.26
1989	8.46	8.76	9.01			0.30	0.26			
1990	3.65	5.24				1.59				

Figure 3

TOTAL CURRENT EXPENDITURE REVISIONS TO LEVELS AS A PERCENT OF GDP

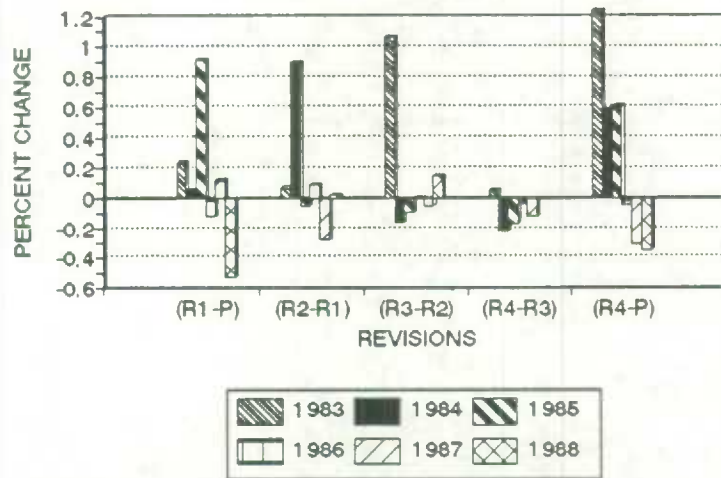


Table 3

TOTAL CURRENT EXPENDITURE
 RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP - PROVINCIAL

1970 - 1990	ANNUAL REVISION					REVISIONS				
PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)	
1970	14.09	14.09	14.42	14.67	14.67	0.00	0.33	0.25	0.00	0.58
1971	14.67	15.29	15.49	15.50	15.50	0.61	0.21	0.01	-0.01	0.82
1972	15.29	15.27	15.45	15.54	15.50	-0.02	0.18	0.09	-0.04	0.21
1973	14.57	14.77	14.81	14.98	14.98	0.20	0.05	0.17	0.00	0.41
1974	14.73	14.97	15.20	15.36	15.34	0.24	0.23	0.16	-0.02	0.62
1975	16.11	16.58	16.97	16.99	17.00	0.47	0.39	0.02	0.01	0.89
1976	16.65	16.76	16.94	17.03	17.03	0.10	0.18	0.10	0.00	0.38
1977	16.91	17.49	17.79	17.94	17.94	0.58	0.30	0.15	-0.00	1.03
1978	17.45	17.59	17.37	17.66	17.74	0.14	-0.22	0.29	0.08	0.29
1979	17.11	16.92	17.34	17.77	17.92	-0.18	0.41	0.43	0.16	0.82
1980	16.75	17.14	17.37	18.12	18.18	0.39	0.24	0.74	0.07	1.44
1981	16.56	16.80	17.98	18.45	18.45	0.23	1.18	0.48	0.00	1.89
1982	18.14	19.26	19.85	19.85	20.67	1.12	0.60	0.00	0.82	2.54
1983	19.86	20.10	20.17	21.24	21.30	0.24	0.07	1.07	0.06	1.44
1984	19.79	19.86	20.75	20.60	20.38	0.06	0.90	-0.16	-0.22	0.59
1985	19.88	20.79	20.74	20.65	20.49	0.92	-0.05	-0.09	-0.16	0.61
1986	20.85	20.73	20.83	20.83	20.81	-0.12	0.10	0.01	-0.03	-0.04
1987	20.43	20.56	20.28	20.23	20.12	0.13	-0.28	-0.05	-0.11	-0.31
1988	20.17	19.65	19.67	19.83		-0.52	0.02	0.15		-0.35
1989	19.67	19.52	19.71			-0.16	0.20			
1990	20.18	20.33				0.15				

Figure 4

TOTAL CURRENT EXPENDITURE ANNUAL GROWTH RATE REVISIONS

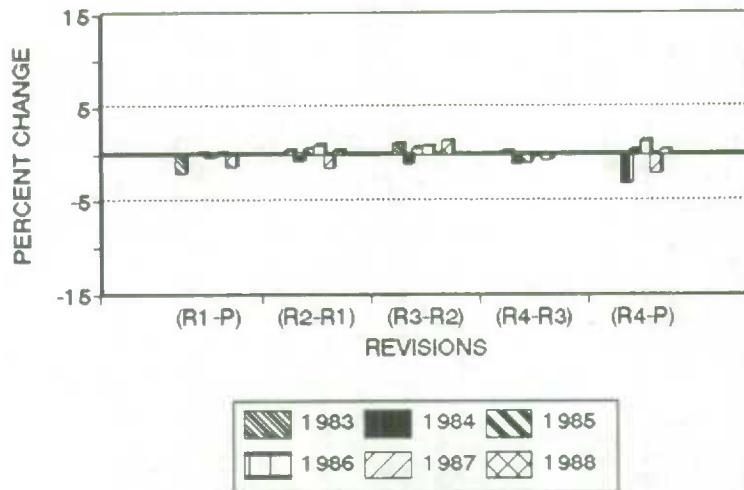


Table 4

TOTAL CURRENT EXPENDITURE

ANNUAL GROWTH RATES - PROVINCIAL

CURRENT DOLLAR, 1970 - 1990

	ANNUAL REVISION					REVISIONS				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	10.63	21.62	21.06	15.97	15.98	10.98	-0.55	-5.09	0.01	5.35
1971	13.75	15.76	15.27	15.36	15.30	2.00	-0.49	0.09	-0.06	1.55
1972	11.62	10.04	11.20	11.94	11.66	-1.58	1.16	0.74	-0.29	0.04
1973	11.77	12.05	11.70	13.29	13.32	0.28	-0.35	1.59	0.03	1.55
1974	19.18	20.88	21.32	22.63	22.50	1.69	0.45	1.30	-0.13	3.32
1975	21.18	22.89	24.40	24.73	24.80	1.71	1.50	0.33	0.07	3.62
1976	15.85	13.90	14.92	15.54	15.55	-1.95	1.02	0.62	0.01	-0.30
1977	11.10	13.72	14.96	15.94	15.92	2.61	1.24	0.98	-0.02	4.82
1978	10.64	9.70	7.37	9.17	9.69	-0.94	-2.33	1.81	0.52	-0.95
1979	11.13	11.39	12.18	14.44	15.46	0.25	0.80	2.25	1.02	4.33
1980	11.09	11.02	9.77	13.50	13.91	-0.07	-1.25	3.73	0.41	2.82
1981	11.05	11.12	13.99	16.60	16.60	0.07	2.87	2.61	0.00	5.55
1982	13.57	12.67	13.13	13.13	17.84	-0.90	0.46	0.00	4.71	4.28
1983	11.71	9.67	10.07	11.26	11.57	-2.03	0.39	1.19	0.31	-0.13
1984	7.96	7.91	7.10	5.99	4.87	-0.05	-0.82	-1.11	-1.11	-3.09
1985	7.58	7.67	8.26	8.92	8.05	0.09	0.58	0.66	-0.87	0.47
1986	6.08	5.71	6.70	7.59	7.44	-0.36	0.98	0.89	-0.15	1.36
1987	7.46	7.63	6.13	6.02	5.42	0.17	-1.50	-0.10	-0.60	-2.04
1988	7.70	6.36	6.73	8.17		-1.34	0.36	1.45		0.47
1989	7.39	6.42	6.67			-0.97	0.25			
1990	6.99	6.72				-0.28				

Figure 5

TOTAL REVENUE REVISIONS TO LEVELS AS A PERCENT OF GDP

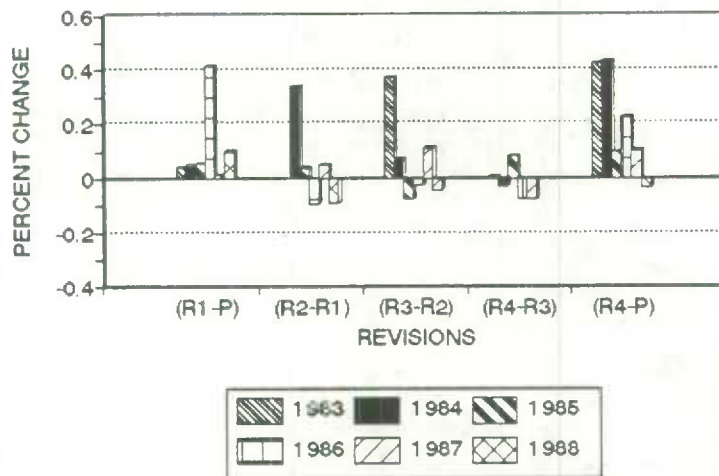


Table 5

TOTAL REVENUE

RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP - PROVINCIAL

1970 - 1990	ANNUAL REVISION					REVISIONS				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	14.75	14.75	15.01	15.14	15.14	0.00	0.26	0.13	0.00	0.40
1971	15.62	15.89	16.03	16.04	16.01	0.27	0.13	0.01	-0.03	0.39
1972	15.54	15.64	15.85	15.87	15.85	0.10	0.21	0.02	-0.02	0.31
1973	15.09	15.45	15.54	15.73	15.73	0.36	0.09	0.19	0.00	0.63
1974	15.93	16.17	16.43	16.58	16.63	0.23	0.26	0.15	0.05	0.69
1975	16.38	16.73	17.00	16.85	16.86	0.35	0.27	-0.15	0.01	0.48
1976	16.62	16.75	16.82	16.85	16.84	0.13	0.07	0.03	-0.02	0.22
1977	17.80	18.19	18.12	18.12	18.18	0.39	-0.07	0.00	0.06	0.38
1978	18.34	18.41	18.43	18.67	18.62	0.06	0.03	0.24	-0.04	0.28
1979	17.94	17.86	18.17	18.30	18.43	-0.08	0.31	0.13	0.12	0.49
1980	17.79	18.14	18.20	18.48	18.47	0.34	0.06	0.27	-0.00	0.68
1981	17.79	17.83	18.39	18.44	18.44	0.05	0.56	0.04	0.00	0.65
1982	18.72	19.23	19.46	19.46	19.76	0.51	0.23	0.00	0.29	1.04
1983	19.68	19.72	19.72	20.09	20.10	0.04	0.00	0.37	0.01	0.42
1984	19.86	19.90	20.24	20.32	20.29	0.05	0.34	0.07	-0.03	0.43
1985	20.03	20.08	20.12	20.04	20.13	0.05	0.04	-0.08	0.08	0.10
1986	19.41	19.82	19.73	19.70	19.63	0.41	-0.09	-0.02	-0.07	0.23
1987	19.72	19.74	19.79	19.90	19.83	0.01	0.05	0.11	-0.07	0.10
1988	20.14	20.24	20.15	20.11		0.10	-0.09	-0.04		-0.03
1989	19.85	19.76	19.87			-0.10	0.11			
1990	20.27	20.46				0.19				

Figure 6

TOTAL REVENUE ANNUAL GROWTH RATE REVISIONS

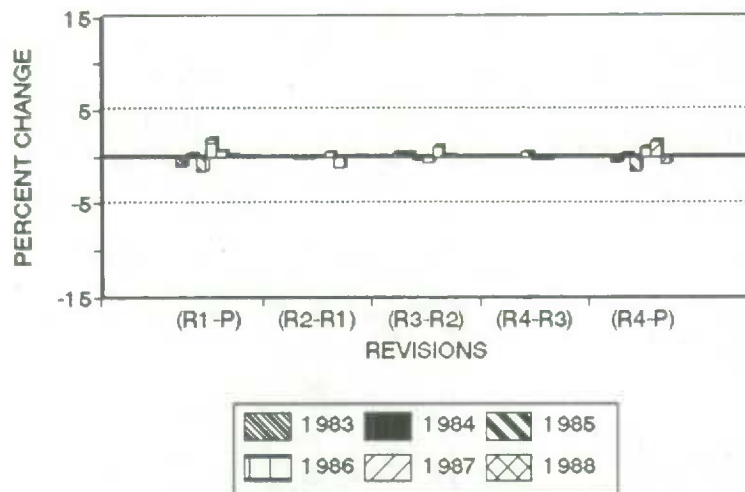


Table 6

TOTAL REVENUE ANNUAL GROWTH RATES - PROVINCIAL

	CURRENT DOLLAR, 1970 - 1990					ANNUAL REVISION				
	PRELIM.	FIRST	SECOND	THIRD	FOURTH	FIRST	SECOND	THIRD	FOURTH	TOTAL
	(P)	(R1)	(R2)	(R3)	(R4)	(R1-P)	(R2-R1)	(R3-R2)	(R4-R3)	(R4-P)
1970	15.66	15.66	15.17	16.21	16.24	0.00	-0.49	1.04	0.03	0.58
1971	15.57	15.53	15.50	15.55	15.35	-0.04	-0.03	0.05	-0.20	-0.22
1972	9.20	8.96	10.37	10.70	10.59	-0.23	1.41	0.33	-0.11	1.39
1973	13.16	14.30	14.79	16.36	16.36	1.14	0.49	1.57	0.01	3.21
1974	23.20	24.33	24.76	25.95	26.33	1.14	0.43	1.19	0.38	3.13
1975	14.16	14.77	15.48	14.17	14.23	0.61	0.72	-1.32	0.07	0.08
1976	14.66	13.78	15.26	15.44	15.30	-0.88	1.49	0.17	-0.14	0.64
1977	16.94	18.93	18.28	18.43	18.79	1.99	-0.66	0.15	0.36	1.85
1978	11.86	12.62	12.77	13.89	13.61	0.76	0.15	1.12	-0.28	1.75
1979	11.37	10.72	11.20	12.28	13.04	-0.65	0.48	1.09	0.76	1.67
1980	11.83	12.04	11.62	12.52	12.48	0.21	-0.42	0.90	-0.04	0.65
1981	12.72	12.60	14.45	14.74	14.74	-0.12	1.85	0.28	0.00	2.02
1982	10.40	9.96	11.03	11.03	12.70	-0.44	1.07	0.00	1.67	2.30
1983	10.85	9.78	9.78	10.17	10.21	-1.07	0.00	0.39	0.04	-0.64
1984	10.37	10.63	10.46	10.81	10.67	0.26	-0.17	0.36	-0.14	0.30
1985	8.15	6.62	6.43	6.16	6.60	-1.53	-0.19	-0.27	0.44	-1.54
1986	2.23	4.22	4.13	3.57	3.20	1.99	-0.08	-0.56	-0.38	0.96
1987	8.58	9.15	9.59	10.61	10.21	0.57	0.44	1.03	-0.41	1.63
1988	11.95	12.17	11.02	11.21		0.22	-1.15	0.19		-0.74
1989	5.24	5.20	6.01			-0.04	0.81			
1990	6.17	6.53				0.37				

Figure 7

SAVINGS

REVISIONS TO LEVELS AS A PERCENT OF GDP

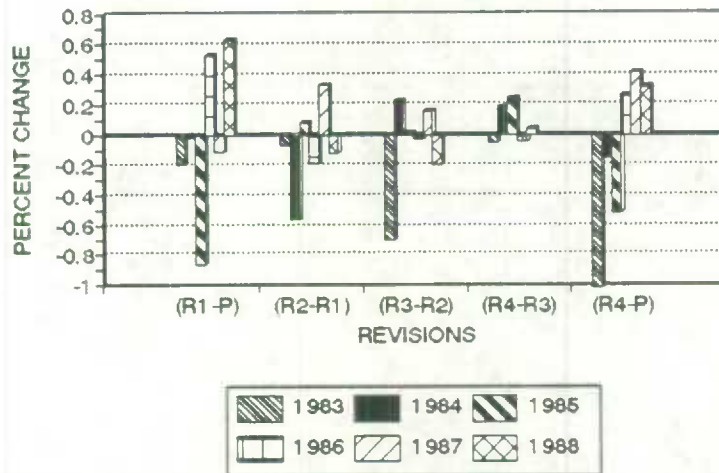


Table 7

SAVINGS (TOTAL REVENUE - TOTAL CURRENT EXPENDITURE)
RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP - PROVINCIAL

1970 - 1990	ANNUAL REVISION					REVISIONS				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	0.66	0.66	0.59	0.47	0.47	0.00	-0.07	-0.12	0.00	-0.19
1971	0.95	0.61	0.53	0.53	0.51	-0.34	-0.07	-0.00	-0.02	-0.44
1972	0.25	0.37	0.41	0.33	0.35	0.12	0.04	-0.08	0.02	0.10
1973	0.52	0.68	0.72	0.75	0.75	0.16	0.04	0.02	-0.00	0.22
1974	1.20	1.19	1.23	1.22	1.28	-0.01	0.03	-0.01	0.07	0.08
1975	0.27	0.15	0.03	-0.14	-0.13	-0.12	-0.12	-0.17	0.00	-0.41
1976	-0.04	-0.01	-0.11	-0.18	-0.20	0.03	-0.10	-0.06	-0.02	-0.16
1977	0.89	0.69	0.33	0.18	0.23	-0.20	-0.36	-0.15	0.06	-0.65
1978	0.90	0.81	1.06	1.01	0.88	-0.08	0.25	-0.05	-0.13	-0.01
1979	0.83	0.94	0.84	0.54	0.50	0.11	-0.10	-0.30	-0.04	-0.33
1980	1.05	1.00	0.83	0.36	0.29	-0.04	-0.17	-0.47	-0.07	-0.76
1981	1.23	1.04	0.42	-0.02	-0.02	-0.19	-0.62	-0.44	0.00	-1.24
1982	0.58	-0.02	-0.39	-0.39	-0.92	-0.60	-0.37	0.00	-0.53	-1.50
1983	-0.18	-0.38	-0.45	-1.15	-1.20	-0.20	-0.07	-0.70	-0.05	-1.02
1984	0.07	0.05	-0.51	-0.28	-0.09	-0.02	-0.56	0.23	0.19	-0.15
1985	0.15	-0.71	-0.62	-0.61	-0.36	-0.86	0.08	0.02	0.25	-0.51
1986	-1.44	-0.91	-1.10	-1.13	-1.17	0.53	-0.19	-0.03	-0.05	0.27
1987	-0.71	-0.82	-0.49	-0.33	-0.29	-0.11	0.33	0.16	0.04	0.41
1988	-0.03	0.59	0.48	0.28		0.62	-0.12	-0.19		0.32
1989	0.18	0.24	0.16			0.06	-0.09			
1990	0.09	0.13				0.03				

Figure 8

NET LENDING

REVISIONS TO LEVELS AS A PERCENT OF GDP

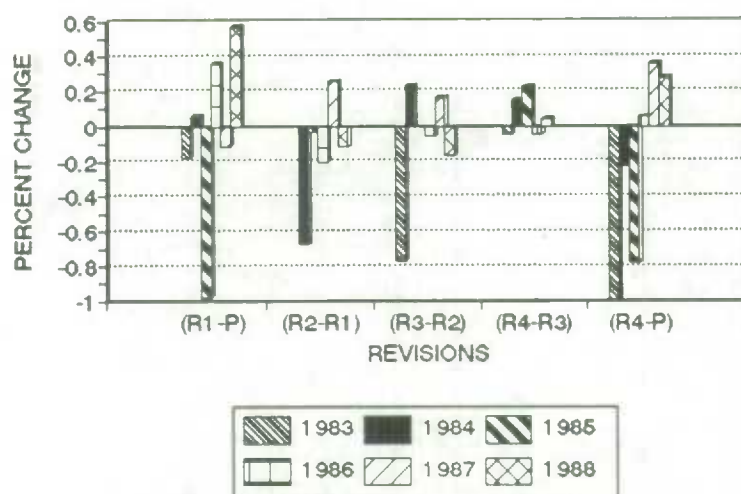


Table 8

NET LENDING (SAVING + CCA - INVESTMENT IN FIXED CAPITAL)

RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP - PROVINCIAL

	1970 - 1990					REVISIONS				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	-0.12	-0.12	-0.16	-0.26	-0.26	0.00	-0.04	-0.09	0.00	-0.13
1971	0.01	-0.29	-0.47	-0.47	-0.49	-0.30	-0.18	-0.00	-0.02	-0.50
1972	-0.63	-0.58	-0.56	-0.64	-0.64	0.05	0.02	-0.08	-0.00	-0.01
1973	-0.33	-0.14	-0.10	-0.09	-0.09	0.19	0.04	0.01	0.00	0.24
1974	0.29	0.28	0.33	0.38	0.44	-0.02	0.06	0.05	0.06	0.14
1975	-0.69	-0.86	-0.83	-1.02	-1.01	-0.17	0.03	-0.19	0.00	-0.32
1976	-0.87	-0.71	-0.68	-0.78	-0.80	0.16	0.03	-0.10	-0.02	0.07
1977	0.12	0.11	-0.24	-0.40	-0.35	-0.01	-0.35	-0.16	0.05	-0.47
1978	0.30	0.23	0.49	0.43	0.31	-0.06	0.25	-0.06	-0.12	0.01
1979	0.20	0.36	0.28	-0.01	-0.05	0.16	-0.08	-0.29	-0.04	-0.25
1980	0.52	0.52	0.34	-0.12	-0.20	-0.01	-0.18	-0.46	-0.07	-0.72
1981	0.76	0.56	-0.06	-0.49	-0.49	-0.20	-0.62	-0.43	0.00	-1.25
1982	0.09	-0.52	-0.89	-0.89	-1.45	-0.61	-0.37	0.00	-0.56	-1.54
1983	-0.55	-0.73	-0.73	-1.49	-1.54	-0.18	-0.00	-0.77	-0.05	-0.99
1984	-0.18	-0.12	-0.79	-0.56	-0.40	0.06	-0.67	0.23	0.15	-0.22
1985	-0.06	-1.03	-1.07	-1.07	-0.84	-0.98	-0.03	-0.00	0.23	-0.78
1986	-1.63	-1.27	-1.48	-1.53	-1.58	0.36	-0.20	-0.05	-0.05	0.06
1987	-0.98	-1.09	-0.84	-0.67	-0.62	-0.11	0.26	0.17	0.04	0.36
1988	-0.26	0.30	0.18	0.01		0.56	-0.12	-0.17		0.27
1989	-0.17	-0.12	-0.18			0.06	-0.06			
1990	-0.29	-0.24				0.05				

Appendix 9

Figure 9

DIRECT TAXES FROM CORPORATE AND GBE'S
REVISIONS TO LEVELS AS A PERCENT OF GDP

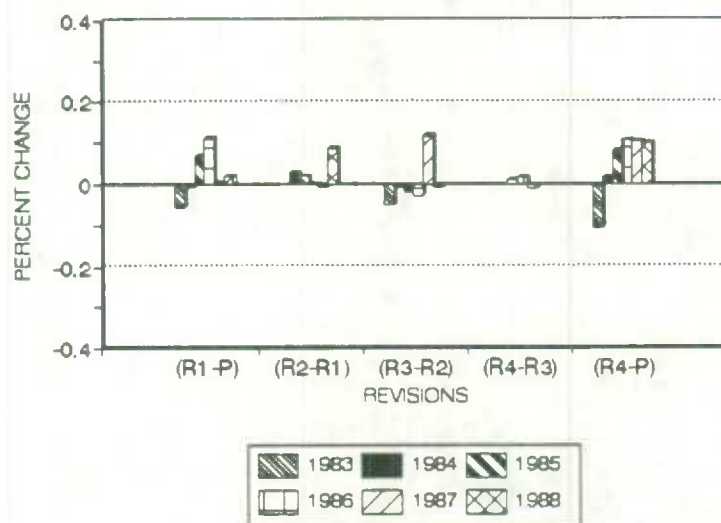


Table 9

DIRECT TAXES FROM CORPORATE AND GOVERNMENT BUSINESS ENTERPRISES
RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP - PROVINCIAL

1970 - 1990	ANNUAL REVISION					REVISIONS				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	0.80	0.80	0.90	0.89	0.89	0.00	0.10	-0.01	0.00	0.09
1971	0.84	0.94	0.93	0.89	0.89	0.10	-0.01	-0.04	0.01	0.05
1972	0.93	0.95	0.93	0.95	0.94	0.01	-0.02	0.02	-0.02	0.00
1973	1.06	0.98	1.01	1.13	1.13	-0.08	0.03	0.11	-0.00	0.07
1974	1.16	1.22	1.29	1.29	1.34	0.06	0.08	-0.01	0.05	0.18
1975	1.09	1.23	1.33	1.23	1.23	0.13	0.10	-0.10	-0.00	0.14
1976	1.06	1.09	1.09	1.07	1.05	0.03	-0.00	-0.02	-0.02	-0.01
1977	1.05	1.01	0.98	0.95	0.96	-0.04	-0.03	-0.03	0.02	-0.09
1978	1.02	0.96	1.07	1.01	1.02	-0.06	0.11	-0.06	0.00	-0.00
1979	1.10	1.16	1.14	1.14	1.15	0.05	-0.02	0.01	0.01	0.05
1980	1.14	1.16	1.21	1.19	1.19	0.03	0.05	-0.02	-0.00	0.05
1981	0.96	0.92	0.99	0.96	0.96	-0.04	0.07	-0.03	0.00	0.00
1982	0.62	0.61	0.70	0.70	0.68	-0.01	0.09	0.00	-0.02	0.06
1983	0.79	0.74	0.74	0.69	0.69	-0.05	0.00	-0.05	-0.00	-0.11
1984	0.81	0.80	0.83	0.83	0.82	-0.01	0.03	-0.01	-0.00	0.02
1985	0.75	0.82	0.84	0.82	0.83	0.07	0.02	-0.02	0.01	0.08
1986	0.74	0.85	0.85	0.83	0.84	0.11	0.00	-0.03	0.02	0.11
1987	0.83	0.83	0.82	0.94	0.93	0.00	-0.01	0.12	-0.01	0.10
1988	0.83	0.85	0.94	0.93		0.02	0.09	-0.01		0.10
1989	0.71	0.83	0.86			0.12	0.03			
1990	0.70	0.80				0.11				

Figure 10

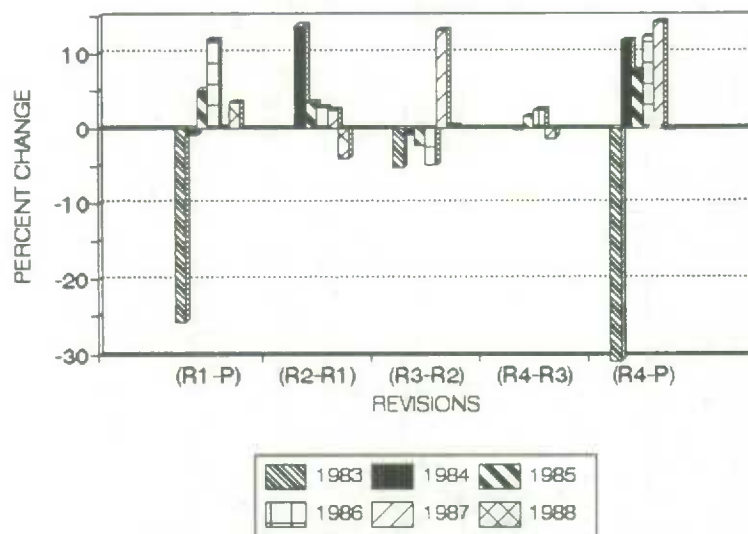
DIRECT TAXES FROM CORPORATE AND GBE'S
ANNUAL GROWTH RATE REVISIONS

Table 10

DIRECT TAXES FROM CORPORATE AND GOVERNMENT BUSINESS ENTERPRISES
ANNUAL GROWTH RATES - PROVINCIAL

	CURRENT DOLLAR, 1970 - 1990					ANNUAL REVISION				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	-8.25	-8.25	-2.56	-3.30	-3.05	0.00	5.68	-0.73	0.24	5.19
1971	14.75	14.91	14.39	8.94	9.57	0.17	-0.52	-5.45	0.63	-5.18
1972	10.36	13.25	16.65	19.08	17.13	2.89	3.40	2.43	-1.95	6.77
1973	31.58	23.69	24.71	41.02	40.92	-7.89	1.02	16.31	-0.10	9.34
1974	41.43	43.19	36.88	36.28	41.99	1.76	-6.31	-0.60	5.71	0.57
1975	1.46	7.17	16.86	3.73	3.68	5.71	9.69	-13.14	-0.05	2.22
1976	-0.62	-5.95	1.65	-0.24	-2.22	-5.33	7.60	-1.89	-1.99	-1.61
1977	6.37	2.19	0.66	-0.29	1.55	-4.18	-1.52	-0.95	1.84	-4.82
1978	12.02	9.61	25.67	16.96	17.25	-2.41	16.06	-8.71	0.29	5.23
1979	31.16	23.75	27.90	28.48	29.18	-7.41	4.16	0.58	0.69	-1.98
1980	10.08	14.84	18.82	15.85	15.48	4.76	3.98	-2.96	-0.38	5.40
1981	-5.35	-13.04	-4.70	-6.97	-6.97	-7.69	8.35	-2.28	0.00	-1.62
1982	-29.11	-34.84	-23.69	-23.69	-25.53	-5.73	11.15	0.00	-1.84	3.57
1983	40.40	14.70	14.70	9.48	9.48	-25.71	0.00	-5.22	0.00	-30.93
1984	20.01	19.07	32.69	31.79	31.65	-0.94	13.62	-0.90	-0.14	11.64
1985	0.93	6.01	9.38	7.01	8.51	5.08	3.37	-2.36	1.50	7.59
1986	-4.70	7.13	9.87	5.03	7.39	11.83	2.74	-4.84	2.36	12.09
1987	5.91	5.99	8.43	21.38	20.02	0.08	2.44	12.95	-1.36	14.11
1988	9.59	13.09	9.09	9.34		3.50	-4.01	0.26		-0.25
1989	-10.39	-4.58	-0.68			5.81	3.90			
1990	-13.12	-2.91				10.21				

Figure 11

SUBSIDIES

REVISIONS TO LEVELS AS A PERCENT OF GDP

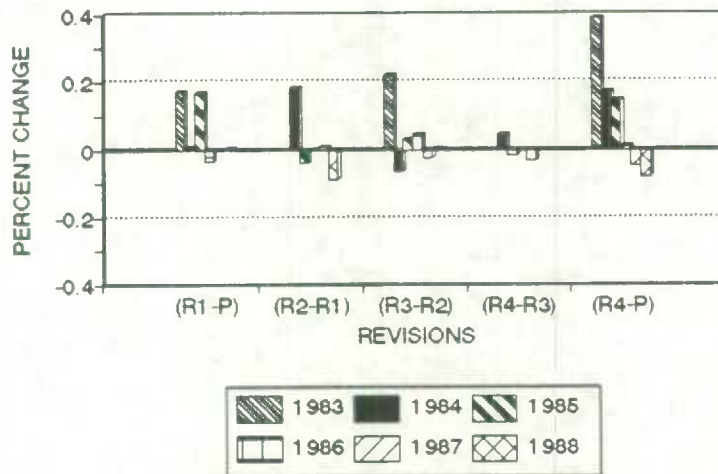


Table 11

TRANSFER PAYMENTS TO BUSINESS - SUBSIDIES
 RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP - PROVINCIAL

1970 - 1990	ANNUAL REVISION					REVISIONS				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	0.15	0.15	0.18	0.19	0.19	0.00	0.03	0.01	-0.00	0.04
1971	0.17	0.20	0.25	0.27	0.27	0.03	0.05	0.02	0.00	0.10
1972	0.23	0.23	0.26	0.26	0.27	0.01	0.02	0.01	0.00	0.04
1973	0.24	0.28	0.28	0.27	0.27	0.04	0.01	-0.01	0.00	0.03
1974	0.37	0.37	0.36	0.37	0.37	-0.00	-0.01	0.01	-0.00	-0.00
1975	0.43	0.40	0.39	0.39	0.39	-0.03	-0.01	0.00	0.00	-0.04
1976	0.40	0.40	0.44	0.48	0.48	-0.00	0.04	0.04	-0.00	0.07
1977	0.39	0.38	0.43	0.50	0.50	-0.01	0.05	0.07	-0.00	0.11
1978	0.35	0.41	0.42	0.48	0.51	0.06	0.01	0.06	0.03	0.16
1979	0.38	0.41	0.50	0.57	0.57	0.04	0.09	0.07	-0.00	0.20
1980	0.40	0.47	0.51	0.59	0.59	0.07	0.04	0.08	-0.00	0.19
1981	0.44	0.50	0.57	0.62	0.62	0.06	0.07	0.05	0.00	0.18
1982	0.52	0.58	0.69	0.69	0.80	0.05	0.11	0.00	0.11	0.28
1983	0.55	0.73	0.73	0.94	0.94	0.17	0.00	0.22	-0.00	0.39
1984	0.77	0.78	0.96	0.90	0.94	0.01	0.18	-0.06	0.04	0.17
1985	0.82	0.98	0.95	0.98	0.96	0.17	-0.04	0.03	-0.02	0.15
1986	0.98	0.94	0.94	0.99	0.99	-0.03	-0.00	0.05	-0.00	0.01
1987	0.87	0.87	0.88	0.85	0.82	-0.00	0.01	-0.02	-0.03	-0.05
1988	0.85	0.86	0.77	0.78		0.00	-0.09	0.00		-0.08
1989	0.89	0.77	0.82			-0.11	0.05			
1990	0.82	0.88				0.05				

Figure 12

SUBSIDIES

ANNUAL GROWTH RATE REVISIONS

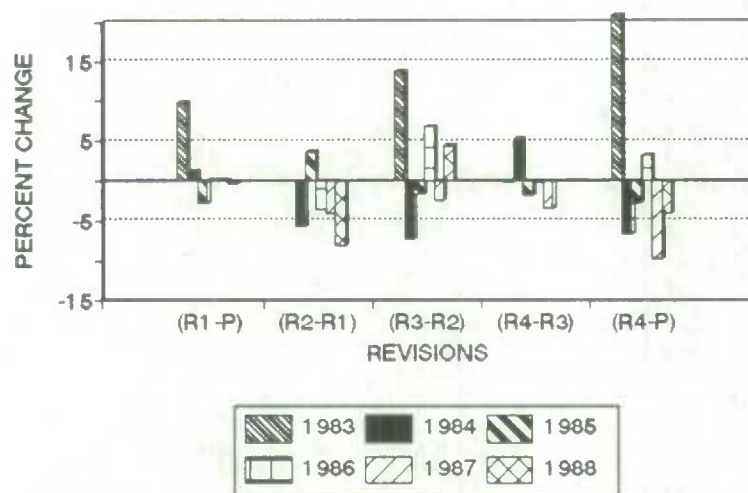


Table 12

TRANSFER PAYMENTS TO BUSINESS - SUBSIDIES

ANNUAL GROWTH RATES - PROVINCIAL

	CURRENT DOLLAR, 1970 - 1990					ANNUAL REVISION				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	13.91	13.91	6.85	14.38	14.38	0.00	-7.06	7.53	0.00	0.47
1971	25.19	22.44	43.11	55.09	55.09	-2.75	20.68	11.98	0.00	29.90
1972	28.80	5.86	7.34	11.20	11.20	-22.94	1.48	3.86	0.00	-17.60
1973	22.13	28.06	26.04	21.53	21.53	5.92	-2.02	-4.51	0.00	-0.61
1974	57.87	53.17	56.29	59.71	59.71	-4.70	3.12	3.43	0.00	1.85
1975	31.83	24.13	19.86	20.57	20.75	-7.70	-4.27	0.72	0.18	-11.08
1976	18.11	18.66	29.08	40.15	40.15	0.54	10.42	11.07	0.00	22.03
1977	7.17	-4.14	-0.63	16.17	16.07	-11.31	3.50	16.81	-0.11	8.90
1978	1.32	4.47	-7.92	5.56	11.66	3.15	-12.38	13.47	6.10	10.34
1979	5.60	13.24	20.10	28.87	28.87	7.64	6.86	8.77	0.00	23.27
1980	9.25	4.67	0.00	15.76	15.76	-4.58	-4.67	15.76	0.00	6.51
1981	7.76	12.53	10.28	20.78	20.78	4.78	-2.25	10.50	0.00	13.02
1982	9.73	6.84	16.93	16.93	35.45	-2.89	10.09	0.00	18.52	25.72
1983	4.13	13.98	13.98	27.77	27.57	9.85	0.00	13.80	-0.20	23.44
1984	16.30	17.53	11.80	4.40	9.61	1.22	-5.73	-7.40	5.21	-6.69
1985	12.95	10.08	13.73	12.02	10.18	-2.86	3.64	-1.70	-1.84	-2.77
1986	4.80	4.96	1.43	8.31	8.03	0.16	-3.54	6.88	-0.28	3.22
1987	0.57	0.63	-3.46	-5.88	-9.28	0.06	-4.10	-2.42	-3.39	-9.84
1988	8.03	7.72	-0.43	3.96		-0.31	-8.14	4.39		-4.06
1989	10.86	7.33	13.20			-3.53	5.87			
1990	10.48	10.55				0.07				

Figure 13

CAPITAL ASSISTANCE REVISIONS TO LEVELS AS A PERCENT OF GDP

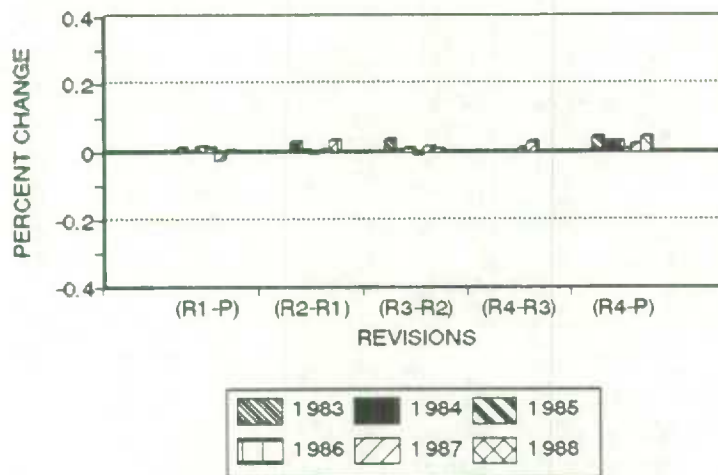


Table 13

TRANSFER PAYMENTS TO BUSINESS: CAPITAL ASSISTANCE
 RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP - PROVINCIAL

1970 - 1990	ANNUAL REVISION					REVISIONS				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00
1971	0.03	0.03	0.04	0.06	0.06	0.00	0.01	0.01	0.00	0.03
1972	0.05	0.06	0.06	0.06	0.06	0.00	0.00	0.00	0.00	0.01
1973	0.05	0.06	0.05	0.08	0.08	0.01	-0.00	0.02	0.00	0.03
1974	0.05	0.06	0.07	0.09	0.09	0.01	0.01	0.02	0.00	0.04
1975	0.10	0.11	0.11	0.11	0.11	0.01	0.00	0.00	0.00	0.02
1976	0.11	0.09	0.10	0.10	0.10	-0.02	0.00	0.00	0.00	-0.01
1977	0.09	0.08	0.08	0.08	0.08	-0.01	0.00	-0.01	0.00	-0.01
1978	0.08	0.08	0.08	0.06	0.06	-0.00	-0.01	-0.01	0.00	-0.02
1979	0.08	0.09	0.08	0.08	0.08	0.01	-0.01	0.00	0.00	-0.01
1980	0.08	0.08	0.08	0.10	0.10	-0.01	0.00	0.02	0.00	0.01
1981	0.07	0.07	0.08	0.08	0.08	0.00	0.00	0.01	0.00	0.01
1982	0.08	0.11	0.13	0.13	0.16	0.03	0.02	0.00	0.03	0.08
1983	0.22	0.23	0.23	0.26	0.26	0.01	0.00	0.04	-0.00	0.04
1984	0.14	0.14	0.17	0.17	0.17	0.00	0.03	0.00	-0.00	0.03
1985	0.15	0.17	0.17	0.18	0.18	0.02	0.00	0.01	-0.00	0.03
1986	0.22	0.23	0.23	0.22	0.23	0.01	-0.01	-0.01	0.01	0.01
1987	0.14	0.12	0.12	0.14	0.17	-0.02	0.00	0.02	0.03	0.02
1988	0.10	0.10	0.14	0.15		0.00	0.04	0.01		0.05
1989	0.10	0.12	0.13			0.01	0.01			
1990	0.11	0.12				0.01				

Figure 14

CAPITAL ASSISTANCE ANNUAL GROWTH RATE REVISIONS

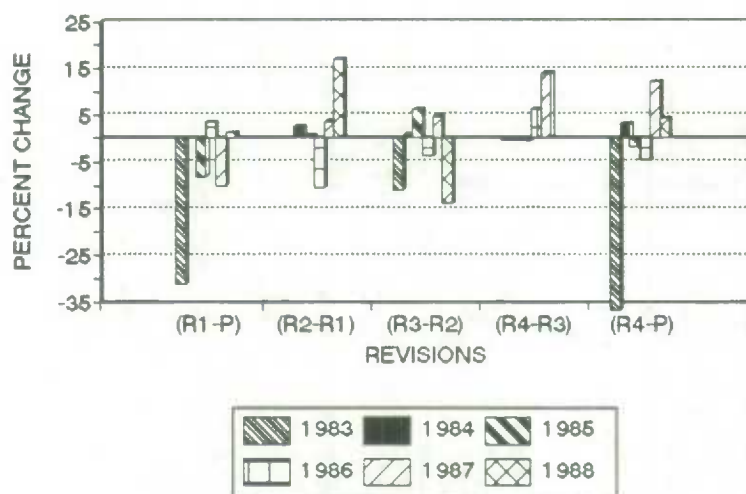


Table 14

TRANSFER PAYMENTS TO BUSINESS: CAPITAL ASSISTANCE ANNUAL GROWTH RATES - PROVINCIAL

	CURRENT DOLLAR, 1970 - 1990				ANNUAL REVISION		REVISIONS			TOTAL (R4-P)
	PRELIM.	FIRST	SECOND	THIRD	FOURTH	FIRST	SECOND	THIRD	FOURTH	
	(P)	(R1)	(R2)	(R3)	(R4)	(R1-P)	(R2-R1)	(R3-R2)	(R4-R3)	
1970	26.32	26.32	13.64	18.18	18.18	0.00	-12.68	4.55	0.00	-8.13
1971	8.33	16.00	69.23	107.69	107.69	7.67	53.23	38.46	0.00	99.36
1972	89.66	34.09	11.11	18.52	18.52	-55.56	-22.98	7.41	0.00	-71.14
1973	3.39	16.67	6.25	54.69	54.69	13.28	-10.42	48.44	0.00	51.30
1974	10.00	30.88	1.01	34.34	34.34	20.88	-29.87	33.33	0.00	24.34
1975	87.64	91.00	45.86	48.87	48.87	3.36	-45.14	3.01	0.00	-38.77
1976	17.28	-4.64	-2.02	-0.51	-0.51	-21.92	2.62	1.52	0.00	-17.78
1977	1.08	-9.79	-9.64	-16.24	-16.24	-10.87	0.15	-6.60	0.00	-17.32
1978	16.57	9.55	10.30	-6.67	-6.67	-7.02	0.75	-16.97	0.00	-23.24
1979	18.97	35.71	38.31	38.31	42.86	16.74	2.60	0.00	4.55	23.88
1980	6.48	11.74	11.74	35.91	35.91	5.26	0.00	24.17	0.00	29.43
1981	7.98	7.98	-8.70	0.33	0.33	0.00	-16.68	9.03	0.00	-7.65
1982	16.73	50.92	68.00	68.00	106.67	34.18	17.08	0.00	38.67	89.94
1983	113.59	82.54	82.54	71.61	71.13	-31.05	0.00	-10.93	-0.48	-42.46
1984	-31.52	-31.52	-28.95	-27.99	-28.37	0.00	2.57	0.95	-0.38	3.15
1985	12.70	4.50	5.24	11.58	11.05	-8.20	0.74	6.34	-0.53	-1.65
1986	42.03	45.40	34.91	31.04	37.44	3.37	-10.49	-3.86	6.40	-4.58
1987	-33.28	-43.27	-39.69	-34.91	-21.03	-9.99	3.58	4.78	13.88	12.24
1988	-6.78	-5.55	11.39	-2.40		1.23	16.94	-13.79		4.38
1989	7.46	-10.70	-8.61			-18.16	2.09			
1990	-4.13	-1.22				2.90				

Figure 15

CURRENT EXPENDITURE ON GOODS & SERVICES
REVISIONS TO LEVELS AS A PERCENT OF GDP

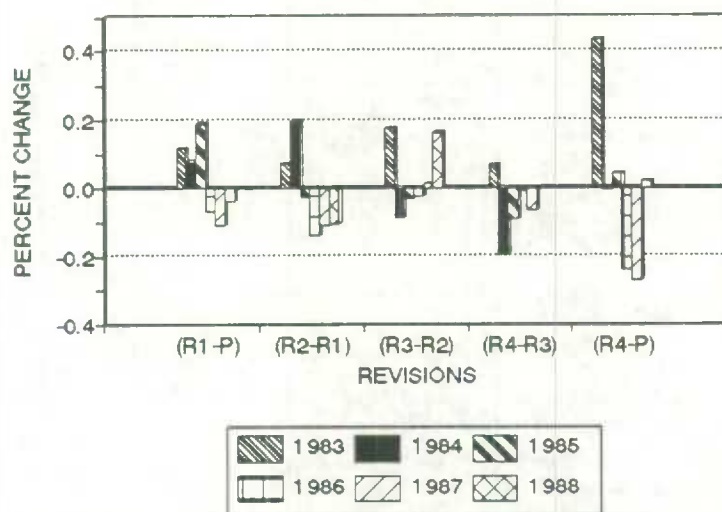


Table 15

CURRENT EXPENDITURE ON GOODS AND SERVICES
RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP - PROVINCIAL

1970 - 1990	ANNUAL REVISION					REVISIONS				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	4.20	4.20	4.42	4.61	4.61	0.00	0.22	0.19	0.00	0.41
1971	4.55	4.71	4.88	4.84	4.84	0.16	0.18	-0.04	-0.01	0.29
1972	4.79	4.82	4.90	4.92	4.88	0.03	0.08	0.01	-0.04	0.09
1973	4.72	4.71	4.72	4.80	4.80	-0.01	0.01	0.08	0.00	0.08
1974	4.78	4.89	4.98	4.97	4.95	0.11	0.09	-0.01	-0.02	0.17
1975	5.16	5.39	5.70	5.61	5.62	0.24	0.30	-0.09	0.01	0.46
1976	5.34	5.41	5.53	5.46	5.46	0.07	0.12	-0.07	0.00	0.11
1977	5.19	5.53	5.61	5.70	5.70	0.34	0.08	0.09	-0.00	0.50
1978	5.51	5.70	5.65	5.74	5.79	0.19	-0.05	0.09	0.05	0.28
1979	5.34	5.29	5.49	5.70	5.81	-0.06	0.21	0.21	0.11	0.47
1980	5.36	5.46	5.70	6.08	6.08	0.10	0.23	0.39	-0.00	0.72
1981	5.27	5.35	5.92	6.16	6.16	0.08	0.57	0.24	0.00	0.89
1982	5.65	6.28	6.43	6.43	6.58	0.63	0.16	0.00	0.15	0.93
1983	6.38	6.50	6.57	6.75	6.82	0.12	0.07	0.18	0.07	0.44
1984	6.32	6.40	6.60	6.51	6.32	0.08	0.20	-0.08	-0.19	-0.00
1985	6.25	6.44	6.41	6.38	6.29	0.19	-0.03	-0.03	-0.09	0.04
1986	6.58	6.52	6.38	6.36	6.35	-0.07	-0.14	-0.02	-0.01	-0.24
1987	6.44	6.33	6.22	6.24	6.17	-0.11	-0.11	0.01	-0.07	-0.27
1988	6.17	6.12	6.02	6.18		-0.04	-0.10	0.16		0.02
1989	6.06	6.00	6.06			-0.06	0.06			
1990	6.30	6.24				-0.06				

A bar chart titled 'PERCENT CHANGE' on the Y-axis and 'REVISIONS' on the X-axis. The Y-axis has major tick marks at -15.0, -5.0, 5.0, and 15.0. The X-axis has five categories: (R1-P), (R2-R1), (R3-R2), (R4-R3), and (R4-P). Each category contains multiple bars with different patterns (solid black, white, diagonal lines, and cross-hatch). The bars represent the percentage change for each revision. For (R1-P), changes are mostly between -2.5% and 2.5%. For (R2-R1), changes range from -2.5% to 2.5%. For (R3-R2), changes range from -2.5% to 5.0%. For (R4-R3), changes range from -4.0% to 2.5%. For (R4-P), changes range from -5.0% to 4.0%.

Revision	Percent Change (Approximate)
(R1-P)	-1.5, -1.0, -0.5, 0.5, 1.0, 1.5, 2.0, 2.5
(R2-R1)	-2.5, -1.5, -1.0, 0.0, 0.5, 1.0, 1.5, 2.0, 2.5
(R3-R2)	-2.5, -1.5, -1.0, 0.0, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0
(R4-R3)	-4.0, -3.5, -3.0, -2.5, -2.0, -1.5, -1.0, -0.5, 0.0, 0.5, 1.0, 1.5, 2.0, 2.5
(R4-P)	-5.0, -4.5, -4.0, -3.5, -3.0, -2.5, -2.0, -1.5, -1.0, -0.5, 0.0, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0

	CURRENT DOLLAR, 1970 - 1990					ANNUAL REVISION		REVISIONS			
	PRELIM.	FIRST	SECOND	THIRD	FOURTH	FIRST	SECOND	THIRD	FOURTH	TOTAL	
	(P)	(R1)	(R2)	(R3)	(R4)	(R1-P)	(R2-R1)	(R3-R2)	(R4-R3)	(R4-P)	
1970	33.44	36.95	33.67	38.92	38.96	3.51	-3.28	5.25	0.03	5.52	
1971	18.07	16.25	15.63	14.77	14.58	-1.82	-0.62	-0.86	-0.19	-3.49	
1972	13.61	10.19	12.89	13.42	12.51	-3.42	2.70	0.53	-0.91	-1.10	
1973	14.77	12.75	12.51	15.29	15.39	-2.02	-0.24	2.78	0.09	0.62	
1974	21.06	23.92	24.15	23.74	23.35	2.86	0.23	-0.41	-0.39	2.29	
1975	18.76	21.92	29.16	27.51	27.79	3.16	7.23	-1.64	0.28	9.02	
1976	14.44	9.58	13.80	12.04	12.06	-4.86	4.22	-1.76	0.02	-2.38	
1977	5.64	10.15	13.24	14.97	14.95	4.50	3.09	1.73	-0.02	9.31	
1978	10.41	12.66	9.89	11.74	12.73	2.25	-2.76	1.85	0.99	2.33	
1979	7.04	6.95	9.34	12.52	14.65	-0.09	2.39	3.18	2.14	7.62	
1980	13.90	11.69	12.11	17.60	17.50	-2.21	0.41	5.49	-0.10	3.60	
1981	10.79	7.89	11.75	16.51	16.51	-2.91	3.87	4.75	0.00	5.71	
1982	11.11	11.50	9.71	9.71	12.25	0.39	-1.79	0.00	2.54	1.14	
1983	10.13	9.41	10.62	11.02	12.18	-0.72	1.21	0.40	1.17	2.05	
1984	6.73	6.84	7.25	4.77	1.65	0.11	0.41	-2.48	-3.12	-5.08	
1985	4.92	4.86	5.77	8.56	7.00	-0.07	0.91	2.79	-1.56	2.07	
1986	8.17	7.54	5.74	6.87	6.71	-0.63	-1.80	1.13	-0.16	-1.47	
1987	7.74	8.20	6.74	7.17	6.01	0.45	-1.46	0.43	-1.15	-1.73	
1988	6.87	8.07	5.96	9.99		1.20	-2.11	4.03		3.12	
1989	6.12	6.85	5.09			0.73	-1.76				
1990	8.63	6.60				-2.03					

Figure 17

TAX COLLECTIONS FROM CORPORATE AND GBE
REVISIONS TO LEVELS AS A PERCENT OF GDP

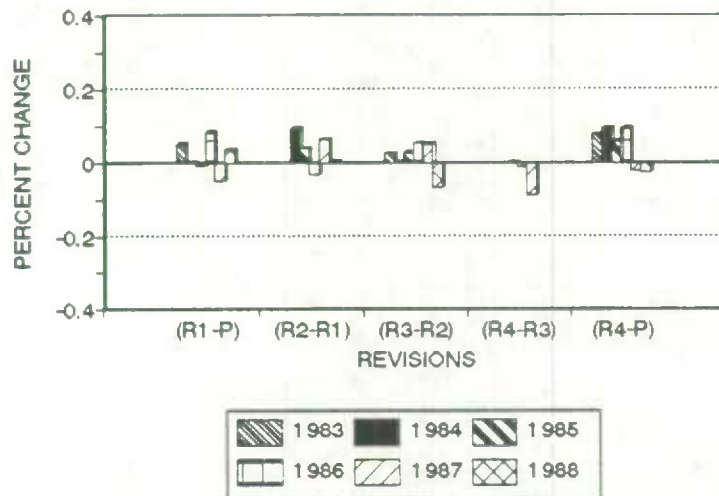


Figure 17

TAX COLLECTIONS FROM CORPORATE AND GOVERNMENT BUSINESS ENTERPRISES
RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP - PROVINCIAL

	ANNUAL REVISION					REVISIONS				
	1970 - 1990 PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	0.97	0.97	0.97	0.97	0.97	0.00	0.00	0.00	-0.00	0.01
1971	0.90	0.89	0.88	0.87	0.87	-0.01	-0.01	-0.01	0.00	-0.03
1972	0.96	0.96	0.95	0.95	0.95	-0.01	-0.01	0.00	-0.00	-0.01
1973	0.97	1.00	1.00	0.99	0.99	0.03	-0.00	-0.01	-0.00	0.02
1974	1.01	1.06	1.04	1.05	1.05	0.05	-0.02	0.00	-0.00	0.03
1975	1.32	1.34	1.33	1.36	1.36	0.02	-0.00	0.03	0.00	0.04
1976	1.24	1.20	1.21	1.19	1.19	-0.05	0.01	-0.01	-0.00	-0.05
1977	0.89	0.90	0.88	0.84	0.82	0.01	-0.01	-0.04	-0.02	-0.07
1978	1.05	1.02	1.00	0.96	0.96	-0.03	-0.02	-0.04	-0.00	-0.09
1979	0.97	0.96	0.90	0.98	0.98	-0.02	-0.06	0.07	0.00	0.00
1980	0.99	0.99	1.06	1.06	1.06	-0.00	0.07	-0.00	0.00	0.07
1981	1.06	1.11	1.17	1.18	1.18	0.05	0.07	0.01	0.00	0.13
1982	0.89	0.88	0.92	0.92	0.83	-0.01	0.04	0.00	-0.08	-0.06
1983	0.65	0.70	0.70	0.72	0.72	0.05	0.00	0.03	-0.00	0.08
1984	0.67	0.67	0.76	0.76	0.76	0.00	0.09	0.00	-0.00	0.09
1985	0.72	0.71	0.75	0.78	0.78	-0.01	0.04	0.03	0.00	0.06
1986	0.69	0.78	0.74	0.80	0.79	0.08	-0.03	0.05	-0.01	0.09
1987	0.80	0.75	0.81	0.86	0.77	-0.05	0.06	0.05	-0.09	-0.02
1988	0.87	0.91	0.92	0.85		0.04	0.00	-0.07		-0.02
1989	0.98	1.07	0.97			0.09	-0.10			
1990	0.96	0.94				-0.02				

Figure 18

TAX COLLECTIONS FROM CORPORATE AND GBE ANNUAL GROWTH RATE REVISIONS

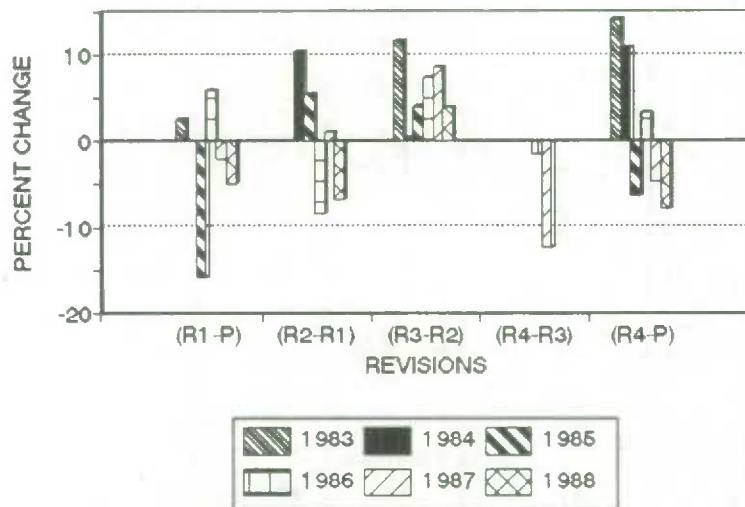


Figure 18

TAX COLLECTIONS FROM CORPORATE AND GOVERNMENT BUSINESS ENTERPRISES ANNUAL GROWTH RATES - PROVINCIAL

	CURRENT DOLLAR, 1970 - 1990					ANNUAL REVISION				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	-4.66	-4.66	-5.57	-5.36	-5.36	0.00	-0.92	0.22	0.00	-0.70
1971	1.86	0.46	-1.50	-2.19	-2.19	-1.40	-1.96	-0.69	0.00	-4.05
1972	20.28	21.81	21.61	21.61	21.61	1.53	-0.20	0.00	0.00	1.33
1973	18.96	23.20	23.11	22.33	22.33	4.24	-0.10	-0.78	0.00	3.37
1974	21.75	27.13	26.11	26.59	26.59	5.38	-1.02	0.48	0.00	4.84
1975	39.83	43.55	42.76	45.58	45.64	3.72	-0.79	2.82	0.06	5.82
1976	7.32	3.43	2.41	1.12	1.12	-3.90	-1.01	-1.29	0.00	-6.20
1977	-17.66	-17.79	-17.84	-21.58	-23.80	-0.12	-0.05	-3.75	-2.21	-6.13
1978	29.26	27.46	31.43	29.66	29.66	-1.80	3.97	-1.77	0.00	0.41
1979	9.02	8.88	7.28	16.33	16.46	-0.14	-1.60	9.05	0.13	7.43
1980	16.43	23.01	21.37	21.46	21.46	6.59	-1.64	0.09	0.00	5.03
1981	22.82	20.29	27.08	28.21	28.21	-2.53	6.79	1.13	0.00	5.39
1982	-15.55	-21.43	-18.58	-18.58	-25.97	-5.88	2.85	0.00	-7.39	-10.42
1983	-19.92	-17.39	-17.39	-5.78	-5.78	2.53	0.00	11.61	0.00	14.14
1984	4.49	4.49	14.95	15.33	15.33	0.00	10.47	0.37	0.00	10.84
1985	16.84	1.04	6.53	10.51	10.51	-15.80	5.49	3.99	0.00	-6.32
1986	3.05	8.90	0.45	7.83	6.36	5.85	-8.45	7.38	-1.47	3.31
1987	12.19	10.11	11.18	19.82	7.51	-2.09	1.07	8.65	-12.31	-4.68
1988	28.20	23.29	16.48	20.33		-4.90	-6.81	3.85		-7.86
1989	14.84	24.52	22.20			9.67	-2.32			
1990	-6.49	0.78				7.27				

Figure 19

TRANSFER PAYMENTS TO PERSONS REVISIONS TO LEVELS AS A PERCENT OF GDP

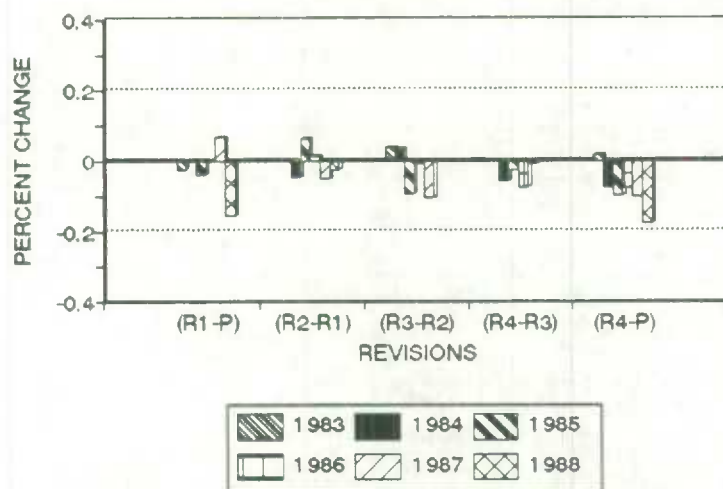


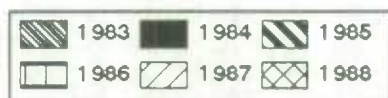
Figure 19

TRANSFER PAYMENTS TO PERSONS

RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP - PROVINCIAL

1970 - 1990	ANNUAL REVISION					REVISIONS				TOTAL
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	
1970	2.84	2.84	2.98	2.93	2.93	0.00	0.14	-0.05	-0.00	0.09
1971	2.86	3.27	3.24	3.23	3.23	0.41	-0.03	-0.01	-0.00	0.37
1972	3.07	2.95	2.97	2.98	2.98	-0.11	0.02	0.01	-0.00	-0.09
1973	2.74	2.80	2.82	2.81	2.81	0.06	0.01	-0.01	-0.00	0.07
1974	2.75	2.79	2.87	2.93	2.93	0.04	0.08	0.06	-0.00	0.18
1975	3.03	3.11	3.19	3.19	3.19	0.07	0.08	0.01	0.00	0.16
1976	3.36	3.38	3.40	3.36	3.36	0.03	0.02	-0.04	-0.00	-0.00
1977	3.52	3.57	3.56	3.43	3.45	0.05	-0.01	-0.13	0.02	-0.07
1978	3.63	3.57	3.40	3.48	3.46	-0.06	-0.17	0.08	-0.02	-0.16
1979	3.42	3.29	3.35	3.41	3.42	-0.13	0.06	0.06	0.00	-0.00
1980	3.41	3.48	3.47	3.61	3.68	0.07	-0.00	0.14	0.07	0.28
1981	3.28	3.46	3.62	3.60	3.60	0.18	0.17	-0.02	0.00	0.33
1982	3.64	3.89	3.90	3.90	3.96	0.25	0.01	0.00	0.06	0.32
1983	4.03	4.00	4.00	4.04	4.04	-0.02	0.00	0.04	0.00	0.02
1984	4.00	4.00	3.95	3.98	3.92	-0.00	-0.05	0.03	-0.06	-0.08
1985	4.04	4.00	4.07	3.97	3.95	-0.04	0.06	-0.09	-0.03	-0.10
1986	4.03	4.03	4.04	4.04	3.96	-0.00	0.01	-0.01	-0.08	-0.07
1987	4.02	4.09	4.03	3.93	3.92	0.07	-0.05	-0.11	-0.01	-0.10
1988	4.02	3.87	3.84	3.85		-0.16	-0.02	0.00		-0.18
1989	3.80	3.80	3.80			-0.00	-0.00			
1990	3.89	3.92				0.03				

Figure 1 is a box plot showing the distribution of percent change in the number of subjects for each revision. The y-axis is labeled 'PERCENT CHANGE' and ranges from -15 to 15. The x-axis is labeled 'REVISIONS' and has five categories: (R1-P), (R2-R1), (R3-R2), (R4-R3), and (R4-P). Each category has a box plot showing the median, quartiles, and range of the data. The distributions are centered around 0% change.



TRANSFER PAYMENTS TO PERSONS ANNUAL GROWTH RATES - PROVINCIAL

	CURRENT DOLLAR, 1970 - 1990				ANNUAL REVISION		REVISIONS			TOTAL (R4-P)
	PRELIM.	FIRST	SECOND	THIRD	FOURTH	FIRST	SECOND	THIRD	FOURTH	
	(P)	(R1)	(R2)	(R3)	(R4)	(R1-P)	(R2-R1)	(R3-R2)	(R4-R3)	
1970	10.03	10.03	12.28	10.22	10.22	0.00	2.25	-2.07	0.00	0.18
1971	9.83	19.55	20.57	20.22	20.22	9.72	1.02	-0.34	0.00	10.39
1972	4.69	1.78	2.64	3.15	3.15	-2.91	0.87	0.51	0.00	-1.53
1973	8.68	10.49	10.59	10.38	10.38	1.81	0.10	-0.22	0.00	1.70
1974	17.36	18.51	22.33	24.90	24.90	1.15	3.81	2.57	0.00	7.54
1975	22.50	21.84	22.49	22.78	22.80	-0.66	0.65	0.29	0.02	0.30
1976	24.63	22.37	22.81	21.16	21.16	-2.26	0.44	-1.65	0.00	-3.47
1977	14.63	15.51	16.70	12.45	13.02	0.88	1.19	-4.25	0.57	-1.61
1978	12.71	11.30	10.15	12.15	11.47	-1.41	-1.15	2.00	-0.68	-1.24
1979	9.44	10.36	9.88	12.60	12.77	0.92	-0.47	2.71	0.18	3.34
1980	16.35	16.56	14.35	18.64	20.95	0.21	-2.21	4.29	2.31	4.60
1981	8.22	14.27	15.27	12.42	12.42	6.05	1.01	-2.85	0.00	4.21
1982	10.71	12.85	13.78	13.78	15.66	2.15	0.92	0.00	1.88	4.95
1983	12.22	11.25	11.25	10.50	10.57	-0.97	0.00	-0.74	0.06	-1.66
1984	9.43	9.43	7.05	7.83	6.20	0.00	-2.37	0.78	-1.63	-3.23
1985	8.75	9.03	9.89	9.03	8.31	0.28	0.86	-0.86	-0.72	-0.44
1986	6.56	4.88	7.66	8.13	6.07	-1.68	2.78	0.47	-2.07	-0.49
1987	8.75	10.20	8.99	8.19	7.96	1.45	-1.22	-0.79	-0.23	-0.79
1988	7.97	5.22	7.38	7.69		-2.76	2.17	0.31		-0.28
1989	5.46	6.05	5.97			0.59	-0.09			
1990	6.00	6.72				0.72				

Figure 21

INVESTMENT INCOME

REVISIONS TO LEVELS AS A PERCENT OF GDP

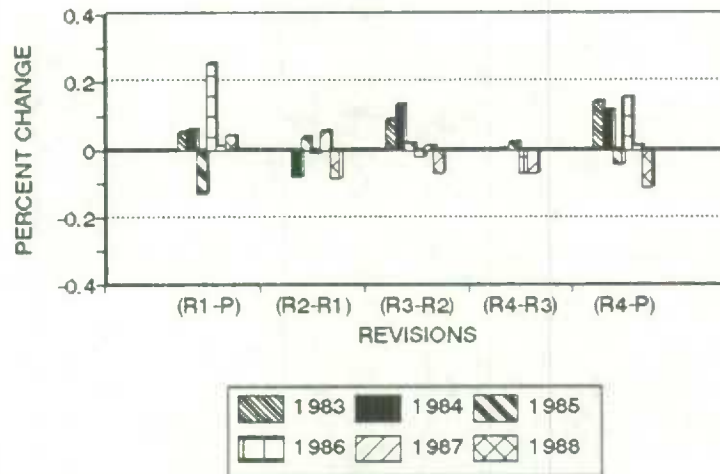


Table 21

INVESTMENT INCOME

RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP - PROVINCIAL

1970 - 1990	ANNUAL REVISION					REVISIONS				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	1.07	1.07	1.14	1.16	1.16	0.00	0.08	0.01	0.00	0.09
1971	1.03	1.16	1.20	1.22	1.22	0.13	0.04	0.02	0.00	0.19
1972	1.13	1.16	1.24	1.27	1.27	0.03	0.08	0.03	0.00	0.14
1973	1.22	1.40	1.43	1.42	1.42	0.18	0.03	-0.01	0.00	0.20
1974	1.69	1.73	1.76	1.90	1.89	0.04	0.03	0.14	-0.00	0.20
1975	2.04	2.01	2.15	2.16	2.15	-0.03	0.14	0.01	-0.00	0.11
1976	2.15	2.16	2.18	2.21	2.21	0.01	0.02	0.03	0.00	0.06
1977	2.26	2.33	2.38	2.40	2.39	0.07	0.05	0.02	-0.02	0.12
1978	2.50	2.59	2.62	2.77	2.77	0.09	0.03	0.15	-0.00	0.27
1979	2.65	2.66	2.89	3.03	3.03	0.00	0.24	0.14	-0.00	0.38
1980	2.79	3.02	3.14	3.27	3.27	0.23	0.12	0.13	-0.00	0.48
1981	2.88	2.91	3.20	3.21	3.21	0.03	0.28	0.02	0.00	0.33
1982	3.08	3.46	3.52	3.52	3.47	0.38	0.06	0.00	-0.04	0.39
1983	3.43	3.48	3.48	3.57	3.57	0.05	0.00	0.09	-0.00	0.14
1984	3.42	3.48	3.41	3.54	3.54	0.06	-0.08	0.13	0.01	0.12
1985	3.45	3.32	3.36	3.38	3.40	-0.13	0.04	0.02	0.02	-0.04
1986	2.68	2.94	2.93	2.90	2.84	0.25	-0.01	-0.02	-0.07	0.15
1987	2.63	2.65	2.70	2.72	2.65	0.01	0.06	0.01	-0.07	0.01
1988	2.72	2.76	2.68	2.61		0.04	-0.08	-0.07		-0.11
1989	2.78	2.72	2.76			-0.06	0.04			
1990	2.59	2.58				-0.02				

Figure 22

INVESTMENT INCOME ANNUAL GROWTH RATE REVISIONS

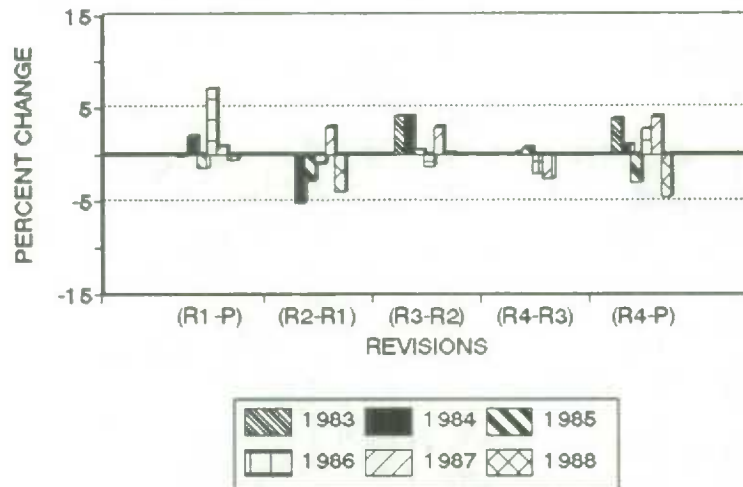


Table 22

INVESTMENT INCOME ANNUAL GROWTH RATES - PROVINCIAL

	CURRENT DOLLAR, 1970 - 1990					ANNUAL REVISION				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	20.69	20.69	17.96	19.47	19.58	0.00	-2.72	1.51	0.12	-1.10
1971	5.57	10.90	13.39	15.02	15.41	5.33	2.48	1.63	0.39	9.83
1972	8.59	7.78	13.48	15.87	15.87	-0.81	5.69	2.39	0.00	7.28
1973	23.25	32.44	31.88	31.16	31.30	9.19	-0.56	-0.72	0.14	8.05
1974	44.84	45.05	48.45	60.21	59.88	0.21	3.40	11.76	-0.33	15.04
1975	32.88	28.36	27.11	27.79	27.75	-4.52	-1.25	0.68	-0.03	-5.13
1976	23.08	15.64	16.40	18.16	18.21	-7.44	0.76	1.76	0.05	-4.87
1977	15.63	18.01	18.80	19.73	18.86	2.38	0.79	0.93	-0.87	3.23
1978	18.60	20.19	20.68	28.85	28.71	1.59	0.48	8.17	-0.13	10.11
1979	17.41	16.20	19.28	25.21	25.19	-1.21	3.08	5.92	-0.01	7.78
1980	17.82	17.23	16.04	21.03	20.96	-0.59	-1.19	4.99	-0.07	3.14
1981	9.64	6.63	12.23	12.96	12.96	-3.01	5.59	0.73	0.00	3.32
1982	11.30	13.78	15.02	15.02	13.57	2.47	1.25	0.00	-1.45	2.27
1983	7.49	7.25	7.25	11.38	11.34	-0.24	0.00	4.12	-0.03	3.85
1984	7.84	9.76	4.59	8.70	8.86	1.92	-5.16	4.10	0.16	1.02
1985	6.27	4.79	1.98	2.49	3.20	-1.48	-2.81	0.51	0.72	-3.07
1986	-14.55	-7.48	-8.45	-9.76	-11.84	7.07	-0.96	-1.31	-2.08	2.71
1987	-2.09	-1.24	1.65	4.55	1.88	0.86	2.89	2.91	-2.67	3.98
1988	12.75	12.07	8.07	8.13		-0.68	-4.00	0.05		-4.62
1989	7.90	8.90	13.39			1.00	4.49			
1990	-1.31	-3.42				-2.11				

Figure 23

INTEREST ON THE PUBLIC DEBT REVISIONS TO LEVELS AS A PERCENT OF GDP

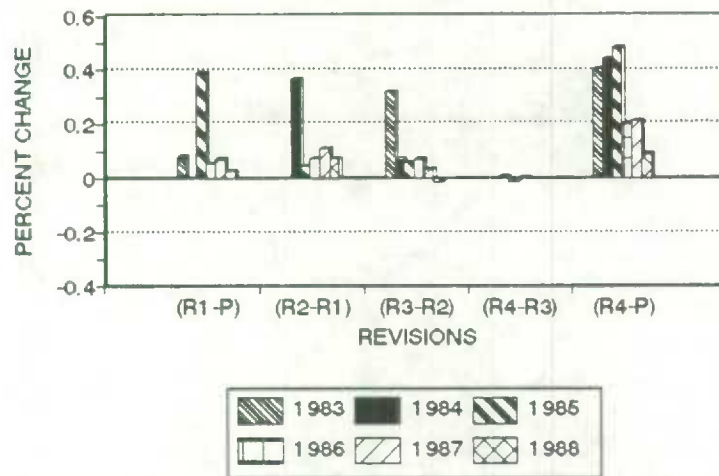


Table 23

INTEREST ON THE PUBLIC DEBT
RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP - PROVINCIAL

1970 - 1990	ANNUAL REVISION					REVISIONS				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	0.76	0.76	0.81	0.85	0.85	0.00	0.05	0.04	0.00	0.09
1971	0.82	0.91	0.91	0.95	0.95	0.09	0.00	0.04	0.00	0.13
1972	1.00	0.99	1.03	1.04	1.04	-0.01	0.05	0.01	0.00	0.04
1973	0.99	1.07	1.07	1.10	1.10	0.08	0.00	0.03	0.00	0.11
1974	0.97	0.99	0.99	1.01	1.01	0.02	0.01	0.02	-0.00	0.05
1975	1.01	1.06	1.07	1.07	1.07	0.05	0.01	0.00	-0.01	0.06
1976	1.18	1.18	1.17	1.18	1.17	-0.00	-0.01	0.00	-0.00	-0.01
1977	1.21	1.26	1.27	1.23	1.23	0.05	0.01	-0.04	0.00	0.03
1978	1.31	1.26	1.30	1.38	1.41	-0.05	0.04	0.09	0.02	0.10
1979	1.23	1.29	1.35	1.40	1.39	0.06	0.05	0.05	-0.01	0.16
1980	1.29	1.33	1.37	1.51	1.51	0.03	0.05	0.14	-0.00	0.22
1981	1.40	1.38	1.57	1.66	1.66	-0.01	0.19	0.09	0.00	0.26
1982	1.67	1.74	1.82	1.82	2.07	0.07	0.08	0.00	0.25	0.41
1983	1.82	1.90	1.90	2.23	2.23	0.08	0.00	0.32	-0.00	0.40
1984	1.96	1.96	2.33	2.40	2.40	0.00	0.37	0.07	0.01	0.44
1985	2.06	2.45	2.49	2.55	2.54	0.39	0.05	0.06	-0.02	0.48
1986	2.42	2.48	2.55	2.62	2.62	0.05	0.08	0.07	0.00	0.20
1987	2.44	2.51	2.62	2.65	2.65	0.07	0.11	0.04	-0.00	0.22
1988	2.48	2.51	2.58	2.57		0.03	0.07	-0.01		0.09
1989	2.61	2.57	2.64			-0.03	0.06			
1990	2.68	2.70				0.02				

Figure 24

INTEREST ON THE PUBLIC DEBT

ANNUAL GROWTH RATE REVISIONS

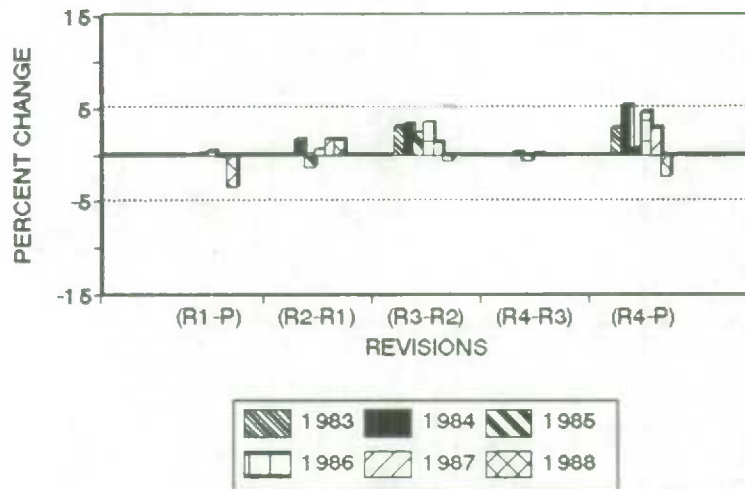


Table 24

INTEREST ON THE PUBLIC DEBT

ANNUAL GROWTH RATES - PROVINCIAL

	CURRENT DOLLAR, 1970 - 1990				ANNUAL REVISION		REVISIONS			TOTAL
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	
1970	15.67	15.67	13.48	18.97	18.97	0.00	-2.19	5.49	0.00	3.29
1971	17.23	22.24	16.47	21.21	21.21	5.01	-5.77	4.74	0.00	3.98
1972	22.26	21.15	21.85	22.50	22.50	-1.11	0.69	0.65	0.00	0.24
1973	17.93	22.21	21.56	24.58	24.58	4.29	-0.65	3.02	0.00	6.65
1974	7.81	9.71	7.69	10.04	10.04	1.90	-2.02	2.35	0.00	2.23
1975	15.44	20.44	19.22	19.68	19.03	5.00	-1.21	0.45	-0.65	3.59
1976	28.61	26.71	25.42	26.54	26.54	-1.90	-1.29	1.12	0.00	-2.07
1977	12.81	18.71	19.12	15.60	15.60	5.90	0.41	-3.52	0.00	2.79
1978	14.78	9.45	16.43	24.28	26.36	-5.33	6.98	7.84	2.08	11.57
1979	12.03	14.02	11.04	13.45	12.86	1.99	-2.98	2.41	-0.59	0.83
1980	12.18	10.64	10.30	22.29	22.29	-1.54	-0.35	11.99	0.00	10.11
1981	21.43	15.99	19.27	25.99	25.99	-5.44	3.28	6.71	0.00	4.56
1982	26.60	16.50	15.25	15.25	31.39	-10.10	-1.25	0.00	16.14	4.79
1983	13.56	13.48	13.48	16.48	16.48	-0.08	0.00	3.01	0.00	2.92
1984	12.85	12.85	14.49	17.93	18.23	0.00	1.65	3.44	0.30	5.38
1985	12.74	12.89	11.62	14.09	13.41	0.15	-1.28	2.48	-0.68	0.67
1986	4.79	5.14	5.72	9.24	9.34	0.35	0.58	3.52	0.10	4.55
1987	7.32	7.12	8.91	10.30	10.29	-0.20	1.80	1.39	-0.01	2.98
1988	8.46	5.07	6.75	6.17		-3.39	1.68	-0.57		-2.29
1989	11.71	7.05	10.32			-4.66	3.26			
1990	7.53	5.68				-1.85				

Figure 25

CAPITAL CONSUMPTION ALLOWANCES REVISIONS TO LEVELS AS A PERCENT OF GDP

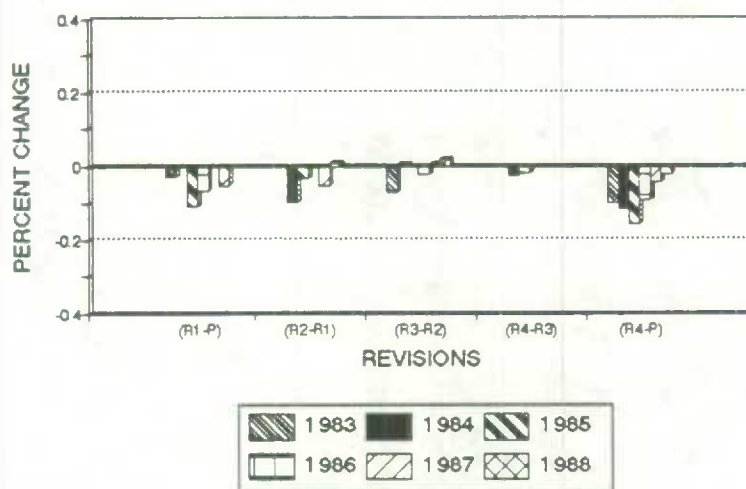


Table 25

CAPITAL CONSUMPTION ALLOWANCE (ADDED IN)
RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP - PROVINCIAL

1970 - 1990	ANNUAL REVISION					REVISIONS				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	0.41	0.41	0.42	0.44	0.44	0.00	0.02	0.02	0.00	0.04
1971	0.39	0.42	0.45	0.45	0.45	0.03	0.03	-0.00	0.00	0.06
1972	0.40	0.45	0.47	0.47	0.44	0.04	0.02	0.00	-0.02	0.04
1973	0.42	0.46	0.46	0.45	0.45	0.04	0.00	-0.01	0.00	0.03
1974	0.44	0.44	0.46	0.52	0.51	0.00	0.03	0.06	-0.01	0.07
1975	0.44	0.48	0.55	0.53	0.53	0.05	0.07	-0.02	0.00	0.10
1976	0.48	0.53	0.54	0.51	0.51	0.06	0.01	-0.04	0.00	0.03
1977	0.52	0.57	0.52	0.51	0.51	0.05	-0.05	-0.01	-0.00	-0.01
1978	0.59	0.54	0.52	0.52	0.52	-0.05	-0.02	-0.00	0.00	-0.07
1979	0.54	0.53	0.51	0.52	0.52	-0.01	-0.02	0.01	-0.00	-0.02
1980	0.54	0.53	0.53	0.54	0.53	-0.01	-0.01	0.01	-0.00	-0.00
1981	0.54	0.54	0.56	0.56	0.56	-0.00	0.01	0.01	0.00	0.02
1982	0.60	0.61	0.59	0.59	0.56	0.01	-0.02	0.00	-0.03	-0.04
1983	0.66	0.63	0.63	0.56	0.56	-0.03	0.00	-0.07	0.00	-0.10
1984	0.65	0.65	0.55	0.56	0.53	0.00	-0.10	0.00	-0.02	-0.11
1985	0.66	0.56	0.52	0.52	0.51	-0.11	-0.03	-0.00	-0.02	-0.15
1986	0.58	0.52	0.52	0.49	0.49	-0.07	0.00	-0.02	-0.00	-0.09
1987	0.51	0.51	0.45	0.46	0.46	0.00	-0.05	0.01	0.00	-0.04
1988	0.47	0.42	0.43	0.45		-0.05	0.01	0.02		-0.02
1989	0.41	0.42	0.45			0.01	0.03			
1990	0.43	0.46				0.03				

Figure 26

CAPITAL CONSUMPTION ALLOWANCES ANNUAL GROWTH RATE REVISIONS

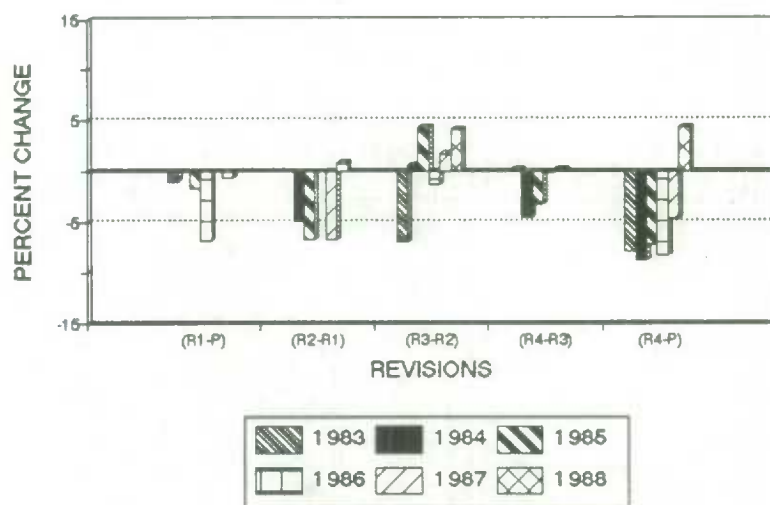


Table 26

CAPITAL CONSUMPTION ALLOWANCE (ADDED IN)
ANNUAL GROWTH RATES - PROVINCIAL

	CURRENT DOLLAR, 1970 - 1990					ANNUAL REVISION	REVISIONS			TOTAL
	PRELIM.	FIRST	SECOND	THIRD	FOURTH	FIRST	SECOND	THIRD	FOURTH	
	(P)	(R1)	(R2)	(R3)	(R4)	(R1-P)	(R2-R1)	(R3-R2)	(R4-R3)	
1970	6.18	6.18	8.38	10.64	10.64	0.00	2.21	2.26	0.00	4.47
1971	4.71	8.27	10.38	10.38	10.38	3.56	2.11	0.00	0.00	5.67
1972	7.39	11.01	16.51	16.51	10.32	3.62	5.50	0.00	-6.19	2.93
1973	10.12	14.76	14.76	18.92	19.54	4.64	0.00	4.16	0.62	9.42
1974	13.89	13.89	23.43	38.43	35.30	0.00	9.53	15.01	-3.13	21.41
1975	12.35	17.71	19.10	17.10	17.22	5.36	1.39	-2.00	0.13	4.87
1976	13.48	10.97	18.00	9.76	9.76	-2.51	7.03	-8.24	0.00	-3.72
1977	8.08	16.19	13.29	11.39	11.19	8.11	-2.90	-1.90	-0.20	3.11
1978	14.09	14.90	13.00	12.13	13.21	0.81	-1.90	-0.88	1.08	-0.88
1979	14.20	15.56	12.58	13.17	13.17	1.36	-2.98	0.59	0.00	-1.02
1980	14.77	17.86	14.24	16.48	16.34	3.10	-3.63	2.24	-0.14	1.57
1981	16.49	18.42	19.33	20.86	20.86	1.93	0.91	1.53	0.00	4.37
1982	16.54	16.04	10.52	10.52	4.79	-0.49	-5.52	0.00	-5.74	-11.75
1983	15.83	14.80	14.80	7.76	7.95	-1.02	0.00	-7.04	0.19	-7.88
1984	13.56	13.56	8.66	9.30	4.81	0.00	-4.90	0.65	-4.50	-8.76
1985	9.52	7.85	1.17	5.51	2.27	-1.67	-6.68	4.34	-3.24	-7.25
1986	10.86	4.03	4.03	2.71	2.59	-6.83	0.00	-1.31	-0.12	-8.26
1987	7.13	7.13	0.40	2.13	2.41	0.00	-6.73	1.72	0.28	-4.72
1988	2.40	1.76	2.59	6.73		-0.64	0.84	4.14		4.34
1989	4.66	4.75	6.42			0.08	1.67			
1990	6.39	6.38				-0.02				

Figure 27

INVESTMENT IN FIXED CAPITAL REVISIONS TO LEVELS AS A PERCENT OF GDP

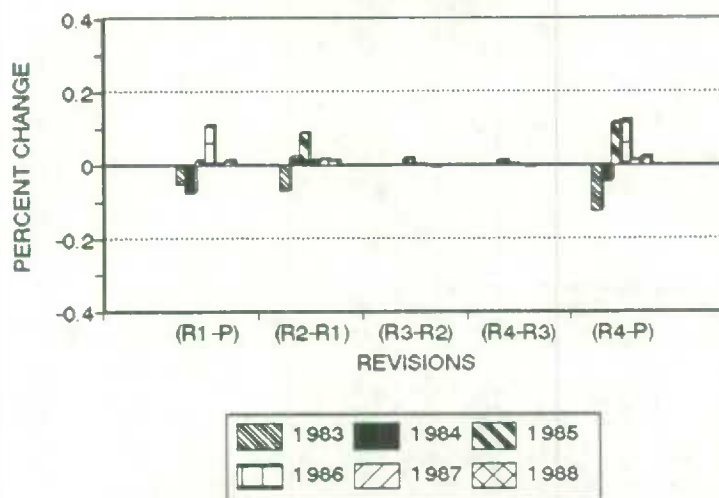


Figure 27

INVESTMENT IN FIXED CAPITAL (DEDUCT) RECORD OF ANNUAL REVISIONS - LEVELS AS A % OF CURRENT \$ GDP - PROVINCIAL

1970 - 1990	ANNUAL REVISION					REVISIONS				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	1.19	1.19	1.17	1.17	1.17	0.00	-0.02	-0.00	0.00	-0.02
1971	1.32	1.31	1.45	1.45	1.45	-0.01	0.14	-0.00	0.00	0.12
1972	1.28	1.40	1.44	1.44	1.44	0.12	0.04	0.00	0.00	0.16
1973	1.28	1.28	1.29	1.29	1.29	0.01	0.00	0.00	0.00	0.01
1974	1.35	1.35	1.36	1.36	1.36	0.01	0.00	0.00	0.00	0.01
1975	1.40	1.50	1.41	1.41	1.41	0.10	-0.09	0.00	0.00	0.01
1976	1.30	1.23	1.11	1.11	1.11	-0.08	-0.12	0.00	0.00	-0.20
1977	1.29	1.16	1.09	1.09	1.09	-0.13	-0.07	0.00	0.00	-0.20
1978	1.19	1.12	1.10	1.10	1.10	-0.07	-0.02	0.00	0.00	-0.09
1979	1.17	1.11	1.07	1.07	1.07	-0.06	-0.04	0.00	0.00	-0.10
1980	1.07	1.02	1.02	1.02	1.02	-0.04	-0.00	0.00	0.00	-0.05
1981	1.01	1.01	1.03	1.03	1.03	0.01	0.02	0.00	0.00	0.03
1982	1.09	1.11	1.09	1.09	1.09	0.02	-0.02	0.00	0.00	0.00
1983	1.03	0.97	0.90	0.90	0.90	-0.05	-0.07	0.00	0.00	-0.12
1984	0.89	0.81	0.83	0.83	0.85	-0.08	0.02	0.00	0.01	-0.05
1985	0.87	0.88	0.97	0.99	0.99	0.01	0.09	0.02	0.00	0.11
1986	0.77	0.88	0.89	0.89	0.89	0.11	0.01	0.00	-0.00	0.12
1987	0.78	0.78	0.80	0.80	0.79	0.00	0.02	-0.00	-0.00	0.01
1988	0.70	0.71	0.72	0.72		0.01	0.01	-0.00		0.02
1989	0.77	0.78	0.78			0.01	0.00			
1990	0.82	0.83				0.01				

Figure 28

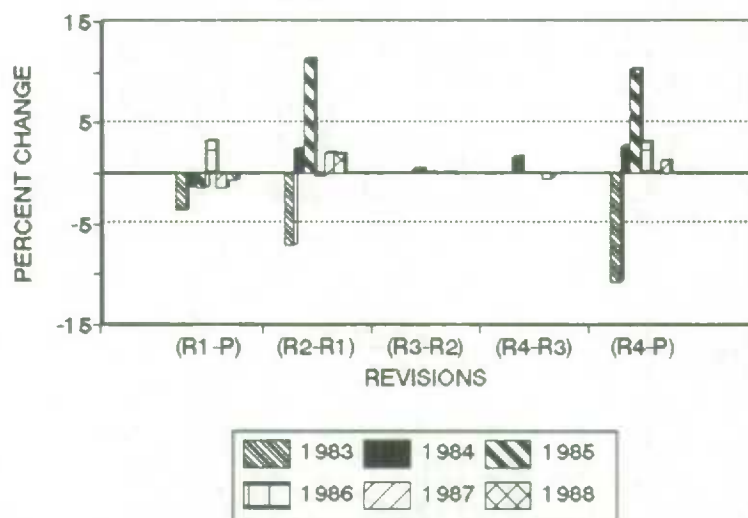
INVESTMENT IN FIXED CAPITAL
ANNUAL GROWTH RATE REVISIONS

Table 28

INVESTMENT IN FIXED CAPITAL (DEDUCT)
ANNUAL GROWTH RATES - PROVINCIAL

	CURRENT DOLLAR, 1970 - 1990					ANNUAL REVISION				
	PRELIM. (P)	FIRST (R1)	SECOND (R2)	THIRD (R3)	FOURTH (R4)	FIRST (R1-P)	SECOND (R2-R1)	THIRD (R3-R2)	FOURTH (R4-R3)	TOTAL (R4-P)
1970	11.44	3.61	2.05	2.05	2.05	-7.83	-1.56	0.00	0.00	-9.39
1971	21.28	22.08	34.70	34.70	34.70	0.80	12.62	0.00	0.00	13.42
1972	8.77	7.45	10.43	10.43	10.43	-1.32	2.98	0.00	0.00	1.66
1973	7.33	5.01	5.21	5.21	5.21	-2.32	0.19	0.00	0.00	-2.13
1974	25.76	26.21	26.39	26.39	26.39	0.44	0.18	0.00	0.00	0.62
1975	16.26	24.12	16.87	16.87	16.87	7.85	-7.25	0.00	0.00	0.60
1976	0.47	0.45	-9.76	-9.76	-9.76	-0.01	-10.22	0.00	0.00	-10.23
1977	15.93	16.04	9.26	9.26	9.26	0.11	-6.78	0.00	0.00	-6.67
1978	13.31	13.34	11.28	11.28	11.28	0.03	-2.06	0.00	0.00	-2.03
1979	19.28	15.04	10.82	10.82	10.82	-4.24	-4.22	0.00	0.00	-8.46
1980	8.09	7.59	7.55	7.55	7.55	-0.51	-0.03	0.00	0.00	-0.54
1981	13.37	14.23	16.26	16.26	16.26	0.86	2.02	0.00	0.00	2.88
1982	12.98	13.08	11.32	11.32	11.32	0.10	-1.77	0.00	0.00	-1.67
1983	0.19	-3.45	-10.56	-10.56	-10.56	-3.64	-7.11	0.00	0.00	-10.75
1984	0.23	-1.12	1.23	1.23	2.79	-1.35	2.35	0.00	1.56	2.56
1985	15.20	13.79	25.07	25.47	25.47	-1.41	11.28	0.39	0.00	10.27
1986	-7.33	-4.08	-4.34	-4.32	-4.32	3.25	-0.26	0.02	0.00	3.01
1987	-2.95	-4.41	-2.41	-2.41	-2.92	-1.46	1.99	0.00	-0.51	0.02
1988	-1.99	-2.65	-0.79	-0.75		-0.66	1.86	0.04		1.24
1989	16.20	15.78	16.85			-0.42	1.06			
1990	8.32	9.03				0.71				

Technical Series

The National Accounts and Environment Division has a series of technical paper reprints, which are available to national accounts users without charge. A list of the reprints currently available is presented below. For copies of any of these papers, contact the NAED client services representative, Ms. Mitzi Ross, at 613-951-3819 or write to her at Statistics Canada, 21st Floor, R.H. Coats Building, Tunney's Pasture, Ottawa, Ontario, K1A 0T6

1. "Laspeyres, Paasche and Chain Price Indexes in the Income and Expenditure Accounts", reprinted from *National Income and Expenditure Accounts*, fourth quarter 1988
2. "Technical Paper on the Treatment of Grain Production in the Quarterly Income and Expenditure Accounts", reprinted from *National Income and Expenditure Accounts*, first quarter 1989
3. "Data Revisions for the Period 1985-1988 in the National Income and Expenditure Accounts", reprinted from *National Income and Expenditure Accounts*, first quarter 1989
4. "Incorporation in the Income and Expenditure Accounts of a Breakdown of Investment in Machinery and Equipment", reprinted from *National Income and Expenditure Accounts*, third quarter 1989
5. "New Provincial Estimates of Final Domestic Demand at Constant Prices", reprinted from *National Income and Expenditure Accounts*, fourth quarter 1989
6. "Real Gross Domestic Product: Sensitivity to the Choice of Base Year", reprinted from *Canadian Economic Observer*, May 1990
7. "Data Revisions for the Period 1986-1989 in the National Income and Expenditure Accounts", reprinted from *National Income and Expenditure Accounts*, first quarter 1990
8. "Volume Indexes in the Income and Expenditure Accounts", reprinted from *National Income and Expenditure Accounts*, first quarter 1990
9. "A New Indicator of Trends in Wage Inflation", reprinted from *Canadian Economic Observer*, September 1989
10. "Recent Trends in Wages", reprinted from *Perspectives on Labour and Income*, winter 1990
11. "The Canadian System of National Accounts Vis-à-Vis The U.N. System of National Accounts", reprinted from *National Income and Expenditure Accounts*, third quarter 1990
12. "The Allocation of Indirect Taxes and Subsidies to Components of Final Expenditure", reprinted from *National Income and Expenditure Accounts*, third quarter 1990
13. "The Treatment of the GST in the Income and Expenditure Accounts", reprinted from *National Income and Expenditure Accounts*, first quarter 1991
14. "The Introduction of Chain Volume Indexes in the Income and Expenditure Accounts", reprinted from *National Income and Expenditure Accounts*, first quarter 1991
15. "Data Revisions for the Period 1987-1990 in the National Income and Expenditure Accounts", reprinted from *National Income and Expenditure Accounts*, second quarter 1991
16. "Volume Estimates of International Trade in Business Services", reprinted from *National Income and Expenditure Accounts*, third quarter 1991
17. "The Challenge of Measurement in the National Accounts", reprinted from *National Income and Expenditure Accounts*, fourth quarter 1991
18. "A Study of the Flow of Consumption Services from the Stock of Consumer Goods", reprinted from *National Income and Expenditure Accounts*, fourth quarter 1991
19. "The Value of Household Work in Canada, 1986" reprinted from *National Income and Expenditure Accounts*, first quarter 1992
20. "Data Revisions for the Period 1988-1991 in the National Income and Expenditure Accounts", reprinted from *National Income and Expenditure Accounts*, Annual Estimates, 1980-1991

Série technique

La Division des comptes nationaux et de l'environnement a à sa disposition une série de tirés à part d'articles techniques, que les utilisateurs des comptes nationaux peuvent obtenir sans frais. Une liste des tirés à part disponibles est présentée ci-dessous. Pour obtenir des copies d'un ou de quelques-uns de ces articles, communiquez avec Madame Mitzi Ross du service à la clientèle de la Division des CNE (613-951-3819) ou lui écrire à Statistique Canada, 21^e étage, édifice R.H. Coats, Tunney's Pasture, Ottawa, Ontario, K1A 0T6.

1. "Les indices de prix Laspeyres, Paasche et en chaîne dans les comptes des revenus et dépenses", tiré à part de *Comptes nationaux des revenus et dépenses*, quatrième trimestre 1988.
2. "Document technique sur le traitement de la production de céréales dans les comptes trimestriels des revenus et dépenses", tiré à part de *Comptes nationaux des revenus et dépenses*, premier trimestre 1989.
3. "Révisions des données de la période 1985-1988 dans les comptes nationaux des revenus et dépenses", tiré à part de *Comptes nationaux des revenus et dépenses*, premier trimestre 1989
4. "Incorporation dans les comptes des revenus et dépenses d'une décomposition de l'investissement en machines et matériel", tiré à part de *Comptes nationaux des revenus et dépenses*, troisième trimestre 1989
5. "Les nouvelles estimations provinciales de la demande intérieure finale en prix constants", tiré à part de *Comptes nationaux des revenus et dépenses*, quatrième trimestre 1989
6. "Produit intérieur brut en termes réels: sensibilité au choix de l'année de base", tiré à part de *L'Observateur économique canadien*, mai 1990.
7. "Révisions des données de la période 1986-1989 dans les comptes nationaux des revenus et dépenses", tiré à part de *Comptes nationaux des revenus et dépenses*, premier trimestre 1990.
8. "Les indices de volume dans les comptes des revenus et dépenses", tiré à part de *Comptes nationaux des revenus et dépenses*, premier trimestre 1990.
9. "Un nouvel indicateur des tendances de l'inflation par les salaires", tiré à part de *L'Observateur économique canadien*, septembre 1989.
10. "Tendances récentes des salaires", tiré à part de *L'Emploi et le revenu en perspective*, hiver 1990.
11. "Le système de comptabilité nationale du Canada et le système de comptabilité nationale des Nations Unies", tiré à part de *Comptes nationaux des revenus et dépenses*, troisième trimestre 1990.
12. "La répartition des impôts indirects et des subventions aux composantes de la dépense finale", tiré à part de *Comptes nationaux des revenus et dépenses*, troisième trimestre 1990.
13. "Le traitement de la TPS dans les comptes des revenus et dépenses", tiré à part de *Comptes nationaux des revenus et dépenses*, premier trimestre 1991.
14. "L'introduction des indices de volume en chaîne dans les comptes des revenus et dépenses", tiré à part de *Comptes nationaux des revenus et dépenses*, premier trimestre 1991.
15. "Révisions des données de la période 1987-1990 dans les comptes nationaux des revenus et dépenses", tiré à part de *Comptes nationaux des revenus et dépenses*, deuxième trimestre 1991.
16. "Estimations en volume du commerce international des services commerciaux", tiré à part de *Comptes nationaux des revenus et dépenses*, troisième trimestre 1991.
17. "Le défi de la mesure dans les comptes nationaux", tiré à part de *Comptes nationaux des revenus et dépenses*, quatrième trimestre 1991.
18. Étude sur le flux des services de consommation générés par le stock de biens de consommation, tiré à part de *Comptes nationaux des revenus et dépenses*, quatrième trimestre 1991.
19. "La valeur du travail ménager au Canada, 1986" tiré à part de *Comptes nationaux des revenus et dépenses*, premier trimestre 1992.
20. "Révisions des données de la période 1988-1991 dans les comptes nationaux des revenus et dépenses", tiré à part de *Comptes nationaux des revenus et dépenses*, estimations annuelles, 1980-1991.

Ca 008

STATISTICS CANADA LIBRARY
BIBLIOTHEQUE STATISTIQUE CANADA



1010248587

c. 3

1010248587

