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## GOVERNMENT OF CANADA

NATIONAL ACCOUNTS

INCOME AND EXPENDITURE

PRELIMINARY

1949

# DOMINION BUREAU OF STATISTICS <br> DEPARTMENT OF TRADE AND COMMERCE 

## NATIONAL ACCOUNTS

## INCOME AND EXPENDITURE

## PRELIMINARY

## 1949

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TABLEOFCONTENTS
PAGE
Introduction ..... 1
Table I Gross National Product and Expenditure, 1947 - 1949 ..... 2
Table II Gross National Expenditure - Value, Volume and Price Changes, 1939, 1948, 1949 ..... 5
Table III Personal Income and Expenditure, 1947-1949 ..... 6
Table IV Government Revenue and Expenditure, 1947-1949 ..... 8
Table $V$ Source and Disposition of Private Saving, 1947-1949 ..... 10
Table VI Corporation Profits, 1947-1949 ..... 12
Table VII Savings of Canadian Policyholders Ihrough Life Insurance Companies, 1926-1948 ..... 14
Table VIII Net Income of Agriculture Reconciliation Statement, 1947 - 1949 ..... 15
Appenaix A Method of Calculating Value, Volume and Price Changes of Gross National Expenditure; with data for 1939, 1948, 1949 ..... 16

Freliminary estimates of national income, gross national product, and gross national expenditure for 1949, were published in a supplement to the February issue of the Canadian Statistical Review. The present bulletin gives greater detail of the national accounts and revised figures for 1948 and 1949. \& new table is included at page 5 showing value, volume, and price changes for components of gross national expenditure, and a technical appendix explains the basis of these calculations. The savings of Ganadian policyholders through life insurance companies are included for the first tine in Table VIl and a description of the basis of these estimates is shown at page 13.

The present estimates indiaate a gross national product and expenditure of more than $\$ 15.9$ billion, an increase over 1948 of $3 \%$ in value terms or $2 \%$ by volume. National income increased from $\$ 12.5$ billion in 1948 to $\$ 13.0$ billion in 1949, a gain of $4 \%$. This increase is fully accounted for by the $7 \%$ increase in salaries, wages, and supplementary labour income. Agricultural income declined by $4 \%$ despite higher wheat adjustment payments. Corporation profits, the largest component of investment income, deciined, but this was more than offset by increases in other forms of investment income.

The most striking change in the components of gross national expenditure is the marked decline in the rate of inventory accumulation, although addition to inventories was $\$ .6$ billion or $4 \%$ of gross national expenditure in 1948 , there was no increase in the book value of inventories in 1949. In physical terms an actual reduction of inventories is indicated. Gross home investment in plant, equipment, and housing was higher in dollar terms than in 1948 but only housing showed an increase in volume.

Consumer spending increased by $7 \%$ from $\$ 10.1$ billion to $\$ 10.8$ billion. After allowing for price increases this represents an increase of $2 \%$ in real consumption. The largest volume increase was in consumer spending on durable goods, such as automobiles and furniture, where the increase was $10 \%$. On the other hand spending on semi-durable goods, such as clothing, actually declined in physical terms.

Covernment expenditure on goods and services accounts for $13 \%$ of gross national expenditure in 1949 compared with $12 \%$ in 1948. Increased federal spending on national defence and on inventories in connection with price support programs and increased capital expenditure at the provincial and municipal level accounted for most of the change.

Exports of goods and services remained at approximately the 1948 level of $\$ 4.0$ billion but imports increased from $\$ 3.5$ billion to $\$ 3.8$ billion so that net foreign investment declined substantially.

The estimates in this builetin are for Canada, exclusive of Newfoundland.

## Ottawa ,

March 24, 1950

## THBEE I

NHTIONL INOOME ANJ GROSS NATTONAL FROLUCT, 1947-1949
(mlllions of dollars)

|  | 1947 | 2243 | 296 |
| :---: | :---: | :---: | :---: |
| Salaries, mages and supplementary labour income | 6,212 | 7,113 | 7.630 |
| Military pay and allowances | 83 | 82. | 115 |
| Investment income | 2,307 | 2,348 | 2,373 |
| Net income of" agriculture and other unincorporated business |  |  |  |
| Farm operators from farm production | 1,210 | $\therefore, 660$ | 1,587 |
| Other uninaorporated business | 1,126 | 1,252 | 1,272 |
| NET NATICNAT, : NCOME at eactor clet | 10,938 | 22,455 | 12,977 |
| Indirect taxes less subsidies | 1,604 | 1,767 | 1,732 |
| Depreciation allowances and similar business costs | 1,009 | 1,141 | 1,277 |
| Residual error of estimate | $+40$ | $+108$ | - 93 |
| GROSS NATIONHL FRODUCT AT MARET PRICES2 | 13.591 | 25,471 | 35,943 |

$I_{\text {See Table VIII, page }} 15$.
${ }^{2}$ Ex.ludes Newfoundland.

TABLE I
GROSS NATIONAL EXFENDITURE, 1947 - 1949
(millions of dollars)

|  | 1947 | 1248 | 1242 |
| :---: | :---: | :---: | :---: |
| Personal expenditure on consumer goods and services | 9,126 | 10,083 | 10,750 |
| Government expenditure on goods and services | 1,551 | 1.787 | 2,108 |
| Gross home investment |  |  |  |
| Housing ${ }^{2}$ | 492 | 647 | 753 |
| Plant and equipment | 1,565 | 2,015 | 2,076 |
| Inventories ${ }^{3}$ | 879 | 646 | 12 |
| Exports of goods and services ${ }^{4,5}$ | 3,629 | 4,014 | 3,974 |
| Deduct: imports of goods and servjoes ${ }^{5}$ | 3,612 | -3,645 | -3,824 |
| Residual error of estimate | -39 | - 107 | +94 |
| GROSS NATIONBL EXPENDITURE |  |  |  |
| AT MARKET PRICES | 13,591 | 15,471 | 15,943 |

1 Includes UNRRA, Mutual fid etc. of $\$ 38$ million in 1947 and $\$ 19$ million in 1948.
2 Excludes government housing expenditure of \$39 million in 1947, $\$ 35$ million in 1948 and $\$ 31$ million in 1949.
3 See Appendix "A", Table IX, page 18 for value of physical change and inventory revaluation adjustment.
4 Excludes UNRRA, Mutual Aid etc. See footnote 1 above.
5 These figures differ from those shown in, "The Canadian Balance of International Payments", Dominion Bureau of Statistics, 1949, because adjustments have been made to the figures of receipts and payments to achieve consistency with other component series.


TABEE II
OROS. NOTIONA! EXENOITURE
VALIEE, VOHOME ROND FRICE CHWNGS ${ }^{\circ}$

${ }^{1}$ Calculations employ price indexes on base 1935-39 $=100$.
See explanation of methods of deflation, ippendix id", pages 16, 17.
${ }^{2}$ Includes changes in Government held inventories.
${ }^{3}$ product of price quantity indexes not equal to value index by amount of Inventory. Revaluation hdjustment. See footnote 3, Table IX, page 19.

TABLE III
PERSONAL INGOIE AND EXPENDITURE, 1947 - 1949 (millions of dollars)

|  | 1947 | 1948 | 1942 |
| :---: | :---: | :---: | :---: |
| INCOME |  |  |  |
| Salaries, wages and supplementary labour income | 6,212 | 7,113 | 7,630 |
| Deduct: employer and employee contributions to social insurance and government pension funds | - 181 | - 223 | -238 |
| Military pay and allowances | 83 | 82 | 115 |
| Net income of agriculture and other unincorporated business | 2,336 | 2,912 | 2,859 |
| Interest, dividends and net rental income of persons | 1,032 | 1,141 | 1,196 |
| Transfer peyments ${ }^{1}$ (excluding interest) |  |  |  |
| From governments | 848 | 851 | 91.7 |
| Charitable contributions from corporations | 15 | 16 | 16 |
| Total | 10,345 | 11,892 | 12,495 |

Interest on government debt is included under "Interest, dividends and net rental income of persons", above.

TABLE III
PERSONGL INCOME AND EXPENDITURE, 1947 - 1949
(millions of dollars)

$I_{1}$
This figure includes savings of Canadian policyholders through life insurance companies (see table VII, pagel4) and net change in farm inventories as follows:

$$
\begin{array}{lcrrc} 
& \frac{1947}{(m i l l i o n s ~ o f ~ d o l l a r s) ~} & \frac{1948}{} & \frac{1949}{} & \text { Not } \\
\text { Savings of Canadian policyholders } & & 181 & 197 & \text { available } \\
\text { through life insurance companies ..... } & 181 & -65 & -106
\end{array}
$$

TABLE IV
GOVERNITCNT REVENUS AND EXPENDITURE, BY LEVEL OF COVIZNMENT, 1947 - 1949
(millions of dollars)


TABLE IV
GOVERNMEMT REVENUE AND EXPENDITURE,BY LEVEL OF COVERNMENT, 1947-1949 (aillions of dollars)


TuBEV
SOURCE AND DISPOSI TION OF PRIVATE SAVING, 1947-1949
(millions of dollars)

|  | 1947 | 1248 | 1949 |
| :---: | :---: | :---: | :---: |
| SOURCE |  |  |  |
| Personal saving ${ }^{1}$ | 428 | 988 | 959 |
| Business saving |  |  |  |
| Undistributed corporation profits | 602 | 716 | 625 |
| Undistributed Wheat Board trading profits | 37 | -155 | -84 |
| Inventory revaluation adjustment for grain in commercial channels | -18 | - 4 | 3 |
| Depreciation allowances and similar business costs | 1,009 | 1,141 | 1,277 |
| Residual error of estimate | $+40$ | +108 | - 93 |
| Total | 2,098 | 2,794 | 2,687 |

${ }^{1}$ See notes and Table VII, pages 13 and 14 for detail of savings of Canadian policyholders through life insurance companies, included in personal saving, above.

TaBLE V:
SOIRCE AND DISFOSITION OF PRIVATE SAVING, 1947-1949 (millions of dollars)

${ }^{1}$ See footnote 2, Table 1, page 3.

CANADA
TABLE VI
CORPORAALION PKOFITS, 1947 - 1949
(millions of dollars)

|  | 1947 | 1948 | 1949 |
| :--- | :---: | :---: | :---: |
|  |  |  |  | | Corporate profits before taxes |
| :--- |
| Deduct: income and excess profits |
| taxes |

SAVINGS OF GANADIAN FOLIUYHOLLERS THKOUGH LIFE INSURANCE COMPANIES

Life insurance companies are regarded as "associations of individuals" for national accounts purposes. The savings of such companies are, therefore, treated as part of personal saving. The savings of life insurance companies in any year are defined as receipts minus disbursements. To estimate savings of Canadian policyholcers care must be taken to include only savings which arise from business transacted in Canada and, in the case of stock companies, to adjust for funds accruing to shareholders.

The receipts of life insurance companies may be divided into two parts: receipts from policyholders and investment income. With minor exceptions, the figure for investment income is identical with thet employed in the national accounts. One adjustment which should be noted here is that interest earned by pension funds of employees of Canadian life insurance companies is deducted from investment income in the savings estimate, as it cannot be considered income accruing to policyholders. Receipts from policyholders include the following items: Net Premium Income, Consiceration for Annuities, Consideration for Sinking Funds, Consideration for Settlement Anmuities, and Amounts left with the Company at Interest. Also included under receipts are decreases in policy loans, as such decreases constitute savines on the part of policyholders, while increases of policy loans are a form of dis saving, and are hence deducted.

The disbursements may also be divided into two parts: claims paid Lo policyholcers and total expenses paid. Increases in the accrued expense liabilities for salaries, comnissions, medical and legal fees, and taxes are included with disbursements. Claims include: Total Disbursements under Insurance and Annuities Contracts and wiscellaneous Payments under Coneracts.

In the case of Canadian companies only that portion of these items which arises from business in Uanada is included. For certain of these items the separation between "in Canada" and "out of Canada" is made by the companies themselves, while for other items estimates of the "in Ganada" portion have to be made.

The above method of estimation applies only to Dominion registered companies. As information on provincially registered companies is not available in such delailed form, a somewhat different method of estimation is employed. The savings estimate for provincially registered companies is derived by taking the resultant of their net premiums plus their investment incore (as estimated for the national accounts) minus their net claims and expenses (as estimated for the national accounts) and applying thereto the ratio which savings of Duminion companies,as calculated by the more detailed method described above, bear to the savings of Dominion companies as calculated by the method described in this paragraph。

I'hese estimates do not include data on Fraternal Benefít Societies. All data for the estimates were obtained from Volume II of the Annual Report of the Superintendent of Insurance for Canada.

TABLE VII
SAVINGS OF DANADIAN POLICYHOLDEKS
THROUGH LIFE INSURANCE COMPANIES, 1926 - 1948
(millions of dollars)

| Year | Dominion Registered Companies |  | Provincially Registered Companies | Total |
| :---: | :---: | :---: | :---: | :---: |
|  | Canadian | British and Foreign |  |  |
| 1926 | 51 | 25 | 1 | 77 |
| 1927 | 54 | 28 | 1 | 83 |
| 1928 | 63 | 31 | 1 | 95 |
| 1929 | 51 | 29 | 1 | 81 |
| 1930 | 43 | 29 | 1 | 73 |
| 1931 | 37 | 25 | 1 | 63 |
| 1932 | 12 | 16 | 0 | 28 |
| 1933 | 29 | 17 | 0 | 46 |
| 1934 | 48 | 23 | 1 | 72 |
| 1935 | 55 | 25 | 1 | 81 |
| 1936 | 64 | 24 | 1 | 89 |
| 1937 | 61 | 24 | 1 | 86 |
| 1938 | 63 | 23 | 1 | 87 |
| 1939 | 62 | 20 | 1 | 83 |
| 1940 | 60 | 25 | 1 | 86 |
| 1941 | 78 | 30 | 1 | 109 |
| 1942 | 87 | 38 | 1 | 126 |
| 1943 | 112 | 47 | 2 | 161 |
| 1944 | 120 | 48 | 4 | 172 |
| 1945 | 124 | 49 | 4 | 177 |
| 1946 | 132 | 49 | 5 | 186 |
| 1947 | 119 | 57 | 5 | 181 |
| 1948 | 136 | 56 | 5 | 197 |

## CANADA

## TABLE VIII

FECONCILIATION OF NET INGONE OF AGRICULTURE 1947-1949, IN TABLE 1 WITH "NET INCOME OF FARM OPEKATORS FKOM F'ARMING OPERATIONS", AS PUBLISHED BY THE AGRICULTURAL DIVISION - D.B.S。 (Millions of dollars)

|  | 1947 | 1948 | 1949 |
| :--- | :---: | :---: | :---: |
| Net Income of farm operators <br> from farming operations. | 1,235 | 1,693 |  |
| Deduct:imputed net rent of <br> owner occupied dwellings. | -19 | -19 |  |
| Deductinet transfers under <br> Prairie Farm Income Plan and <br> Farm Assistance Act. 3 | -6 | -14 |  |

${ }^{1}$ See "Net Income of Farm Operators from Farming Operations, Canada, '1946 to 1948', D.B.S. Figures are not available for 1949.

2 page 2.

This item is included with "Investment Income", table I,

3 These items are deducted since transfer payments are excluded from "Net National Income at Factor Cost", table 1, page 2.

## APPENDIX "A"

## MEIHOD OF CALCULATING VAIUE, VOLUME AND PRIEE CHANGES OF GROSS NATIONAL EXPENDIIUUE

The following table presents a breakdown of expenditure totals into their volume and price components. The value figures themselves show how total income and outlay vary from year to year. but the question has frequently been asked, "How bas total real out put or the real volume of expenditure varied?" sometimes the cost . of oliuling index and the general wholesale price index have been used as a guide for separating value and volume changes but they were not designed for this particular purpose.

The peneral procedure can be illustrated briefly as follows: Consumer expenditure in millions of current dollars was $\$ 10,083$ in 1948 and $\$ 10,750$ in 1949. The value index was therefore 106.6 and the value increase 6.6 per cent. The price index for deflating these figures was 104.0 ( $1948=100$ ). If it is divided into the value index of 106,6 it gives a volume (quantity) index of 102.5 . Re= stated, the volume increase was 2.5 per cent. The same answer can be obtained directly by dividing a price index into the current dollar figures themselves. The following is an actual example of the calculation from table IX, in which the deflation is carried out in terms of 1935-39 based price indexes.

|  | 1948 | 1942 |
| :---: | :---: | :---: |
| Consumer expenditure, current dollars Divide by price index ( $1935-39=100$ ) | $\begin{aligned} & 10_{2} 083 \\ & 156.9 \end{aligned}$ | $\begin{aligned} & 10,750 \\ & 163.2 \end{aligned}$ |
| Equals consumer expenditure constant (1935-39) dollars | 6,428 | 6,589 |
| Volume change: $6,589: 6,428=$ | 025 or $\$$ | 5 per cent |

The next step is to combine consumers" expenditure with goverment, investment and foreign trade。 The current dollar values are summed and divided by the sum of the constant dollar values to obtain the price index implicit in their total. The algebra for this procedure is as follows:

| Current dollar values | $p_{i} q_{i}$ |
| :--- | :--- |
| Price indexes (Paasche's) | $\frac{p_{i} q_{i}}{p_{0} q_{i}}$ |

Constant dollar values = current dollass pprice indexes


I'he avove illustration is applied to the major ilems of gross national expenditure in Table IX below. The same theory and application are involved in the detailed calculations from individ= ual items up to the final groupings. l'he quantity indexes are Laspeyres' (weighted by base period prices) and the price indexes are Paasche's (weighted by current quantilies). The product of price and quantity indexes is then a value index, as follows:

$$
=\frac{p_{1} q_{i}}{p_{0} q_{i}} \times \frac{p_{0} q_{i}}{p_{0} q_{0}} \quad \frac{p_{i} q_{i}}{p_{0} q_{0}}
$$

A minor qualification occurs in that within the smallest groups of items such as food, men's clothing, etc. the initial deflation is by existins price indexes, which are all of the Laspeyres' type. The weights within the smallest groups, however, do not in all likelihood change sufficiently from yeer to year to cause any difference in behaviour between Laspeyres' and Paasche's price indexes, so that the one is equivalent to the other. Even if strict theoretical consistency were warranted, the data do not exist for changing the weights of the small items each year.

It is expected that the historical record of volume and price movements f'rom 1926 to 1949 , on a $1935-39$ base, will be published during the year. The contents of each group, together with a description of the price indexes used for deflators will be given in these later releases.

TABLE IX

OF GROSS N:TIONH. EXFINLi]TURE, 193, 197 - ? 749
(Uallies in millinns of dullars, frice indexes
on base $2935=39 \approx 100)$


Footnotes on next page.

1. The Inventory Revaluation Adjustment is obtained by differencing the current book value of inventory changes and the value of physical change. The procedure can be outlined briefly as follows: Year end inventories as reported by manufacturers, farmers, retailers, etc., are divided by price indexes on a $1935-39$ base representing the cost according to the model method of valuation of inventory in each trade or industry. This gives inventories in base period dollars, the year to year change in which is a measure of physical change. The physical change is then revalued at annual average prices. The difference between this and the original book value is the inventory revaluation adjustment. It is excluded from calculations of real volume of output of final goods and services in G.N.E. as shown below in 3.
2. The commodity components of trade are as follows:

| Comodity exports, current $\$$ | $\frac{1939}{906}$ | 3,011 | 2,949 |
| ---: | :---: | :---: | :---: |
| Frice index | 96.1 | 212.0 | 218.6 |
| Constant $\$$ | 943 | 1,420 | 1,354 |
| Commodity imports, current $\$$ | 713 | 2,598 | 2,683 |
| price index | 99.1 | 214.0 | 220.8 |
| constant $\$$ | 719 | 1,214 | 1,215 |

3. The implicit price index is obtained for the subtotal as follows:

|  | 1939 | 1948 | 1949 |
| :---: | :---: | :---: | :---: |
| Sub total G.N.E. expluding residuci erte: | 5,589 | 15,578 | 15,849 |
| Deduct inventory revaluation adjustment | - 35 | - 548 | -61 |
|  | 5,554 | 15,030 | 15,788 |
| Sub total in constant | 5,514 | 9,267 | 9,356 |
| Equals implicit price index | 100.7 | 162.2 | 168. |

This price index is then applied to the residual error. The current and constant dollar values of GoNoE. are then obtained by summation. The price index for G.N.E. is the same as the "implicit price index ${ }^{11}$ mentioned above. The quantum of $G 。 N o E$. is inclusive of the quantum in the residual error. The product of price and quantity indexes differs from the value index at the final stage by the amount of the inventory revaluation adjustment.

