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GOVERNMENT OF CANADA

NATIONAL ACCOUNTS INCOME AND EXPENDITURE PRELIMINARY 1949



DOMINION BUREAU OF STATISTICS DEPARTMENT OF TRADE AND COMMERCE

NATIONAL ACCOUNTS INCOME AND EXPENDITURE PRELIMINARY 1949

Published by Authority of the Rt. Hon. C. D. Howe Minister of Trade and Commerce

Prepared by the Central Research and Development Staff Dominion Bureau of Statistics, Ottawa

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INTRODUCTION

Preliminary 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. A 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 Canadian policyholders through life insurance companies are included for the first time in Table VII and a description of the basis of these estimates is shown at page 13.

The present estimates indicate 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, declined, 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.

Government 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 \$3.6 billion to \$3.8 billion so that net foreign investment declined substantially.

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

Ottawa ,

March 24, 1950

NATIONAL INCOME AND GROSS NATIONAL PRODUCT, 1947 - 1949 (millions of dollars)

	1947	1948	1949
Salaries, wages 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	1,660	1,587
Other unincorporated business	1,126	1,252	1,272
NET NATIONAL INCOME AT FACTOR COST	10,938	12,455	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 NATIONAL PRODUCT AT MARKET PRICES ²	13,591	15,471	15,943

ISee Table VIII, page 15.

Excludes Newfoundland.

TABLE I

CROSS NATIONAL EXPENDITURE, 1947 - 1949 (millions of dollars)

1947	1948	1949	
0.30/	20.000	10.550	
9,120	10,083	10,750	
1,551	1,787	2,108	
492	647	753	
1,565	2,016	2,076	
879	646	12	
3,629	4,044	3,974	
5-3,612	-3,645	-3,824	
-39	- 107	* 94	
13,591	15,471	15,943	
	9,126 1,551 . 492 1,565 879 3,629 5-3,612 -39	9,126 10,083 1,551 1,787 492 647 1,565 2,016 879 646 3,629 4,044 5-3,612 -3,645 -39 -107	

1 Includes UNRRA, Mutual Aid 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.

GROSS NATIONAL EXPENDITURE

IN CURRENT AND CONSTANT (1935-39) DOLLARS
1939, 1947, 1948 AND 1949

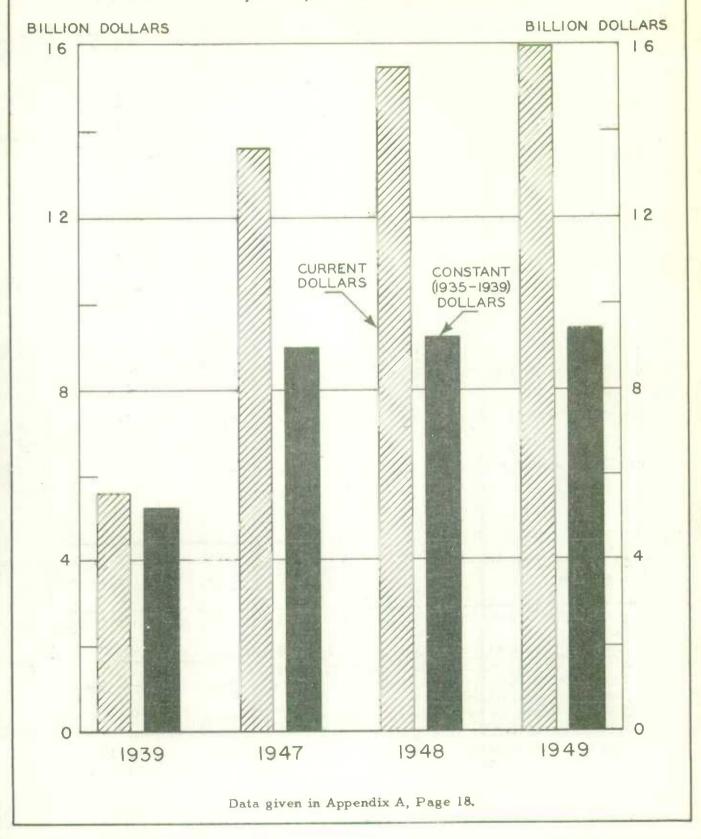


TABLE II

GROSS NATIONAL EXPENDITURE, VALUE, VOLUME AND PRICE CHANGES

AND METHOD AND THE CONTROL OF T			ercentage	incr	0.000	
	194	9 over 19.	7 3	the rate was not ask the rate of	over 19	230
ARREST OF THE PROPERTY OF T	Value	Volume	Frice	Value	Volume	irice
Personal expenditure on consumer goods and services						
Goods Perishable Semi-durable Durable Miscellaneous	+4.5 +1.0 +14.4 +6.3	+.9 +.8 -3.4 +10.0 +1.8	*4.0 *3.7 *4.6 *4.0 *4.0	+220.1 +208.6 +215.4 +282.9 +348.9	+72.1 +83.1 +117.2	+79.2 +72.4 +76.5
Services	+9.2	*3,8	+5.2	+104.1	+60.0	+27.7
Total	+6.6	+2.5	+4.0	+178.4	+73.9	+60.2
Government expenditure on goods and services ²	.18.0	•II.1	+6.1	+191.2	+68.8	+72.4
Gross home investment						
Housing Flant and equipment	+16.4	.11.3	+4-7		+151.8 +159.5	+106.7
exports of goods and services	-1.7	-4.9	+3.4	+173.9	+30.3	+110,2
Imports of goods and services	+4.9	+2,3	•2.6	+188,0	+32.4	+117.5
GROSS NATIONAL EXPENDITURE AT MARKET PRICES ³	+3.1	+2.3	•4.0	+184.7	+70.4	+67.6

Calculations employ price indexes on base 1935 - 39 = 100. See explanation of methods of deflation, appendix "A", pages 16, 17.

²Includes changes in Government held inventories.

³Product of price and quantity indexes not equal to value index by amount of Inventory Revaluation Adjustment. See footnote 3, Table IX, page 19.

TABLE III

PERSONAL INCOME AND EXPENDITURE, 1947 - 1949

(millions of dollars)

	1947	1948	1949
INCOME			
Salaries, wages and supple- mentary 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 payments (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

PERSONAL INCOME AND EXPENDITURE, 1947 - 1949 (millions of dollars)

Will to 1 management and plane of the property	1947	1948	1949
EXPENDITURE			27/19/10/2
Personal direct taxes	791	821	786
Income taxes Succession duties Miscellaneous	694 61 36	717 57 47	674 56 56
Purchase of goods and services			
Goods	6,638	7,448	7,816
Perishable, - food, tobacco, beverages, drugs, fuel, etc.	4,305	4,852	5,074
Semi-durable, - clothing, house furnishings, auto accessories, etc. Durable, - automobiles, furniture, household appli-	1,429	1,586	1,602
ances, hardware, etc.	751	820	938
Miscellaneous	153	190	202
Services	2,529	2,758	3,011
Net personal expenditure abroad	-41	- 123	⊸77
Personal saving ¹	428	988	959
Total	10,345	11,892	12,495

This figure includes savings of Canadian policyholders through life insurance companies (see table VII, page 14) and net change in farm inventories as follows:

	1947 1948 (millions of	and the same of th
Savings of Canadian policyholders		Not
through life insurance companies	181 197	available
Net change in farm inventories	-111 - 65	-106

GOVERNMENT REVENUE AND EXPENDITURE, BY LEVEL OF GOVERNMENT, 1947 - 1949 (millions of dollars)

	1947	1948	1949
REVENUE			
rect taxes - persons	791	821	786
•			
Income and excess profits Federal	694	717	674
Provincial and municipal	-	-	-
Succession duties			
Federal	30	29	26
Provincial	31	28	30
Miscellaneous			
Federal	4	6	7
Provincial and municipal	32	41	49
	759	751	720
rect taxes - corporations	(29	(5)	140
Income and excess profits	450	588	547
Federal Provincial	652 72	122	126
WALL THE STATE OF			
Witholding taxes Federal	35	41	47
direct taxes	1.781	1,842	1.857
Federal	1,136	1,085	1,043
Provincial and municipal	645	757	814
		214	245
vestment income	345	346	365_
Federal	115	105	124
Provincial and municipal	230	241	241
ployer and employee contributions to cial security and pension funds	181	223	238
erer security and bension inuds			
Federal Provincial and municipal	100	129	139
itoAtuciat and addicibat	O.T.	744	,,
ansfers from other governments			
Provincial and municipal	208	150	181
	1 0/5	/ 322	4.147
tal Revenue	4.065	4,133	
Federal	2,766	2,700	2,607 1,540
Provincial and municipal	1,299	1,433	1, 740
	- 816	- 807	- 398
ficit (+) or surplus (-)			
Federal	- 717	- 802 - 5	- 480 + 82
Provincial and municipal	- 99		Y 0%
A T D D. At			
tal Revenue plus Deficit r minus Surplus)	3,249	3,326	3,749
	2,049	1,898	2,127
Federal			1,622

TABLE IV

GOVERNMENT REVENUE AND EXPENDITURE, BY LEVEL OF GOVERNMENT, 1947 - 1949 (millions of dollars)

	1947	1948	1949
EXPENDITURE			
Goods and services	1.551	1.787	2,108
Federal	619	667	861
Provincial and municipal	932	1,120	1,247
Transfer payments	1,313	1.314	1,385
Federal	1,051	1,010	1,013
Provincial and municipal	262	304	372
Bubsidies	177	75	75
Federal.	171	71.	72
Provincial and municipal	6	4	3
		and the second second	
			17299
Fransfers to other governments			
Federal	208	150	181
			- FT
	2 1 - 1 - 1		
	1 . 6 1 5		
Code 2 amount dates	2.2/0	2 20/	2 7/0
Cotal expenditure Federal	3,249	3,326	3,749
	2,049	1,898	2,127
Provincial and municipal	1,200	1,428	1,622

SOURCE AND DISPOSITION OF PRIVATE SAVING, 1947 - 1949 (millions of dollars)

TABLE V

The first section of the section of	and the second control of the second control		
	1947	1948	1949
SOUR Œ			
Personal saving	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

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

SOURCE AND DISPOSITION OF PRIVATE SAVING, 1947 - 1949 (millions of dollars)

	1947	1948	1949
DISPOSITION			
Gross home investment			
Housing	492	647	753
Plant and equipment	1,565	2,016	2,076
Inventories	879	646	12
Net foreign investment	17	399	150
Government deficit (+) or surplus (-)	-316	⇒8 07	-398
Residual error of estimate	-39	-107	+94
Total	2,098	2,794	2,687

See footnote 2, Table 1, page 3.

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TABLE VI

CORPORATION PROFIFS, 1947 - 1949

(millions of dollars)

	1947	1948	1949
	3 000	1 060	1 014
Corporate profits before taxes	1,828	1,969	1,914
Deduct: income and excess profits taxes	724	710	673
Corporate profits after taxes	1,104	1,259	1,241
Deduct: dividends paid abroad	248	249	317
Corporate profits retained in Canada	856	1,010	924
Deduct: Dividends paid to Canadian residents	237	278	283
Charitable contributions	196	18 cg 238	272
of corporations	15	16	16
483			
Undistributed Corporation Profits	602	716	625

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 policy-holders 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 that 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, Consideration for Annuities, Consideration for Sinking Funds, Consideration for Settlement Annuities, and Amounts left with the Company at Interest. Also included under receipts are decreases in policy loans, as such decreases constitute savings on the part of policyholders, while increases of policy loans are a form of dissaving, and are hence deducted.

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

In the case of Canadian companies only that portion of these items which arises from business in Canada 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 Canada" 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 detailed 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 income (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 Dominion 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.

These estimates do not include data on Fraternal Benefit Societies. All data for the estimates were obtained from Volume II of the Annual Report of the Superintendent of Insurance for Canada.

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TABLE VII

SAVINGS OF CANADIAN POLICYHOLDERS THROUGH LIFE INSURANCE COMPANIES, 1926 - 1948 (millions of dollars)

Year	Dominion Registered Companies 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

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TABLE VIII

RECONCILIATION OF NET INCOME OF AGRICULTURE 1947 - 1949, IN TABLE 1 WITH "NET INCOME OF FARM OPERATORS FROM FARMING OPERATIONS",

AS PUBLISHED BY THE AGRICULTURAL DIVISION - D.B.S.

(Millions of dollars)

	1947	1948	1949
Net Income of farm operators from farming operations. 1	1,235	1,693	
Deduct: imputed net rent of owner occupied dwellings. 2	- 19	-19	
Deductanet transfers under Prairie Farm Income Plan and Farm Assistance Act. 3	- 6	-14	
Net Income of Agriculture	1,210	1,660	1,587

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

This item is included with "Investment Income", table 1, page 2.

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

APPENDIX "A"

METHOD OF CALCULATING VALUE, VOLUME AND PRICE CHANGES OF GROSS NATIONAL EXPENDITURE

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 has total real output or the real volume of expenditure varied?" Sometimes the cost-of-living 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 general 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. Restated, 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	1949
Consumer expenditure, current dollars Divide by price index (1935-39 = 100)	10,083 156.9	10,750
Equals consumer expenditure constant (1935-39) dollars	6,428	6,589

Volume change: 6,589 6,428 = 1.025 or 4 2.5 per cent

The next step is to combine consumers' expenditure with government, 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:

Constant dollar values - current dollars - price indexes

Constant dollar value in base period = Po qo

Sum of current dollar values = $\sum p_i q_i$

Sum of constant dollar values - $\geq p_0 \ q_1$

Implicit price index in total $= \frac{p_i q_i}{p_0 q_i}$

Quantity index in total
$$= \frac{p_0 q_1}{p_0 q_0}$$

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

$$= \frac{p_1 q_1}{p_0 q_1} \times \frac{p_0 q_1}{p_0 q_0} = \frac{p_1 q_1}{p_0 q_0}$$

A minor qualification occurs in that within the smallest groups of items such as food, men's clothing, etc. the initial deflation is by existing price indexes, which are all of the Laspeyres' type. The weights within the smallest groups, however, do not in all likelihood change sufficiently from year 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 from 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

CALCULATION OF VALUE, VOLUME AND PRICE COMPONENTS
OF GROSS NATIONAL EXPENDITURE, 1939, 1947 - 1949
(Values in millions of dollars, price indexes
on base 1935 - 39 = 100)

		AND DESCRIPTION OF THE PERSON NAMED IN			The second of th
the following high appropriate states, head if which it is stated the following the state of the	and the second s	1039	194"	1948	1949
Personal expenditure on consumer goods and services	current \$ price index constant \$	3,861 101,9 3,789	9,126 140.2 6,509	10,083 156,9 6,428	10,750 163.2 6,589
Government expenditure on goods and services	current \$ price index constant \$	724 100.3 722	1,551 147.6 1,051	1,787 162.9 1,097	2,108 172,9 1,219
Gross home investment Housing	current & price index constant \$	145 102.7 141	492 171.0 288	647 202.8 319	753 212.3 355
Plant and equipment	current \$ price index constant \$	409 102,2 400	1,565 176.9 885	2,016 190.9 1,056	2,076 200.0 1,038
Inventories - book values Deduct: inventory revaluation a Equals value of physical change Physical change in constant		327 =35 292 312	879 -508 371 246	646 =548 = 98 61	12 =61 =49 =12
Exports of goods and services	current \$2 price index constant \$	1,451 97.6 1,487	3,629 182.9 1,984	4,044 198.5 2,037	3,974 205.2 1,937
Deduct: imports of goods and services	current \$2 price index constant \$	-1,328 99.3 -1.337	=3,612 185.6 =1,946	-3,645 210.6 -1,731	-3,824 216.0 -1.770
Sub-total implicit	current \$ constant \$ price index	5,589 5,514 100.7	13,630 9,017 145.5	15,578 9,267 162,2	15,849 9,356 168.7
Residual error implicit	current \$ price index constant \$	+ 9 100.7 + 9	-39 145.5 -27	-107 162,2 -66	+ 94 168,7 + 56
	current \$ price index constant \$	5,598 100.7 5,523	13,591 145.5 8,990	15,471 162.2 9,201	15,943 168.7 9,412

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 modal 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:

Commodity exports, current \$	1939 906	1948 3,011	1949 2,959
price 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. excluding residual error	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	168.7

This price index is then applied to the residual error. The current and constant dollar values of G.N.E. are then obtained by summation. The price index for G.N.E. is the same as the "implicit price index" mentioned above. The quantum of G.N.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.

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