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NATIONAL ACCOUNTS  
INCOME and EXPENDITURE -  
1938-1944.

Reference Book  
-for-  
DOMINION-PROVINCIAL CONFERENCE  
-on-  
RECONSTRUCTION  
-prepared by-  
Central Research and Development Staff  
(Dominion Bureau of Statistics)

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# TABLE of CONTENTS.

Introduction .....	p. 2
Table I: Net National Income At Factor Cost and Gross National Product At Market Prices, Canada, 1938-1944 .....	p. 4
Table II: Gross National Expenditure At Market Prices, Canada, 1938-1944 .....	p. 5
Table III: Salaries, Wages and Supplementary Labour Income, by Provinces, 1938-1943 .....	p. 6
Table IV: Net Income Of Individual Enterprise, by Provinces, 1938-1943 .....	p. 7
Table V: Personal Income Payments, Canada, 1938-1944 .....	p. 8
Chapter I: Concepts Of National Accounting -	
..... A - General Discussion .....	p. 9
..... B - Net National Income At Factor Cost and Gross National Product At Market Prices .....	p.16
..... C - Gross National Expenditure At Market Prices .....	p.32
Chapter II: Methods Of Estimation -	
..... A - Detailed Notes on Methods Used in Estimating Totals in Table I. Net National Income At Factor Cost and Gross National Product At Market Prices .....	p.35
.....B - Detailed Notes on Methods Used in Estimating Totals in Table II. Gross National Expenditure At Market Prices .....	p.54
.....C - Detailed Notes on Methods Used in Estimating Totals in Table V. Personal Income Payments .....	p.69

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## I N T R O D U C T I O N

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In recent years there has been increasing realization that national accounts, a set of accounts for the whole economy, can be a most important tool in the development of economic policy. Problems involved in the planning of a maximum war effort have emphasized the need for knowledge of the size, structure and distribution of the national income; of the relation of net national income to gross national product; and of the distribution of national expenditure - as between different sectors of the economy, as between consumption and investment, and as between war and non-war. Planning for full-employment and social security in the post-war period now requires similar information.

The usefulness of comprehensive studies in this field is by no means confined to government alone, for similar needs have been expressed on many sides. With the growing complexity of business problems, data on national income and expenditure will facilitate the study of markets, the structure of costs, the relationships of firm to industry and of particular industries to the economy as a whole.

The urgency of these needs led the Dominion Bureau of Statistics in 1944 to begin the preparation of a new set of national accounts, comprising in the first instance estimates of gross national product and national expenditure as well as of net national income, later to be expanded into other detailed accounts. These are presented now in the form of balancing accounts for the country as a whole.

In September, 1944, a series of meetings took place in Washington with a view to attaining a greater degree of comparability in the national income estimates of the United Kingdom, the United States, and Canada. These meetings were attended by the late Mr. George Luxton, then Senior Economic Statistician, Dominion Bureau of Statistics. The Bureau has been guided as far as possible by the conclusions reached in Washington at that time.





The present study of national accounts has received benefit from the advice of the Sub-Committee on National Income under the inter-departmental Committee on Financial Arrangements of the Dominion-Provincial Conference on Reconstruction. The members of this Committee include:-

..... Miss Agatha Chapman	) ...
..... Mr. J.R. Beattie	) ...
..... Mr. Walter Duffett	) ... of the Bank of Canada
..... Dr. O.J. Firestone	) ...
..... Mr. M.C. Urquhart	) ... of the Department of Reconstruction
..... Mr. Mark Sprott	) ... of the Department of National Revenue
..... Mr. R.B. Bryce	) ... of the Department of Finance
..... Mr. S.A. Goldberg	) ...
..... Mr. A.S. Abell	) ...
..... Mr. C.D. Blyth	) ... of the Dominion Bureau of Statistics

All of these have contributed unsparingly of their time and expert knowledge.

Mr. Herbert Marshall is chairman, and Dr. C.M. Isbister secretary, of this Committee.

The Central Research and Development Staff of the Dominion Bureau of Statistics has assumed responsibility for the field of national accounting under the direction of Dr. C.M. Isbister, Senior Economist, and Mr. Herbert Marshall, Dominion Statistician. Full acknowledgment must be given to the group of individuals in the Dominion Bureau of Statistics who have performed arduous and responsible tasks in various sections of the present estimates - including Mr. S.A. Goldberg, Mr. Clarence Barber, Miss K. Muttitt, Miss E. Ferguson, Mr. A.S. Abell, Mr. D.H. Jones, Mr. R.G. Bangs, Mr. S.B. Smith and Miss Agatha Chapman. The latter has worked in the Central Research and Development Staff on loan from the Bank of Canada.





TABLE I.

NET NATIONAL INCOME AT FACTOR COST and GROSS NATIONAL PRODUCT  
AT MARKET PRICES, 1938-1944

(millions of dollars)

Item No.	1938	1939	1940	1941	1942	1943	1944
1. Salaries, wages and supplementary labour income(cf.Table III)	2,449	2,540	2,860	3,529	4,233	4,790	4,983
2. Military pay and allowances	9	28	193	386	641	910	1,068
3. Investment income	712	813	1,214	1,618	1,841	1,820	1,799
4. Net income of individual enterprisers, agricultural and other(cf.Table IV)	790	867	949	1,081	1,630	1,548	1,854
5. NET NATIONAL INCOME AT FACTOR COST (1) + (2) + (3) + (4)	3,960	4,248	5,216	6,614	8,345	9,068	9,704
6. Indirect taxes <u>less</u> subsidies	646	751	863	1,074	1,116	1,145	984
7. Depreciation allowances and similar business costs	490	515	568	673	763	813	774
8. Residual error of estimate for reconciliation with Table II, Item 6	- 36	- 31	+61	-	+44	+ 111	+ 265
9. GROSS NATIONAL PRODUCT AT MARKET PRICES (5) + (6) + (7) + (8)	5,060	5,483	6,708	8,361	10,268	11,137	11,727



## CANADA

TABLE II.

GROSS NATIONAL EXPENDITURE AT MARKET PRICES, 1938-1944.

(millions of dollars)

Item No.	1938	1939	1940	1941	1942	1943	1944
1. Government expenditure on goods and services							
(a) War	37	207	820	1,935	3,449	4,441	4,681
(b) Non-war	817	837	636	595	681	893	710
2. Gross private investment at home	451	705	1,003	1,122	820	328	554
3. Net private investment abroad	18	- 97	- 90	- 268	- 175	- 324	- 252
4. Personal expenditure on consumers' goods and services	3,702	3,800	4,400	4,978	5,537	5,910	6,299
5. Residual error of estimate for reconciliation with Table I, Item 9	+ 35	+ 31	- 61	- 1	- 44	- 111	- 265
6. GROSS NATIONAL EXPENDITURE AT MARKET PRICES (1) + (2) + (3) + (4) + (5)	5,060	5,483	6,708	8,361	10,268	11,137	11,727



TABLE III.

SALARIES, WAGES and SUPPLEMENTARY LABOUR INCOME  
BY PROVINCES, 1938-1943

(millions of dollars)

Item No.	Province	1938	1939	1940	1941	1942	1943
1.	Prince Edward Island	8	8	8	10	10	12
2.	Nova Scotia	95	100	115	144	178	207
3.	New Brunswick	65	67	75	90	106	120
4.	Quebec	643	673	759	960	1,176	1,351
5.	Ontario	1,036	1,073	1,227	1,526	1,807	2,017
6.	Manitoba	138	142	153	180	201	219
7.	Saskatchewan	98	101	109	123	136	149
8.	Alberta	124	130	142	169	188	212
9.	British Columbia	239	243	269	323	427	499
10.	Yukon & N.W.Territories	3	3	3	4	4	4
11.	Canada (equal to Table I, Item 1).	2,449	2,540	2,860	3,529	4,233	4,790





TABLE IV.

NET INCOME OF INDIVIDUAL ENTERPRISE, BY PROVINCES, 1938-1943  
(millions of dollars)

Item No.	Province	1938	1939	1940	1941	1942	1943
1.	Prince Edward Island	5	6	7	8	11	14
2.	Nova Scotia	30	25	30	32	39	47
3.	New Brunswick	17	20	23	28	36	43
4.	Quebec	167	185	209	240	286	323
5.	Ontario	287	287	313	393	482	488
6.	Manitoba	57	59	67	83	137	146
7.	Saskatchewan	62	129	121	109	314	218
8.	Alberta	106	96	115	106	231	163
9.	British Columbia	58	59	63	80	92	103
10.	Yukon & N.W.Territories	1	1	1	2	2	3
11.	Canada (equal to Table I, Item 4.)	790	867	949	1,081	1,630	1,548

\* Footnote to Table IV. Included in these figures is income of farm operators from current farm production to the following amounts:

Item No.	Province	1938	1939	1940	1941	1942	1943
1.	Prince Edward Island	3	4	4	5	8	10
2.	Nova Scotia	13	9	11	10	12	17
3.	New Brunswick	7	8	11	13	20	25
4.	Quebec	69	82	97	112	143	178
5.	Ontario	136	130	142	197	274	275
6.	Manitoba	36	36	42	54	105	114
7.	Saskatchewan	44	110	100	85	288	190
8.	Alberta	84	72	90	78	197	129
9.	British Columbia	16	15	16	24	31	42
10.	Yukon & N.W.Territories	-	-	-	-	-	-
11.	Canada	408	466	513	578	1,078	980

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4	1894	...	...	...	...	...	...
5	1895	...	...	...	...	...	...
6	1896	...	...	...	...	...	...
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25	1915	...	...	...	...	...	...
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27	1917	...	...	...	...	...	...
28	1918	...	...	...	...	...	...
29	1919	...	...	...	...	...	...
30	1920	...	...	...	...	...	...
31	1921	...	...	...	...	...	...
32	1922	...	...	...	...	...	...
33	1923	...	...	...	...	...	...
34	1924	...	...	...	...	...	...
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45	1935	...	...	...	...	...	...
46	1936	...	...	...	...	...	...
47	1937	...	...	...	...	...	...
48	1938	...	...	...	...	...	...
49	1939	...	...	...	...	...	...
50	1940	...	...	...	...	...	...

## CANADA

## TABLE V.

PERSONAL INCOME PAYMENTS, 1938-1944 <sup>\*</sup>

(millions of dollars)

Item No.		1938	1939	1940	1941	1942	1943	1944
1.	Net national income at factor cost(cf.Table I Item 5)	3,960	4,248	5,216	6,614	8,345	9,068	9,704
2.	Add:Government debt interest less imputed return on productive assets	148	152	152	171	177	241	293
3.	Add; Other transfer payments to individuals	209	207	198	168	190	163	172
4.	Less: Employer and employee contributions to social security and industrial pension funds	48	53	59	96	144	185	174
5.	Less: Components of investment income (cf.Table I,Item 3) not paid out to individuals	215	308	687	1,072	1,253	1,257	1,240
6.	PERSONAL INCOME PAYMENTS (1) + (2) + (3) - (4) -(5)	4,054	4,246	4,820	5,785	7,315	8,030	8,755

<sup>\*</sup> Note: For explanation of this concept, see page 29.



## Chapter I

CONCEPTS OF NATIONAL ACCOUNTING.A. General Discussion:

The present statistical study is not complicated in its basic form of presentation. Perhaps most readers are conversant with standard accounting methods which register the annual operations of individual companies. Only slightly less familiar are consolidated accounts which portray the operation of related companies as if they were organized in a single enterprise. National accounting is most easily grasped as an extension of this principle of consolidation to the economic activities of the country as a whole.

Gross national product at market prices, Table I, and gross national expenditure at market prices, Table II, are here presented in the form of balancing accounts. The two totals are conceptually identical with one another. If all enterprises were to publish accurate accounts on a uniform basis, the statistical totals would in fact be equal. Because these conditions are not fulfilled in practice, however, there is some discrepancy between the two sides. With reference to the overall magnitudes involved, it is interesting to note how close a balance is achieved.

An effort has been made to appraise independently each of the component items, using the best statistical data obtainable. In some items the direct statistical coverage is such as to yield results of considerable accuracy. In others, the most careful estimates have necessarily been based on partial evidence. Because heterogeneous types of industry are included and because the coverage is so broad in scope, there is in no case the dollars-and-cents precision found in the accounts of individual well-managed companies.

In the simplest possible terms, gross national expenditure is an evaluation of all the end products of the economic system in a given year,



whether these are sold to private persons or to governments. These final products are made up of consumption goods and services and of capital goods formation, called gross investment. The latter includes changes in business inventories. Gross national expenditure is really an enumeration of sales for the country as a whole. It is said to be on a consolidated basis because sales of raw materials and goods-in-process between businesses are not included. Gross national expenditure is designed as a comprehensive measurement of the results of productive activities generally.

Private net investment abroad is shown separately in Table II, Item 3, and requires special comment. While the accounting problems involved are rather complicated, the general principle is very straightforward. Reference to a country's balance of international payments shows that in any year foreign investment is equal to the difference between credits and debits on current international account. Perhaps the most typical elements contained in these credits and debits are commodity exports and imports, respectively.

It is clear that the adjustment to gross national expenditure made in Item 3 is equivalent to adding exports and deducting imports of goods and services. The inclusion of exports is necessary because these are final products of Canadian industry just as much as are the products sold at home. Imports, on the other hand, are deducted. Imported raw materials and semi-finished goods would not be included in any case, since this is an accounting of final products. Other imports which are capital goods or consumption goods are already included elsewhere under the relevant sales tables and need not be counted again.

Turning to the other side of these balancing accounts, gross national product, in Table I, is an accounting of the costs incurred in the current year's output of goods and services for the country as a whole.



The total revenues from sales reported under gross national expenditure are here allocated to different categories of cost. Gross national product is also on a consolidated basis, because here again are excluded costs involved in the purchase of goods and services by one business from another.

The principal part of gross national product is the net national income at factor cost. This is shown as a sub-total in Table I, Item 5. In non-technical terms it is the income earned by persons in productive pursuits, whether their services are rendered to business firms, to the government, or directly to the consuming public. Net national income also includes the undistributed profits of corporations, an item necessarily included in the consolidated total of the country's production costs.

Net national income is useful for analyzing the distribution of factors of production, by regions and by industries. Table I, Item 1, shows the income of labour before taxes, broadly defined as salaries, wages, and supplementary labour income. Its wartime supplement, military pay and allowances, is shown in Item 2. The third item, investment income, is the return to property and capital before taxes, including interest, dividends, rent and profits. The net income of individual enterprise is shown separately in Item 4 because unincorporated establishments provide to their owners both salary income and investment income in amounts which are not subject to separate analysis.

In addition to net national income in Table I, Items 6 and 7 are required to build up to a correct total of gross national product at market prices. Indirect taxes are included because from the point of view of production they are costs to be charged against the prices of goods registered in the sales total. Subsidies paid to producers by governments, on the other hand, permit production costs to run ahead of revenues from sales. They are

deducted to achieve a formal balance between the two accounts.

Depreciation allowances and similar business reserves is the final adjustment to be made. Such allowances are an essential component of total production costs, but do not accrue to any factor of production. National expenditure is termed "gross" because all capital goods produced are included in Table II, Item 2, with no allowance for replacement of capital equipment used up in the current year's production process. If national expenditure were required on a "net" basis, this could be obtained by deducting an appropriate adjustment from Item 2 in Table II. Such an adjustment would be extremely arbitrary since depreciation allowances do not necessarily correspond to replacement expenditures.

Attention must be called to the problem of "transfer payments". These are defined as elements of personal income which are not emoluments of productive services. A good deal of what is income for the individual recipient is not properly regarded as income from the viewpoint of the country as a whole. Inter-personal transfers, such as charitable contributions, do not create a problem in the totals because they cancel each other out. Transfer payments from governments to individuals are excluded, however, from the net national income and also from government expenditure. More detailed comments appear in later sections.

Difficult problems are raised in attempting to appraise the contribution made by governments to the gross national product and gross national expenditure. Government expenditures on goods and services are made for the benefit of the population at large, but government services are not usually sold on a commercial basis. Where necessary, then, goods and services produced or distributed by governmental agencies are valued at cost in gross national expenditure. This differs slightly from the treatment

given to the products of private enterprise.

Because some government services are rendered to business, it is sometimes argued that there is duplication to this extent when total government is added to business output under gross national expenditure. When the government builds a road, this may be used by pleasure drivers and for the purpose of commerce. The latter portion of the services of the road should not be counted, so it is claimed, because it is not a final product.

This argument has some applicability but not a great deal when it is remembered that gross national expenditure is designed as a consolidated accounting of final products. Industry does not pay directly for the use of the road, and there is no need to assume that the value of this service is included in the revenues from sales of private products. To leave out such publicly financed services to business would underestimate the productive capacity of the Canadian economy.

Government debt interest is regarded as a transfer payment and excluded from net national income. There are two main reasons for this. The first is that a great deal of government debt has arisen out of the financing of wars without making any continuing contribution to national productivity. The national income should include only interest payments made for the current services of capital. The second reason for excluding interest on the public debt is that, otherwise, the national accounting totals might vary with mere changes in techniques of government finance. It is felt that statistical measurements of national economic activity should be invariant against such arbitrary factors as whether past wars have been financed out of taxes or out of government loans.

In lieu of interest on the public debt, an estimate is made of the return on government productive assets, and this is included in Table I, Item 3.



In the general measurements of national income, the procedure is broadened in several instances to include earnings from current production received "in kind", valued at prices the recipient would otherwise have had to pay for them. Such items constitute both real income and real consumption and appear identically on both sides of the accounts. Certain products retained by producers for their own consumption, such as food grown and consumed on farms, are also included, valued at prices for which they could otherwise have been sold.

Items of both these types have been noted in the appropriate sections. Pending a fuller statement of problems in this sector, it may be emphasized that to assign a money value to every type of income in kind would be impossible. Further, there is a necessary element of arbitrariness in estimating the market value of products which have not been sold in markets.

The products of what may be called the household economy, as distinct from the market economy, are in no case appraised as additions to income where these are consumed within the immediate household. As an example of this, the services of housewives are not taken into the accounts.

At the close of this brief survey of the general form of the national accounts, it may be stated again that the formal procedure is designed throughout to achieve a balance between gross national product and gross national expenditure. This balance is inherent in the structure of the accounts and does not depend upon any theory about the functioning of the economic system. The essential equality of the two sides cannot be destroyed by year-to-year changes in the Canadian economy. Any change on one side of the account will be reflected automatically on the other side, due to the design of the accounts themselves.

There is a residual error of estimate between the two sides, due

to shortcomings in available statistics. The arbitrary convention has been adopted of dividing this residual error and allocating half of it to each of the accounts. This is shown in Table I, Item 8, and Table II, Item 5. Independent estimates have been made of all of the components on both sides, and there is justification for assuming the "best" estimate of the common total to be half way between the two statistical totals achieved.

The present estimates are based on the best statistics available. They are put forward in the belief that they compare not too unfavorably in quality with similar estimates in other countries. It is nevertheless to be stressed that they are regarded as preliminary figures by the Dominion Bureau of Statistics. Qualitative improvements in these statistics are definitely planned as part of the Bureau's continuing programme, and revisions will be published whenever possible.

B. Detailed Notes on Concepts Involved in Table I.  
NET NATIONAL INCOME AT FACTOR COST AND GROSS NATIONAL PRODUCT  
AT MARKET PRICES.

Table I, Item 1. Salaries, wages and supplementary labour income.

Salaries and Wages

This figure is a total of all salaries and wages received by employees, including personal income tax and employee contributions to social security schemes deducted at the source. Cash bonuses and retroactive wage increases are included in the year in which they are awarded.

Supplementary Labour Income

Supplementary labour income consists of:

- (a) employer contributions to unemployment insurance and other government social security schemes at the time of payment into the funds;
- (b) employer contributions to private pension funds, whether through life insurance companies or self-insurance schemes, at the time of employment;
- (c) pensions paid by employers who have no fund set aside for that specific purpose and toward which employees do not contribute;
- (d) board and other allowances in cash or in kind except those paid to "no-pays" working for a family enterprise such as farming.

The income produced by "no-pays" in family enterprises is implicitly included with the net income of Individual Enterprise, Table I, Item 4.

Employer contributions to Workmen's Compensation funds are included at the time of employment insofar as they are intended to provide compensation for loss of earnings, i.e. loss of time plus impaired earning power. The



portion estimated to be for medical aid and hospitalization is not regarded as a form of income, and is, therefore, excluded. Where such contributions are made by government agencies on behalf of their employees, they are treated in the same way as those of other employers.

Payments made under government social security schemes to which no contributions are made by employers or employees are regarded as transfer payments and excluded.

If a special fund has been set aside for social security schemes in either (a) or (b) above, its interest income is considered to be personal investment income.

When data become available other forms of supplementary labour income are to be included. Meals of restaurant, hospital and other workers, insurance provided free to insurance company employees, discounts on employee purchases of consumer goods, medical care provided free of charge with the exception of treatment for industrial accidents, disease or injury, recreation facilities for employees, and free passes to transportation employees are all forms of additional income to the persons concerned and will be added to the present totals as soon as accurate estimates can be made. Two items of this same general type, food produced and consumed on farms, and income in kind to the Armed Forces have been included elsewhere - the former under Item 4, and the latter in Item 2.

Table I, Item 2. Military pay and allowances.

(a) Cash payments

Cash payments to members of the Armed Forces in Canada and overseas are interpreted as compensation for services rendered. Under this heading are included military pay, dependents' and subsistence allowances, all clothing allowances and the rehabilitation grant, i.e. the

thirty days' extra pay and one month's extra dependents' allowances upon discharge. The rehabilitation grant is analogous to the discharge pay granted by some firms.

War service gratuities and all post-discharge re-establishment benefits are excluded as transfer payments. Were they to be regarded as payments for services rendered, it would not in any case be feasible to allocate them back to the particular years in which the service was rendered.

(b) Issues in kind

Theoretically it would be desirable to include all issues in kind, food, clothing, shelter and medical and dental care. Practically, it has been found possible to include only the estimated value of food and clothing issues. Results of this procedure have the advantage of comparability with the estimates of the Department of Commerce in the United States and the Central Statistical Office in Great Britain.

No evaluation is made of reductions in railway fares which are granted to members of the Armed Forces. Reductions on short leaves are made by the railway companies themselves without compensation from the government, and are not included in the national income. The government does subsidize travelling warrants on annual furloughs home, but such trips are not regarded as additions to personal earnings.

(c) Regular Army Pensions

An attempt might be made to estimate governmental contribution to a hypothetical regular army pension fund. In practice, because the amount involved is so small, this contribution is calculated by deducting current employee contributions from the annual out-payment.

Pensions for death or disability attributable to war service are excluded.

Table I, Item 3. Investment income.

This includes returns to enterprise and property, loaned and invested, in the categories of interest, dividends, rent and profit.

(a) Interest and Rents

Since net interest and rents received by corporations are already included with other corporate net income as dividends, undistributed profits and corporate profits taxes, they are eliminated from the specific compilation of interest and rents.

Interest earned in financing production by resident individuals and by governments is included as well as all interest received from abroad. Interest received by private non-commercial institutions and by those financial intermediaries which are treated as "associations of individuals" (see note on financial intermediaries) is treated as accruing to individuals. All interest payments made abroad are excluded.

Interest payments on federal, provincial and municipal debt, except for an amount considered to be earnings on productive assets, are regarded as transfer payments, and excluded.

This approach renders necessary a special computation of interest on productive assets of federal, provincial and municipal governments. This is essentially a process of imputation and raises some difficulty. The decision as to whether or not a certain asset is productive is based on its usefulness in the current period. War assets are thus regarded as productive during the war period but afterwards only if they can be used in peacetime. The current rate of interest on the long-term debt of the government in question is applied to the estimated value of productive assets.

On the assumption that governmental debt held abroad finances productive assets, interest paid abroad on such debt is deducted from the last mentioned total of interest on governmental productive assets. An additional



justification for this treatment is that interest paid abroad represents a claim by foreigners against the current productive earnings of residents and cannot therefore be treated as a transfer payment.

The term rent is used here in its familiar commercial sense to comprehend net earnings accruing to capital assets such as land and buildings, including farm and non-farm residences, and real estate whether industrial, commercial or non-commercial.

In owner-occupied homes rents are received not in cash but as a real service. The estimated value of this service is included as net imputed rent and the corresponding gross amount appears in Table II, Item 4.

#### Note on Consumer Debt Interest

Net interest on consumer debt is excluded from net national income at factor cost although income earned in handling and administering it is included. All consumer outlay is treated as current consumption, except for outlay on housing which is regarded as capital expenditure. Noting this single exception, since consumer goods cannot give rise to investment income, it is necessary to exclude interest on the debt which finances such goods. The administrative expenses which are incurred in rendering services to borrowers are included in personal expenditure - Table II, Item 4.

This treatment does not apply to the financing of business (including landlord) purchases of consumer goods.

#### (b) Dividends received by individuals.

All dividends are regarded as earnings from productive activities. In national income will appear dividends, whether from home or abroad, received by resident individuals, governments, private non-commercial institutions and those financial intermediaries which are treated as "associations of individuals".

Dividends paid abroad are excluded along with dividends paid to corporations.

Patronage dividends paid by consumer co-operatives are regarded as price rebates and are not included in investment income.

Note on Financial Intermediaries.

The institutions which fall under this title are mainly engaged in the transfer and investment of capital. Unlike most manufacturing and service enterprises, their receipts and payments are not to be identified with sales and costs respectively. Investment trusts, life insurance companies, savings banks and loan and trust companies are all examples of financial intermediaries. The services of such institutions are rendered largely to persons and these services are not usually exchanged for a specific and identifiable fee. The value of these services should be made the subject of special estimates, and this involves treating such institutions as "associations of individuals".

The alternative to this "association of individuals" approach would have been to argue that these institutions render their services to individuals as purveyors of capital who are performing a business function. Their services would thus be business services and not final consumer services to be recorded in the national expenditure.

Adequate information for the treatment adopted is at present available only in the case of insurance companies, which are, however, the most important quantitatively of the group.

Life insurance companies combine the type of business described above (an association of individual investors) with the sale of protection against premature death. The level annual premium system involves the accumulation of large investments as reserves and the gross return on these accrues to the benefit of policyholders. The services of the companies are not sold to the public for a specific fee which can be listed in national expenditure,

because payments by the public are largely contributions of capital with a small service fee included. Consequently, the service of life insurance companies to individuals is measured by the costs of operation of the insurance company, including profits to shareholders. These include both investment and insurance costs.

(c) Corporate Profits Taxes and Withholding Tax on Interest and Dividends.

Taxes on corporate net profits and the withholding tax on interest and dividends paid to non-residents are treated as direct taxes and included in national income at factor cost under investment income. Since labour income and entrepreneurial income are included before tax, it is desirable for reasons of comparability to treat the factor share accruing to capital in a similar manner. In the case of the withholding tax, the interest and dividends on which the tax is levied are excluded from national income (after deduction of the tax) since they are paid to non-residents. The tax itself must be included, since it is retained in the country.

(d) Undistributed Profits.

Undistributed profits are the remainder of corporate net income after deduction of dividends paid and corporate profits taxes. A portion of this figure will represent undistributed profits accruing to non-residents of Canada, which theoretically should be excluded from Canadian national income. In the absence of any basis for estimating the amount accruing to non-residents, it is necessary to neglect this adjustment.

The figure of undistributed profits is calculated after deduction of current allowances for depreciation but before deduction of depletion charges (see note on depreciation). Charges to other reserves which are deductible for purposes of calculation of normal corporate tax are treated



as a current expense. Such charges are not large in magnitude, but in so far as they can be estimated (e.g. bad debt allowances) they are included in Table I, Item 7.

True capital outlays which have been charged to current expense should not be allowed as an expense for calculation of the undistributed profits figure. Presumably they will not in most cases be allowed for income tax purposes and the problem will not arise. If the amount of capital outlays charged to current expense could be ascertained, the ideal solution would be to replace this amount in operating expenses with the appropriate depreciation charge on the capital expansion involved. The same figure would, of course, be included in the estimate for depreciation under Item 7, Table I.

#### Note on Treatment of Inventories.

Current business practice in regard to the valuation of inventories has important implications for the measurement of national income.

If the change in total value of inventories is reflected in profits in the national income and in investment in the national expenditure, then appreciation or depreciation in value of already existing stocks is included in national income for the current year.

If national income estimates are to arrive at earnings from the current production of goods, it is desirable that the goods taken out of inventory should be costed as close to their current value as possible. Similarly, it is desirable that investment in inventories should measure the current value of the physical change.

Distortion becomes important only if the first-in-first-out method is commonly used as the basis of inventory accounting. The last-in-first-out and base-stock methods do in effect come close to taking into operating expenses the current value of goods withdrawn from inventory.

Calculation of a satisfactory inventory revaluation adjustment involves, however, knowledge of prevalent methods of inventory valuation, knowledge of the rate of turnover of inventories and use of an appropriate price index. Since adequate information on these points is lacking at the present time, no revaluation adjustment has been included in the present estimates for business inventories in general. It is felt that any attempt at such an adjustment at the present time would be so arbitrary as to be meaningless.

An exception is made in the case of farm inventories and of grain in commercial channels. The method of calculation of agricultural income permits inclusion of inventories held on the farm at either the current value of the physical change or the change in total value. The former method is used since it is conceptually desirable. In the case of commercial grain information is available which makes possible a better approximation to a revaluation adjustment than is the case for inventories generally. Since the carry-over of grain from year to year is extremely variable, and since it may represent an important proportion of total inventory holdings, it has been considered desirable to introduce an inventory revaluation adjustment here.

A further problem in regard to inventories relates to the handling of inventory reserves. Such reserves are essentially a method of providing against contingencies such as falling prices and to some degree take the place of an inventory revaluation adjustment.

Canadian income tax regulations allow charges to inventory reserve as a deduction for excess profits tax purposes only (since 1941); allocations to inventory reserves cannot be deducted from profits in calculation of normal corporate income tax. Since figures for undistributed profits are based on normal tax income, they will automatically show profits before deduction of charges to inventory reserves.

It would be useful to show the amount of these reserves in any given year but adequate information on this point is lacking.

Table I, Item 4. Net Income of Unincorporated Individual Enterprise,  
Agricultural and Other.

This separate classification is called for because it includes a mixture of salaries, wages, withdrawals, savings and investment income on owned capital, which could be broken down and distributed among other headings only with great difficulty and on a completely arbitrary basis.

It covers those salaries and withdrawals of working proprietors which are obtained from their own businesses. Any earnings they derive from other sources are included under the headings of salaries and wages and investment income. Imputed rent of owner-occupied land and productive buildings (farms, factories, etc.) is implicitly included here.

Imputed rent on owner-occupied houses is not shown here because it is included in investment income. Other elements of income of individual enterprisers which it would be desirable to separate are withdrawals and savings, but this is not practicable.

The most important class of individual enterprise is agriculture. Here are excluded non-income items, such as receipts under the Prairie Farm Income Act, which are not primarily for productive service. Subsidies which can be regarded as payments for productive service (Wheat Acreage Reduction Act and government payments to maintain prices) are included.

The Prairie Farm Adjustment Act is treated as a special case, analogous to unemployment insurance in the case of employees; farmers' receipts from wheat are to be shown before deductions for P.F.A.A. Payments to farmers by the Wheat Board on participation certificates are to be included at the time of payment. It would be possible to take these payments back to the crop year to which they apply, but this would be a distortion of the idea of income



since the value of participation certificates is indeterminate for a considerable time after the crop year has ended.

Deductions are made for farm expenses, including paid rent and provision for depreciation, and adjustment is made for changes in inventory.

Food eaten on the farm is added at farm prices since sale at farm prices would have been its only alternative use.

#### Note on Government Contribution to National Income

Government contribution to the national income is estimated on the basis of the amount paid for productive services rendered by governments, i.e., net national income at factor cost includes wages, salaries and rent paid by governments and the imputed interest on government productive assets, but does not include government saving or dissaving. This differs from the "payment price" approach, where government services are valued according to the current payments by the community through taxes, fees, etc. In the latter, income from government equals government payments for wages, salaries, rent and net interest on national debt plus government saving or dissaving (as measured by the difference between current revenues and total of current expenditures plus non-current expenditures for non-productive assets). Were this method to be adopted, national income would vary according to whether government expenditures were financed by taxation or by borrowing. It is felt that for this reason the productive services of government are better valued at cost.

As stated above, interest paid on direct federal, provincial and municipal debt is treated as a transfer payment, and, therefore, excluded from net national income. The reason is that a large part of such debt, incurred, for example, from unemployment relief or during past wars, finances no productive service in the current period. Insofar as the government debt does finance productive assets, it will be included in the national income through an

estimate of the imputed return on them.

A further justification for this procedure is found by making a comparison with private business where interest paid constitutes part of the earnings from the use of productive services. The level of interest proper is determined by contract, but if it is more than it should be in an economically sound project, the return to equity capital is correspondingly decreased and, in fact, the interest itself may fail to be paid. In any event, the total return on property is determined by market demand for the product and the willingness of capital to enter or stay in the industry. The total return to property, of which interest is a part, is thus determined not by any contractual agreement but by economic factors affecting general business conditions. In the case of government debt, the interest is determined solely by a contractual arrangement and has no necessary relationship to return on productive assets.

Business enterprises owned by governments (e.g. Post Office, C.N.R., Ontario Hydro) are given identical treatment with those of the private sector. This would appear to be more useful than the alternative method of including such business enterprises with the government sector, in which case their net profits or losses would be treated respectively as indirect taxes or as subsidies. Insofar as their losses are covered by direct government expenditures, the amounts should be removed from the private sector and shown as government subsidies.

#### Note on Non-Commercial Institutions.

Non-commercial institutions are defined as those whose service charges are not customarily calculated to cover expenses, e.g., hospitals, charitable institutions, etc. Measurement of their contribution to the national income presents a special problem.

The revenue of non-commercial institutions consists of fees, of gifts



from government, business and individuals, and of investment income. Unlike ordinary business institutions, the value of their services is not fully reflected in the fees they charge. Nor is it logical to assume that the value of their services is equivalent to the total of fees and gifts received, since the amount of gifts does not correspond in any sense to current services rendered to the donor or to the community as a whole.

The solution is to measure the services provided by non-commercial institutions by their expenses. This involves regarding individuals as paying out of personal incomes the expenses of non-commercial institutions. Gifts from governments and from business, except when the latter are properly treated as business costs, are looked upon as transfers.

Since fees and gifts received by non-commercial institutions are regarded as transfer expenditures out of other incomes, they will not be included specifically in national income at factor cost. Investment income of these institutions is treated as accruing directly to individuals and is therefore included specifically under investment income.

Current and capital expenditures of non-commercial institutions will be included in Table II under Items 2 and 4. Fees and gifts from individuals to non-commercial institutions will not be included under personal expenditure since they are regarded as transfers.

Table I, Item 5. Net National Income at Factor Cost - is defined as the aggregate of the net earnings paid or accruing in a given year to individuals who are resident in Canada, or temporarily abroad, and to governments and other public agencies in Canada, as a return for their participation in production. It is interpreted to include corporate profits taxes and the undistributed profits of corporations in addition to shareholders' dividends. The contributions made to current production by labour, management, enterprise and

property are, in effect, evaluated in this total through the remuneration they receive as factors of production.

Following this definition, dividends and interest paid abroad are excluded, but in a closely related case an exception is made, viz. to include the accrual in Canada to residents of other countries of profits which are undistributed and to include the accrual, to this same group, of profits which are required to pay withholding tax and corporate profits taxes.

In the above definition the term "net" refers to the fact that corporate and non-corporate income are reckoned after deduction of sums allowed for depreciation.

The net national income at factor cost excludes in principle capital gain or loss.

#### Note on Personal Income Payments (see Table V)

The concept of personal income payments is directly related to other concepts of national income and is derived by the following steps. From net national income at factor cost are deducted all those elements of earnings that are not paid to individuals, the more important of which are the undistributed profits of corporations, corporation income taxes and government trading profits. On the other hand, certain transfer payments, defined as those elements of personal income which are not emoluments of productive services, are added. Since inter-personal transfers cancel out in their effect on aggregate personal income, they can be ignored. An adjustment is then made by adding in transfer payments received by persons from governments, of which a principal element is interest on government bonds. A final adjustment is made for social security and industrial pension funds in that employer and employee contributions are deducted and outpayments added back. The aggregate of personal income payments is obtained as the resultant of these adjustments. It is the disposal of this total which makes up consumer expenditures, personal savings and taxes levied on personal incomes in any year.

Table 1, Item 6. Indirect Taxes

Indirect taxes represent a part of the market prices of goods which does not appear in factor costs.

The distinction between these and direct taxes is that the latter are levied on income, corporate or personal. This operational distinction is not based on any assumption regarding shifting and ultimate incidence of taxes of different types. Business accounting procedures provide a guide as to whether a tax is direct or indirect. Thus all taxes which are treated as costs by business, such as real property taxes, should be taken as indirect. Those levied as a percentage of net profit are regarded as direct taxes.

A case which requires consideration is that of sales taxes which are not included in market prices as reported by retailers. These are to be treated as indirect taxes, and retail sales, as reported by retailers, adjusted by their amount for inclusion in national expenditure.

Real property taxes are treated as indirect whether on owner-occupied or on rented property. Since treatment of imputed rent of owner-occupied property involves regarding the owner-occupier in the dual role of landlord and tenant, this procedure is not inconsistent.

Government license fees, service charges, etc., paid by business are treated as indirect taxes only where the government organization levying such charges is not included with the business sector. Postal charges, for example, should not be included with indirect taxes since the post office is treated as a business concern and its operations are therefore included on a new basis.

Subsidies.

Subsidies represent amounts paid by governments in participation in the current costs of producers. For this reason they must be deducted



from factor costs to arrive at gross national product at market prices.

Excluded are (1) subsidies from one government to another, (2) government payments for which no productive service is rendered, i.e., transfer payments, and (3) subsidies for capital improvement or expansion, which are capital transfer payments.

Table I, Item 7. Depreciation Allowances and Similar Business Reserves.

An estimate of current consumption of capital must be added to net national income at factor cost to arrive at gross national product.

In view of the impossibility of arriving at a figure of the true economic consumption of capital, it is necessary to use current accounting allowances for depreciation and obsolescence as a basis for the estimate, although these may vary widely from actual physical capital consumption. The formal balance of Tables I and II is not thus disturbed.

Special consideration must be given to cases where depreciation accounting is not practised. The railways are a case in point, although in recent years they have changed over to a more comprehensive depreciation basis. In some cases, replacements may be charged directly to operating expenses. If such replacement charges do not vary widely over a period from those which would have been made under the depreciation method, they can be included without adjustment in the estimate for depreciation. In some cases, capital outlays which have no relation to the wearing out or replacement of equipment are charged to current expense. Theoretically such capital outlays should be added back to profits and replaced by the relevant amount of depreciation, the latter being included in the general estimate for depreciation.

Depletion charges are not included with depreciation since they are extremely arbitrary and represent a completely inadequate approximation to current consumption of natural resources. The figure for

profits in net national income at factor cost is calculated before deduction of current accounting allowances for depletion.

Provision for losses from fire and other insurable risks is analogous to depreciation and is included under this heading.

Bad debt allowances should be included here because they enter into the market prices of goods and services in national expenditure but do not represent income of any factor of production. The figures used should, of course, be the amount included by businesses themselves in operating costs.

C. Notes on Concepts Involved in Table II.

GROSS NATIONAL EXPENDITURE AT MARKET PRICES

Table II, Item 1. Government Expenditure on Goods and Services.

War and Non-war

This comprises purchases of newly produced goods and services, including capital goods and net government investment abroad. Domestic transfer payments, loan repayments and payments to sinking funds are all excluded. Subsidies representing payments for current productive services are excluded since they appear as a deduction in Table I.

Only expenditures in connection with activities which are strictly governmental in nature are included. Current expenditures of government enterprises which charge fees for services to the general public - such as the Post Office, C.N.R. and Ontario Hydro - are treated as business expenses and deducted from their revenues. Capital expenditures of such enterprises are included with private investment under Item 2, Table II.

Interest on government debt is excluded since it is already noted as a transfer payment. It is replaced here by the figure used to represent the return on productive assets of governments in Table I, Item 3.

Government expenditures are divided between war and non-war. War expenditures cover expenditure of the Defence Departments prior to 1939, and,



since then, items connected with the financing of allied nations (e.g. F.E.C.B. sterling accumulations, official repatriations, etc.) and with war relief (e.g. U.N.R.R.A.) as well as the war appropriation.

Table II, Item 2. Gross Private Investment at Home

This comprises outlay for new investment goods by private persons, business and autonomous government bodies. Included are expenditures made for the replacement of existing plant and equipment. The series has been designed as far as possible to be consistent with the net investment income series.

(a) New Construction

Included under this heading is new building and engineering construction, including residential construction, carried out by or for private authorities.

(b) New Machinery & Equipment

Purchases of new durable producers' goods, excluding items such as small tools which are generally treated as current expense items, and consumer movable property, purchased for business purposes, are the main components of this series.

(c) Inventories

This includes the change in value of privately held inventories, except in the case of farm, grain and livestock inventories and private commercial grain stocks, where the current value of the physical change is used.

(See Note on Inventories - Table I, Item 3).

Table II, Item 3. Net Private Investment Abroad.

This series measures the net change in foreign assets, including monetary gold held by private authorities. It is obtained by adjusting the annual net international balance on current account to eliminate changes due to government lending or borrowing abroad.

Table II, Item 4. Personal Expenditure on Consumers' Goods and Services.

This comprises personal expenditure of Canadian residents, including implied expenditure out of income in kind, on consumers' goods and services. It includes expenditures of Canadian residents temporarily abroad (e.g. tourists, members of the armed forces), and excludes expenditures of foreign residents temporarily in Canada. All expenditures that are regarded as business costs are excluded.

Table II, Item 6. Gross National Expenditure at Market Prices.

This is defined as the gross value at market prices of the annual flow of consumer goods and services and capital goods. Goods and services produced by governmental agencies on a non-commercial basis, however, are valued at cost. Capital equipment is included in toto with no deduction for its current consumption in productive processes. The value of materials and services produced by private industry and consumed in current production is already included in the market prices of finished goods and is not counted again. Briefly, the concept attempts to evaluate all final products of the economic system in a given year, including consumer goods and services and capital goods.

## CHAPTER II

METHODS OF ESTIMATION

## A. Detailed Notes on Methods Used in Estimating Totals in Table I.

NET NATIONAL INCOME AT FACTOR COST and GROSS NATIONAL PRODUCT AT MARKET PRICESTable I, Item 1. Salaries, Wages and Supplementary Labour Income.Salaries and Wages

Salary and wage payments are compiled on an industrial basis. They are counted before deduction of income tax, employee contributions for unemployment insurance and other levies.

Withdrawals of working proprietors are excluded here and are included in Net Income of Individual Enterprisers - Item 4.

Wherever possible, salary and wage payments as reported to the annual Census of Industry are used as the basis of estimates. In the case of some industries, comprehensive data of this type are not available and the estimates are based on relatively inadequate information.

Salaries and wages in agriculture for 1941 are based on Decennial Census data and are projected to other years on the trend indicated by sample surveys carried out by the Agricultural Branch (See Quarterly Bulletin of Agricultural Statistics, April-June, 1944).

Other cases where Decennial Census data are used as a base include fishing and trapping, trade, and certain service industries. In the case of trade, the payrolls index prepared by the Employment Branch, Dominion Bureau of Statistics, is available for projection since 1941, and for earlier years the employment index for trade is used in conjunction with the general average index of wage rates prepared by the Department of Labour. In other cases, less satisfactory information is available and projections are made on the basis of general indexes of employment and wage rates.

For the finance and insurance groups, fairly direct information is



available from such sources as the Canadian Bankers Association, Reports of the Superintendent of Insurance, and various provincial reports. In the case of life insurance companies, commissions are included with salary and wage payments.

For salary and wage payments of Dominion and Provincial governments information is available in the Public Accounts. Pay and allowances of the Armed Forces are excluded here and are shown separately under Item 2. For municipal governments, the estimates are less satisfactory, being based on Decennial Census data for 1941 and projected on the experience of a sample of cities.

Figures for the various industrial groups together with detailed notes on methods and sources will be contained in a forthcoming publication of the Dominion Bureau of Statistics.

#### Supplementary Labour Income

Included under this heading are:

- (a) Board and living allowances. These are estimated separately for industries where they are important, e.g. agriculture, logging, domestic service. In the case of agriculture, some information is available from the Decennial Census and from sample surveys carried out by the Agricultural Branch, Dominion Bureau of Statistics. In other cases, the estimates are based on relatively arbitrary assumptions both as to the numbers involved and as to the value of board.
- (b) Welfare expenditure by employers on behalf of their employees. Estimates are based on a questionnaire received from 1,954 firms. Coverage is known to be incomplete.

- (c) Employer contributions to government funds. Figures are obtained from the Unemployment Insurance Commission and from Workmen's Compensation Boards operating in eight provinces. Adjustment was made to employers' assessments to Workmen's Compensation funds to exclude amounts estimated to be necessary to cover medical aid and hospitalization. The amounts included under this heading are shown in the following Table:

Income in the Form of Employers' Contributions to Workmen's Compensation and Unemployment Insurance Funds - 1938 to 1944. (Thousands of Dollars)							
	1938	1939	1940	1941	1942	1943	1944
Employers' contributions less amounts excluded	16,968	17,516	19,807	37,986	62,289	70,726	72,529

- (d) Employer contributions to industrial pension funds and non-contributory pension payments. The basis of these estimates is the survey mentioned in connection with welfare expenditures. To the total reported on this survey are added figures for banks, insurance companies and governments.

Table I, Item 2. Military Pay and Allowances Including Income in kind.

These estimates were made by the several military departments concerned.

The Chief Treasury Officer (Army) has supplied figures for pay and allowances by calendar years from September 1939 to the end of 1944. Details of pay and allowances for the balance of 1939 and for 1938 have been estimated from statements of pre-war expenditure.



The estimate for food was based on the assumption that fifty cents per man-day was a fair valuation of food rations to all personnel not in receipt of subsistence allowance. This sum, which corresponds to the amount of subsistence allowance paid in lieu of rations under Service regulations, was multiplied by average strength of the Canadian Army each year exclusive of those living on subsistence. The general method of estimating clothing was to compute per capita cost of all normal issues of clothing and necessities and their annual upkeep and to multiply the cost figure by the number of persons involved each year. Care was taken to exclude items of special combat clothing and to make such deductions as were considered essential for extra wear and tear incurred during war operations and combat exercises.

A similar method was used by the Naval Services and the Royal Canadian Air Force. The estimates with regard to the latter were complicated by the necessity of separating out expenditures incurred on behalf of non-Canadian members of the British Commonwealth Air Training Plan. Generally, this was made on a straight proportional strength basis.

Table I, Item 3. Investment Income

This item is made up of the following categories of income:

- (1) corporate taxable income adjusted for depletion charges and for dividends paid abroad;
- (2) bond and deposit interest received by individuals in Canada;
- (3) dividends and interest received from abroad by individuals in Canada;
- (4) withholding taxes;
- (5) rents and mortgage interest received by individuals;
- (6) investment income of life insurance companies and fraternal societies, accruing on behalf of residents, and profits of mutual fire and casualty insurance companies;
- (7) investment income of industrial pension funds and of cooperatives;
- (8) trading profits and other investment income of governments.

From the total of items (1) to (8) inclusive were deducted interest on consumer debt and interest on government direct bonded debt. Imputed returns on government productive assets were added back. The grand total of investment income was adjusted by the allowance for inventory revaluation of grain in commercial channels.

(1) Corporate Taxable Income including Depletion Charges

The basic data for this estimate came from the Income Tax Department.

A compilation was made of collections of corporate income taxes. To use these figures to estimate corporate taxable income it was necessary to obtain the percentage which total normal and excess profits taxes are, on the average, of taxable income. For taxation years 1938 to 1943 this percentage was computed from a sample of assessed returns. For taxation year 1944 the percentage was based on a run of punch cards of returns available as at October 15, 1945. The percentages thus established were used to blow up the figure of tax collections to obtain total taxable income.

Figures of corporate taxable income thus computed are for companies' fiscal years ending during a stated calendar or taxation year. The adjustment of these figures for time lag was based on a sample distribution of companies' fiscal years by month of fiscal year end.

From the adjusted figures of taxable income it was necessary to deduct losses. This figure was available for taxation year 1944 only. Projection to other years was made on the inverse trend of profits.

Dividends paid abroad were obtained from the International Payments Branch of the Dominion Bureau of Statistics. Depletion charges allowed by Income tax for 1944 were obtained from the Department of National Revenue, and added back. The 1944 figures for depletion were projected on an index of depletion charges of companies included in the Bank of Canada corporate study.

(2) Bond and Deposit Interest Received By Individuals.

(a) Bond Interest -

A sample of ownership certificates compiled for the Sirois Commission showed the amount paid to individuals, including estates, trustees and nominees in 1937 for domestic and foreign non-registered bonds and share warrants and dividends from abroad. To this amount was added interest to individuals on federal registered debt in 1937, estimated from information supplied by the Department of Finance, and interest on non-federal government registered bonds in 1936, supplied by the Income Tax Division. From this grand total were subtracted estimated amounts paid by share warrant dividends and dividends and interest from abroad to give an estimate of bond interest received by individuals in 1937. The figures were checked as far as possible with information available in the International Payments Branch. The figure for 1937 was projected to 1938 in the same proportion as total bond interest paid to residents.

A separate estimate was made of interest paid to individuals on direct funded debt of the Dominion Government for the years 1938 to 1944. This estimate is based on a study made by the National War Finance Committee of estimated average holdings, by type of holder, of Dominion Government debt for the calendar years 1938 to 1944.

From the figure of interest paid to individuals on all bonded debt in 1938 was deducted the estimated interest on Dominion Government bonds, and the remainder was projected in 1944 on an index made up of the sum of estimated interest paid to residents on direct and indirect provincial and municipal bonded debt, on Dominion Government guarantees and on corporate bonded debt including C.N.R. non-guarantees. To the figures of interest to individuals thus obtained were added the direct estimates of interest to individuals on



Dominion Government direct debt for each year.

(b) Deposit Interest -

For 1943 and 1944 the figures of interest on deposits paid to individuals by chartered banks is based on total deposit interest paid by the chartered banks as published by the Minister of Finance, less an estimated amount paid abroad and to corporate bodies in Canada. Figures for 1938 to 1942 were obtained by projection back on the basis of changes in Canadian interest bearing deposits.

Deposit interest paid by loan and trust companies was estimated from annual reports of the Superintendent of Insurance of the Dominion of Canada and of the Registrar of Loan Corporations of Ontario, and financial statements filed with the Treasurer of the Province of Quebec. The figures were adjusted upwards to include deposit interest of savings banks.

(3) Figures for dividends and interest received from abroad were supplied by the International Payments Branch.

(4) Withholding taxes were compiled from the Dominion Public Accounts and adjusted to calendar years.

(5) Rents and Mortgage Interest Received By Individuals

(a) Rents -

The general method used here is to estimate gross rents paid and imputed, and to subtract from this total gross rents received by corporations and the expenses applicable to the remainder. Of the three main classes of gross rents -- non-farm residential, non-farm non-residential, and farm -- the first is the most important in size. It is also the one for which coverage is most satisfactory. The estimates of the other two classes of gross rents are of necessity more arbitrary. Estimates of the expense components of gross rents are also arbitrary. Improvement of these estimates must await a number of surveys in this field.

Estimates of gross residential rent are in general based on information from the Decennial Census of 1941 regarding number of dwellings in various classes and average rent paid for tenant-occupied dwellings. In the case of farm rents estimates are prepared by the Agricultural Branch, Dominion Bureau of Statistics. (See Quarterly Bulletin of Agricultural Statistics, April-June, 1944). For the compilation of non-residential rents, various sources are used, including annual reports of insurance, trust and loan companies, reports supplied to the Transportation Branch, Dominion Bureau of Statistics, by railways and motor carriers, and returns from the Dominion Bureau of Statistics capital schedule for 1941.

For the non-farm residential sector, estimates of expenses for both owner-occupiers and tenants are based mainly on information from the 1941 Housing Census regarding outlays on property taxes, repairs and maintenance by owner-occupiers. Adjustment has been made for memory bias and non-reporting. Depreciation is arbitrarily set at varying percentages of gross rents for different classes of dwellings. Estimated fire insurance premiums and interest on residential mortgages are included. In the case of farm rent, estimates of expenses are prepared by the Agricultural Branch, Dominion Bureau of Statistics. For the non-farm non-residential sector, the only information available is the experience of insurance companies appearing in the annual Report of the Superintendent of Insurance, and this experience was applied to the remainder of the field.

In order to arrive at a figure of net rents received by individuals, rents received by corporations and by government agencies which are treated as businesses must be deducted from the overall figures. The amount of gross rents received by corporations is available from the Income Tax Division for 1944 only. It was assumed that the proportion of gross rents received by corporations to total gross rents would be the same in other years. For the purpose of deducting appropriate expenses it was assumed that gross rents received by individuals include all residential rent.



## (b) Mortgage Interest

Since no direct information is available on the amount of interest paid annually on mortgages and agreements of sale, it was necessary to base our estimate on a compilation of the total amount of this debt outstanding. The amount held by governments, corporations and various financial institutions was obtained from various published sources and in some instances from correspondence. Sufficient information was available to break this total down into farm and non-farm debt.

Until such time as a survey of this field can be made, information as to the amount of mortgages and agreements of sale held by individuals is necessarily very limited. On the basis of what evidence there is and after discussion with informed opinion in the field, it was estimated that individuals held 45 per cent of the total mortgage debt on urban property. The total amount of urban mortgage debt, estimated on this basis, checks roughly with an independent estimate made by expanding the total amount of debt reported against owner occupied housing in the 1941 Census of Housing.

The Agricultural Branch, Dominion Bureau of Statistics, have prepared estimates of total farm mortgage indebtedness on the basis of the 1941 Census of Agriculture and other available information. Deducting from this total the amount of institutionally held farm mortgage debt, estimated as above, gives the amount of individually held farm mortgages and agreements of sale.

Rates of interest used were based on 1941 Census information and on informed opinion. This gave the total amounts of interest payable on farm and non-farm debt and to individual and other holders. The amount of interest payable, rather than interest actually paid, is included here.

(6) Investment Income of Life Insurance Companies and of Fraternal Societies.

Figures of interest, dividends and rents accruing on behalf of policyholders were compiled from Volume II of the annual Report of the

Superintendent of Insurance. As policy loans are believed to be largely in the nature of consumption loans, the interest on them was deducted. Income accruing on behalf of non-Canadian policyholders, included with total investment income of Canadian companies, was estimated on the basis of the formula

$$\frac{\text{liabilities in Canada}}{\text{total liabilities}} \text{ and deducted.}$$

A similar procedure was used in estimating investment income of fraternal societies. Investment income of provincially registered insurance companies was estimated on the basis of the formula

$$\frac{\text{net policies in force provincially registered companies}}{\text{net policies in force Dominion registered companies.}}$$

The amount involved was small.

A list of mutual non-life insurance companies was obtained and their profits were compiled from Volume I of the Reports of the Superintendent of Insurance, Dominion of Canada.

(7) Investment Income of Pension Funds and Co-operatives.

Net profits of co-operatives are estimated from a study of financial statements of co-operatives with sales of over \$200,000.00 filed in the Economics Branch of the Department of Agriculture. Figures on investment income of industrial pension funds are based on a questionnaire survey carried out by the Dominion Bureau of Statistics in 1945.

(8) Miscellaneous Government Investment Income.

(a) Government Trading Profits -

The trading profits or losses of the following Dominion government agencies -- Post Office Department, Canadian Farm Loan Board, Canadian Wheat Board, National Harbours Board, Canadian Broadcasting Corporation, Yukon Territorial Liquor Commission, Bank of Canada, Canadian National Railways, Canadian National (West Indies) Steamships, Hudson Bay Railway, Prince Edward Island Car Ferry, and Trans-Canada Air Lines -- are included here. Included also are the

trading profits or losses of crown companies administered by the Departments of Finance and Munitions and Supply.

Calendar year figures have been used when available. Otherwise, adjustments have been made to a calendar year basis.

The sources of these data are the Public Accounts of Canada supplemented by various annual reports.

Provincial trading profits or losses include operations of the Liquor Control Boards and Commissions, the provincial power plants, telephone services, and steam railways. Lesser provincial activities include land settlement boards, agricultural farms, creameries and agricultural loan associations, etc.

The data were derived from the Public Accounts of the provinces and various annual reports. Wherever possible, adjustments were made to exclude debt retirement and all transfers to reserves (except depreciation reserves) from operating expenses. Further adjustment was made to a calendar year basis.

Municipal trading profits include net income of the electric railways, light and power systems, water supply systems and telephones.

Data were compiled from reports of the Ontario Hydro Electric Commission, annual financial reports of various cities, reports of the Departments of Municipal Affairs of the provinces, and the Dominion Bureau of Statistics "Electric Railways" report. Adjustments were made to exclude debt retirement and all transfers to reserves (except depreciation reserves) from operating expenses.

(b) Returns on Government Investments -

This item consists, for the Dominion, of interest receipts on loans and advances to provincial governments, National Harbours Board, Canadian National Railways and other miscellaneous agencies. Trading profits which are shown elsewhere were excluded, as was interest on sinking funds. Receipts of



interest premiums and exchange of provincial and municipal governments are also included. The figures were based on Dominion and Provincial Public Accounts, Report on Financial Statistics of Provincial Governments and on "Comparative Statistics of Public Finance" prepared for the Dominion-Provincial Conference.

(c) Interest On Public Funds Held By Governments -

This item includes interest accruing on Workmen's Compensation funds, deposit and trust accounts, insurance and guarantee funds, pension and retirement and unemployment insurance funds. The figures were compiled from Dominion and Provincial Public Accounts and from various reports.

Inventory Revaluation Adjustment.

The inventory revaluation adjustment for grain in commercial channels represents the difference between the change in value of these stocks of grain valued at year end prices, and the current value of the physical change.

Interest On Consumer Debt.

Accounts receivable as reported to the 1941 Merchandising Census are divided into charge and instalment accounts and projected backward and forward on the basis of several studies. The annual Report of the Dominion Superintendent of Insurance on small loan companies and money-lenders was also used. An arbitrary percentage was applied to consumer debt thus estimated.

Interest On The Public Debt.

The figures include all interest on direct bonded debt, treasury bills and war savings certificates. Interest on sinking funds is excluded. Dominion and Provincial Government data were compiled from the various Public Accounts, and adjustments were made to a calendar year basis. Municipal Government interest was estimated from data as shown in the Statistical Summary of



the Bank of Canada and material prepared for the Dominion-Provincial Conference of 1945.

Imputed Returns On Government Productive Assets.

From Public Accounts and other reports of the Dominion and Provincial governments were compiled figures of the value of productive assets. These include: public buildings, highways, roads, bridges, ferries, lands, machinery, equipment, supplies, government farms and mines, capitalized unemployment relief, etc. Among war assets which were considered as productive were government owned and operated companies, crown plants (both government and privately managed) plant and equipment acquired from the United Kingdom.

Figures of productive assets thus compiled were expressed as a fraction of gross unmatured debt including treasury bills less sinking funds and this fraction was applied to estimated interest on the direct debt. The resulting figure measures the imputed return of the assets.

The data were compiled from Dominion and Provincial Public Accounts. The estimate for 1943 had to be projected to 1944.

Total debt figures for direct municipal relief were compiled from annual reports of the Departments of Municipal Affairs for British Columbia, Ontario and Saskatchewan. Reports of various cities, such as Winnipeg, Montreal, Quebec, Verdun, etc., were used to make similar estimates for Manitoba and Quebec. The total direct debt for the five provinces, thus compiled, was arbitrarily raised to include omissions and any debt which may have been incurred for unproductive work relief. It was assumed that the other four provinces had very little outstanding relief, inasmuch as most of their relief expenditures were financed out of current revenue.

The interest charges were estimated by applying an average rate of interest to the total debt.

Table I, Item 4. Net Income of Individual Enterprise.

(1) Net Income of Farmers from Farming Operations

Detailed notes on method are contained in the Quarterly Bulletin of Agricultural Statistics, April-June, 1944. The basis of estimation is now being changed and revisions in method will be noted in subsequent issues of the Bulletin.

Reconciliation with the Agricultural Branch Estimates  
Canada, 1938 to 1944.  
(Thousands of dollars)

	<u>1938</u>	<u>1939</u>	<u>1940</u>	<u>1941</u>
Net Income of Farm Operators from current farm production .....	408,100	466,193	512,756	578,249
Plus Net Rent on Owner-Occupied Houses .....	15,757	16,017	16,298	16,587
Plus Net Transfer under PFAA .....		7,893	4,775	13,593
Plus Payments under PFIA .....				18,983
Net Income of Farm Operators from Farming Operations .....	423,857	490,103	533,829	627,412
		<u>1942</u>	<u>1943</u>	<u>1944</u>
Net Income of Farm Operators from current farm production .....		1,077,986	979,642	1,227,367
Plus Net Rent on Owner-Occupied Houses .....		16,826	17,249	17,938
Plus Net Transfer under PFAA .....		- 1,887	4,145	- 4,406
Net Income of Farm Operators from Farming Operations .....		1,092,925	1,001,036	1,240,899

(2) Other

The estimates are compiled on an industrial basis and are in general based on relatively inadequate data.

In the case of some industries, e.g. trade, insurance and real estate, special sample surveys have been carried out recently by the Dominion Bureau of Statistics and the estimates are based on the results of these surveys. It is planned to extend such surveys in the near future to include additional groups.

For other industries, estimates are based on Decennial Census information for 1941, assuming varying relationships between net income of individual enterprisers and employee earnings as reported in the Census. Such an assumption is obviously extremely arbitrary. Projections for these industries are based on indexes of employment and wage rates. Net incomes of the important group of professionals are estimated on this basis, but it is planned to cover this group by sample survey as soon as possible.

In the case of the logging industry a special study of reports received by the Census of Industry was made in order to analyze returns of unincorporated enterprise. Estimates of net income were based on this study, but it is necessary to make various arbitrary assumptions as to expenses not included in the returns and as to coverage of the returns.

For fishing and trapping, estimates are based on figures of gross revenue collected by the Dominion Bureau of Statistics, reduced by arbitrary amounts for expenses.

Table I, Item 6. Indirect Taxes less Subsidies.

(1) Indirect Taxes

Indirect taxes levied by the Dominion Government consist of

(1) customs import duties, excise duties and taxes, taxes on corporations other than on profits; (2) privileges, licenses and permits; (3) fees not involving a direct service by the Government; (4) the processing levy collected by the Canadian Wheat Board in 1941; and (5) other items, such as the business share of the sale of gasoline ration books, bullion and coinage charges, etc.

Fiscal year figures were adjusted to a calendar year basis by applying a ratio obtained from information contained in the Canada Gazette in combination with the Public Account figures.

Provincial indirect taxes levied consist of (1) taxes on amusements, corporations other than on profits, fuel oil and gasoline, real property, liquor, tobacco, etc; (2) licenses, permits and privileges such as the business share of motor vehicle licenses and certain public domain revenue as timber dues, stumpage, etc; (3) fees not involving any direct service on the part of the government.

The sources of these data are the Public Accounts of the various provinces, and Dominion-Provincial Conference figures published January 1941.

Fiscal years were adjusted to a calendar year basis.

Municipal indirect taxes included are all real property taxes, sales taxes and revenue received from the sale of licenses and permits.

The sources for municipal taxes are the "Statistical Summary" of the Bank of Canada for the years 1938 and 1940, while statements prepared for the Dominion-Provincial Conference of 1945 were used for the years 1939, 1941, 1942 and 1943.



(2) Subsidies.

This item is restricted to the following classes of payments made by the Dominion and Provincial Governments toward the cost of goods and services bought by the public.

Dominion

(a) Agricultural subsidies include wheat acreage reduction payments, premiums on livestock for breeding purposes, subsidies on alfalfa meal and western wheat used exclusively as feed for livestock and poultry, freight assistance on western feed grains for livestock feeding purposes, fertilizers subventions, payments on milk purchased for concentration into whole milk products, premiums on cheese, bacon and eggs for export to the United Kingdom, as well as miscellaneous other items.

(b) Business subsidies include production subsidies for coke, iron and steel products, subsidies on fruits used for jam manufacture and vegetables used for canning, drawback claims paid to millers, freight assistance on coal, iron and steel, freight costs of private contractors, steamship subsidies for mail, and miscellaneous other items.

(c) Trading losses on government operations such as the trading losses of the Commodity Prices Stabilization Corporation, Canadian Wool Board, Wartime Food Corporation and losses on the disposal of surplus apples and agricultural seeds are included here. In the case of the Canadian Wheat Board an increase in the trading loss was regarded as a positive subsidy, while a decrease in the trading loss was regarded as a negative subsidy, equivalent in effect to an indirect tax.

Provincial

(a) Agricultural subsidies - Freight assistance was paid on the following products: limestone for fertilizer purposes, western feed grains,

cream, eggs, apples, etc. Production subsidies were paid on wool, cheddar cheese, sugar beets, bacon hogs, livestock for breeding purposes, and fertilizers.

(b) Business subsidies include payments on iron ore and peat, the operation of certain ferries, and the publication of textbooks.

Provincial subsidies also include payments out of transfers from the Dominion Government.

The sources are the Public Accounts of the Dominion of Canada and the various provinces.

Wherever possible, calendar years were used. In other cases available fiscal years were adjusted to calendar years.

Table I, Item 7. Depreciation Allowances and Similar Business Costs.

Depreciation Allowances

Depreciation is intended to measure the current use of durable assets whose useful life extends over a period of more than one year (or some other time period adopted as a standard of reference). In view of the difficulty of measuring "true" depreciation, the present series includes, instead, current accounting provision for replacements, where such figures exist, plus comparable estimates for sectors of the economy where such empirical records are not available. More specifically, the depreciation series is comparable with estimates of net business income appearing in "net national income", (in the sense that theoretically identical allowances for depreciation have been made in arriving at this net income), and with estimates of "gross private investment in durable assets", (in the sense that depreciation is intended to measure the current use of the assets whose acquisition is defined as "gross private investment in durable assets"). Thus,

depreciation on governments assets (other than assets owned by autonomous government bodies such as utilities) is not included. The estimated depreciation on residential dwellings, identical with the deduction used in arriving at the "net rents" estimate, is included. Special war depreciation is also contained in the series, since this has been allowed as a deduction from the taxable income figures used in compiling net national income.

Estimates were first prepared for some 16 major industrial groups in the economy. These estimates were based wherever possible on results of the Dominion Bureau of Statistics questionnaire on capital expenditures and depreciation for 1941-1943, and projected to other years on the trend shown by the Bank of Canada corporate sample. In the case of telephones, electric railways, road transport and water transport, data collected by the Transportation Branch, Dominion Bureau of Statistics, were available. For retail and wholesale trade and service, data for certain years were obtained from the Merchandising & Services Branch, Dominion Bureau of Statistics, and other sources. In some industries, notably fishing, agriculture and professional services, the estimates were of necessity based on relatively inadequate information.

In 1944, a figure compiled by the National Revenue Department indicated that the original estimates were too low in 1944, insofar as the corporate sector of the private business economy was concerned. Consequently, the figures were raised by a factor to bring the corporate depreciation into agreement with that allowed for income tax purposes. It was assumed that this adjustment would apply proportionally to all years from 1938 on. However, since the original estimates for 1944 were preliminary, in the sense that the basic census compilations for 1944 in the manufacturing and utility field were not available, it is quite



possible that the adjustment in 1938-1943 was too large. In any case the adjustment is quite insignificant when compared with the total gross national product.

Claim Portion of Insurance against Fire and Other Damage to Business Property.

The claim portion of this type of insurance is regarded as analogous to depreciation, as an addition to price which is not included with factor incomes but which is necessary to maintain the national capital. It is assumed that the claim portion is measured by the figures of losses as they appear in Volume I of the annual Report of the Superintendent of Insurance. In most cases, insurance of commercial risks is apparent from an examination of tables in the Report. In several cases the breakdown between commercial and personal risks is based on arbitrary decisions.

Although desirable theoretically, no adjustment has been made for charges to bad debt reserves in the present estimates, as there is no information available on which to base such an estimate. It is believed that the amount involved is not large.

B. Detailed Notes on Methods Used in Estimating Totals in Table II.  
GROSS NATIONAL EXPENDITURE AT MARKET PRICES.

Table II, Item 1. Government Expenditure on Goods and Services

The figures for government expenditures have been obtained mainly by analysis of the Dominion and Provincial Public Accounts and related financial statements, and Reports of Provincial Departments of Municipal Affairs and individual financial statements of municipalities. In some cases the information presented in these public documents have been supplemented by further detail obtained from government officials.



The division between war and non-war expenditure applies only to the Dominion and follows closely the division established in the Dominion Public Accounts.

Two adjustments have been made to war expenditures as presented in the Dominion Public Accounts. The first adjustment involves the exclusion of subsidies, transfer payments to individuals and other authorities, purchase of capital assets and loans and advances to the private sector of the economy, in accordance with the concepts enunciated in Chapter I. The second, and more difficult adjustment involves placing the figures of war expenditure on a calendar year basis. This has been accomplished by adding the payments made between January 1 and the close of a fiscal period to the payments made between April 1 and December 31 of the succeeding fiscal period. It should be noted that, while expenditure in the Dominion Public Accounts is on a cash basis, the fact that the books are held open for some time after March 31 has the effect of approximating an accrual basis for the fiscal period. The above method of determining calendar year expenditures does not produce the same effect, since some of the payments made in the early part of a calendar year will relate to expenditures incurred in the previous calendar year. However, a more correct approximation to the calendar year basis must be deferred until the necessary information is available.

The comments made with respect to the adjustment of war expenditures as presented in the Public Accounts to the basis required for national income purposes apply with equal force to the non-war segment.

It should be noted that government expenditures, war and

non-war, include both current and capital elements. In non-war expenditure, the most important capital items are the change in inventories of government agencies and the redemption of securities held abroad. War expenditures include substantial amounts for the repatriation of securities, loans and advances to other governments, and for increased holdings of foreign currencies and gold by the Dominion Government, the Bank of Canada or the Foreign Exchange Control Board. Large amounts have also been spent for war plant and equipment and these may have some value in the peacetime economy.

Table II, Item 2. Gross Private Home Investment

(1) Gross Private Investment in Durable Assets

Gross private investment in durable assets includes expenditures in Canada of private business and autonomous government enterprise for items of a fixed or durable nature. Expenditures for similar items outside of Canada are not included; on the other hand, capital expenditures in Canada by external firms and governments are included. The series also includes expenditures on new residential construction by private persons.

The term "gross" connotes that no allowance for depreciation or retirements has been deducted. The term "new" includes replacements and major alterations but does not include ordinary repairs or maintenance expenditures. It is intended that the division between current and capital outlay should compare with that adopted for the purpose of measuring net income for income tax purposes; consequently, the series will be considerably lower on the average than the corresponding estimates made by the Reconstruction Department (see "Public Investment and Capital Formation"). A reconciliation of the two estimates appears at

the end of this summary.

The components of "gross private investment in durable assets" are as follows:

Expenditures by private business or autonomous government bodies on:

- (a) New building construction (new private residential construction is also included here).
- (b) New engineering construction.
- (c) New operating machinery and equipment.
- (d) Miscellaneous costs involved in the acquisition of property, generally chargeable to capital account, e.g. freight and markup on second-hand vehicles purchased for business use.  
(Purchases of automobiles and other durable consumer goods by households are not included in gross private investment).

(a) New Building Construction. The method used closely follows that described on pp.102-104 of "Public Investment and Capital Formation". Owing to the necessity of defining capital expenditure to correspond more closely with business accounting practice, certain assumptions regarding the division between new and repair construction made by the authors of that report have been altered. These changes do not affect the estimates of total building construction, however.

Briefly, the method employed was to increase the total value of new building construction reported by the Census of Construction in 1941<sup>(x)</sup> and later years to allow for --

- (i)..... New construction work done by some 20,000 small tradesmen apparently not covered by the census in 1941. This figure was

---

(x) The Reconstruction Department implicitly increased this figure by about \$30 million to allow for new construction reported to the census as "alterations, maintenance and repairs". It was felt that this transfer was rather large, and no corresponding adjustment has been made in the present estimate.



obtained after a comparison of the number of own account workers in the construction industry as reported to the decennial and annual census. Reasonable allowances for service charges and materials used by these workers were made. It was assumed that about 60 per cent of the work done was new. (New construction by building contractors reporting to the census in 1941 was about 85 per cent of the total, while the corresponding ratio for trade work was about 40 per cent. It is believed that the bulk of the 20,000 fall into the latter category). Corresponding estimates for later years were made by extrapolation according to the trend in reported building construction.

(ii)..... Certain defence construction work carried out in Canada by the Canadian, United States, and United Kingdom Governments during the war years. These allowances were made after a comparison of data on defence construction reported to the annual census and the Department of Munitions and Supply.

(iii)..... A relatively small amount of new residential construction done by owner-builders and not reported to the census. Comparative estimates for later years were obtained by extrapolation on the trend of reported residential construction.

(iv)..... An estimate of materials used on farms for new building work. This was based on information collected by the Decennial Census of Agriculture in 1941 (see "Public Investment and Capital Formation", p. 105). Estimates for 1942-1944 were obtained by extrapolation on the trend of retail sales of lumber and building materials collected by the Merchandising Branch, Dominion Bureau of Statistics.

(v)..... An allowance for construction done in logging camps, based on information obtained from the Dominion Bureau of Statistics capital schedule.



The gross value of new building construction obtained in the manner indicated was then run back to 1938 on the trend of the building materials series compiled by the Department of Reconstruction, allowing for a slight change in the proportion of new construction over the period. In order to arrive at figures of private expenditure on construction, government construction expenditures were deducted from the gross outlay on construction as estimated above.

Estimates of the value of new building construction by Dominion, Provincial and Municipal authorities were based on data compiled by the Reconstruction Department. Information was supplied by the Department of Munitions and Supply regarding defence construction and the war plant expansion programme. Additional information was obtained from the Construction Branch, Dominion Bureau of Statistics, and from the Dominion Auditor General's Report.

It should be noted in this connection that expenditures on factory construction by the United Kingdom in 1941-1943 have been included in the private series. It is true that these assets were subsequently purchased by the Canadian Government; however, in the year in which they were built, it is thought they properly belong in the private investment account in the sense that they are "non-Canadian Government" investment.

(b) New Engineering Construction. This includes new engineering work done by, or for, private industrial firms, mines and utilities, including autonomous government bodies; and, in addition, certain engineering projects carried on by the United States Army in Canada - notably, the Alaska highway, the Northwest Staging Route and the Canol Project. Data were compiled by the Reconstruction Department for 1938-1941, and estimates for later years were made on a similar basis. The greater part of the necessary

information was obtained from the capital expenditures schedule sent to manufacturing firms, mines and utilities, since 1941. Information regarding United States Army expenditures in Canada was obtained from the Department of Munitions and Supply.

(c) New Machinery and Equipment. The total flow of new durable producers' goods in 1941 - the computation of which has been described in "Public Investment and Capital Formation" - was revised downwards to eliminate a considerable amount of equipment which, although nominally durable, would generally be charged to current expense by business firms. For instance, the original totals included some \$50,000,000 worth of carpenters' and mechanics' tools in 1941. It is quite probable that the bulk of these have useful lives exceeding one year. However, manufacturers usually consider such items as properly chargeable to current expense along with raw materials and supplies, and account for them on an inventory basis. It seems likely that a similar practice is followed by contractors and construction tradesmen.

Purchases by government authorities, compiled or estimated by the Reconstruction Department for 1938-1941, and estimated on a comparable basis for later years, were deducted to obtain a revised figure for private investment. This was then distributed as far as possible on an industrial footing (the total was compiled on a commodity basis), by means of data obtained from the capital schedule and other sources. The compilation was rather rough since a substantial part of the "industrial" series was of necessity based on commodity data. A residual item composed of machinery and equipment bought by professional and service groups (especially garages, repair shops, locksmiths, carpenters, etc.) was extrapolated on the trend indicated for a selection of the other industries. (The selection was made to exclude extraordinary expenditures such as those made by the Aluminum Company and

expenditures in primary industries, especially agriculture, which generally behaves rather erratically).

Additional allowances were made for equipment purchased by autonomous Government bodies such as the Canadian Broadcasting Corporation, not included in the original commodity total.

The estimate of private investment in durable assets for 1944, when adjusted to exclude purchases by unincorporated enterprises and non-taxable utilities, agreed closely with a comparable figure furnished by the Department of National Revenue.

A reconciliation of the "Private Investment in Durable Assets" series, calculated here with that used by the Department of Reconstruction, follows ....

GROSS PRIVATE INVESTMENT IN DURABLE ASSETS - 1941		\$000,000
<u>Reconstruction Department.</u>		
("Public Investment and Capital Formation", p.90)		
Table 32, Items 1, 2 and 3 .....		856
Add ..... Publicly owned utilities .....	61	
U.K. plant expansion program .....	97	158
		<hr/>
	Total .....	1,014
Deduct .....		
Revision in new building construction series due to -		
(a) altered assumptions regarding new content of construction done by "uncovered" own accounts .....		
	24	
(b) acceptance of "new" ratio reported by census .....		
	31	
"Current expense" items, machinery and equipment .....	117	172
Revised series .....		842



(2) Private Investment In Inventories

The annual net flow to inventories held under private finance is an important component of gross national expenditure. The present series covers investment by manufacturers, retail and wholesale trade (including grain dealers), farmers, mines, utilities and miscellaneous private business. Investment in grain by the Canadian Wheat Board and investment in stocks of silk, rubber and other commodities by Government trading corporations are excluded, since they appear as Government expenditure for similar reasons. Changes in work in progress on Canadian, United Kingdom and United States government war orders, since 1940, have been excluded.

The estimates differ considerably from those appearing in another source book for the Dominion-Provincial Conference, "Public Investment and Capital Formation", for the following reasons:-

- (a) Except in the case of commercial grain and farm inventories the estimates show the actual change in reported value rather than the "current value of the physical change". The latter figure is theoretically more desirable, but, except in the two instances noted, sufficient information to make a satisfactory adjustment is not available.
- (b) The definition of private grain has been altered to exclude, as well as cash holdings of the Canadian Wheat Board, stocks held by agents for future delivery. This adjustment affects only the division between government and private, not the total.
- (c) Revisions in the estimates for retail and farm inventories have been made.



The amount for "investment in inventories" included in Item 2, Table II, is as follows:

(millions of dollars)

	1938	1939	1940	1941	1942	1943	1944
Private investment in inventories	- 55	215	336	280	103	- 271	- 81

Estimates of the change in value of inventories for the mining and manufacturing industries are based on information contained in the annual reports of the Census of Industry. In the case of trade, the estimates are based mainly on information collected by the Merchandising Branch, Dominion Bureau of Statistics.

The private grain series is obtained by deducting from the total visible supply of wheat the quantity of grain held by the Canadian Wheat Board (including stocks held by agents for future delivery). The calculation is made for six month periods since the direction of flow is distinctly seasonal. An average price for each period is applied to the change in quantity calculated in this way. In the case of inventories of grain and livestock held on farms, average annual prices are applied to the changes in physical quantity from one year end to another.

Table II, Item 3. Net Private Investment Abroad

This series is intended to cover that portion of the annual net export of goods and services which has been financed by private authorities. It is obtained by deducting from the total net exports of goods and services (\*) those elements that have been financed by the Canadian Government and that

(\*) See: "The Canadian Balance of International Payments, 1943" - International Payments Branch, Dominion Bureau of Statistics.

appear under "Government Expenditure". Adjustments designed to eliminate duplications with other components of the gross national expenditure have been made. A summary of the methods used and brief explanations follow. The required data have been furnished by the International Payments Branch, Dominion Bureau of Statistics, the Bank of Canada, the Department of Finance, and the Department of Reconstruction and Supply.

(1) Adjustments to Eliminate Items Appearing Under "Government Expenditure, War".

(a) Additions. Government capital receipts from abroad - (War). Since these payments have the effect of reducing government war expenditures, they are added back here to insure the income-expenditure balance.

(b) Deductions. All Government payments abroad of a capital nature which appear under "Government Expenditure, War".

(2) Adjustments to Eliminate Items Appearing Under "Government Expenditure, Non-War".

Deductions. Net retirements of government securities held abroad n.e.s. and changes in gold and foreign exchange holdings of the Bank of Canada and the Department of Finance, prior to 1939.

(3) Adjustments to Eliminate Duplications with Other Components of Gross National Expenditure.

Certain expenditures in connection with defence projects by the United Kingdom and the United States authorities treated as current items by the International Payments Branch have been shifted to capital account. This involves a reduction in private investment abroad and a corresponding increase in private investment at home.

It should be noted that the "net private investment abroad" series will be affected by purely financial transactions: for instance, there was a large

disinvestment on private account early in the war period, quite unrelated to any international movement of goods and services, when the Government purchased existing United States dollar balances held by private persons. The justification for the series, as defined, lies in the implicit assumption that our net exports are in effect financed by those authorities who choose to hold the resulting foreign claims.

Table II, Item 4. Personal Expenditure On Consumers' Goods and Services.

Calculation of this item is subdivided under four heads -

1. Purchases of new consumers' goods
2. Purchases of services
3. Income in kind
4. Adjustment for expenditures of Canadians abroad  
and of foreigners in Canada.

(1) Purchases of New Consumer Goods

Estimates of personal expenditure on new consumers' goods for 1941 are based on retail sales figures as reported in the Decennial Census of Merchandising. To the total commodity sales of retail merchandising establishments are added retail sales by manufacturing, wholesale and service establishments and sales of meals by hotels and dining cars. In the case of certain commodities, where it is considered that the coverage of the Census of Merchandising is low, the Census estimates have been raised on the basis of supplementary information collected in connection with special studies for the Combined Production and Resources Board. Such cases include tobacco, fuel, newspapers and magazines. The Census total is adjusted downward to exclude estimated sales to business and sales of second-hand goods. The deduction for sales to business is of necessity based on arbitrary assumptions. It is clear that



certain classes of commodities (e.g. commercial vehicles) would be purchased entirely by business. For other classes (e.g. hardware, gasoline) there is no satisfactory basis for a breakdown of sales between business and individuals.

The 1941 figures for the various commodity groups are projected to other years by indexes prepared by the Merchandising Branch.

Certain retail sales taxes which are not included in sales figures as reported to the Merchandising Branch are added to the annual totals. These include the Saskatchewan education tax, the Quebec sales tax, and the Montreal sales tax.

## (2) Consumer Expenditure on Services

This includes the value of services rendered directly to individuals as distinct from those rendered to business or to government. For many classes of service, a preponderant proportion of total revenues is represented by sales to individuals and elimination of business services is not an important source of error. In those classes where sales to business or government form an important part of total revenues (e.g. railway transportation, post office), data as to the amount of such sales is usually inadequate. A satisfactory breakdown between consumer and business sales in such cases must await development of direct surveys of consumer expenditures.

For certain classes of services (e.g. laundries, motion picture theatres), annual reports prepared by the Dominion Bureau of Statistics give information regarding consumer expenditures. In other cases (e.g. shoe cleaning and repair, barber shops and beauty parlours), estimates can be based on the Decennial Census of Merchandising for 1941, but must be projected from that year on relatively sketchy information regarding trends. In the case of professional services (e.g. doctors, dentists) there is at the present time no adequate information for any year. The amounts included for such services in



the present estimates are based on the very rough estimates of net income of professionals used for the income side of the accounts. These estimates are raised to a gross figure in the same proportion as the ratio  $\frac{\text{gross income}}{\text{net income}}$  in questionnaire surveys of such groups in the United States.

Services of non-commercial institutions (hospitals, charitable institutions, etc.) are measured by the expenses of these institutions rather than by the fees paid by individuals. Consequently, government contributions towards the expenses of such institutions are treated as transfer payments and excluded from government expenditure on goods and services. However, institutions directly administered by governments (e.g. public schools) are included under government expenditures rather than under consumer expenditure on services.

Services of insurance companies are also measured by their expenses.

The following are the main classes of services covered:-

- (a) Services related to attire and personal appearance
- (b) User-operated transportation
- (c) Purchased transportation
- (d) Household operation and utilities
- (e) Communications
- (f) Medical care and death expenses
- (g) Tuition and education
- (h) Recreation
- (i) Miscellaneous

(3) Expenditures Out Of Income In Kind.

The items comprising implied expenditure out of income in kind include:-

- (a) Food produced and eaten on the farm
- (b) Board and living allowances
- (c) Issues in kind to members of the armed forces
- (d) Employee welfare expenditures
- (e) Gross imputed rent of owner-occupied houses

In each case the figures included on the expenditure side are based on the estimates used for the income side. In the case of board and living allowances, it is important to exclude here such amounts as may be assumed to be included in retail purchases of consumer goods or in gross rents. This can be done only on a very arbitrary basis. It is clear that the great proportion of food and accommodation supplied to domestic servants would already be included under cash expenditures or under imputed rent, but in other cases the distinction cannot be made so easily. Imputed rent is included here on a gross basis on the assumption that expenses of owner-occupiers will have been eliminated from consumer purchases of goods and services along with other business expenses. This is a fairly arbitrary assumption, since elimination of duplication in regard to those expenses which are included in gross rent must be carried out on a fairly rough basis.

(4) Adjustment For Expenditure of Canadians Abroad and of Foreigners in Canada.

This adjustment is necessary to provide for expenditures outside of Canada out of Canadian incomes and to exclude expenditures in Canada out of non-Canadian incomes. The adjustment covers:-

- (a) Expenditures of Canadian tourists abroad and of foreign tourists in Canada. Estimates of tourists' expenditures are available from the International Payments Branch, Dominion Bureau of Statistics. This item is a negative adjustment for the period covered since expenditures of foreign tourists in Canada were consistently higher than those of Canadian tourists abroad.
- (b) Expenditures of members of the Canadian armed forces abroad and of non-Canadian airmen in Canada. Rough estimates based on the number of men involved in each case and assuming that their expenditures are approximately equivalent to actual cash pay received were prepared by the statistical sections of the armed services.
- (c) Private remittances to abroad and private remittances received from abroad. Figures were supplied by the International Payments Branch, Dominion Bureau of Statistics.
- (d) Gifts in kind to abroad not included in retail sales, e.g. Red Cross parcels. Rough estimates were supplied by the International Payments Branch, Dominion Bureau of Statistics.

C. Detailed Notes on Methods Used in Estimating Totals in Table V.

Personal Income Payments.

Table V, Item 2.

Calculation of this item involves estimation of total interest payments by Dominion, Provincial and Municipal governments to business and individuals and of the imputed return on government assets. Similar



calculations are involved in the compilation of Investment Income, Table I, Item 3. Table V, Item 3.

This item includes expenditures by public authorities which does not arise from a direct demand for goods and services. Thus it covers the following types of payments:-

Dominion Government.

Gross payments under the Prairie Farm Assistance and Prairie Farm Income Acts; war service pensions relating to the wars of 1914-1918 and 1939-1945, war veterans' allowances (old age, unemployment, post-discharge and hospital) and war service gratuities; direct relief to Eskimos and Indians, Indian annuities, and miscellaneous lesser transfers. Pension payments out of various contributory pension funds, unemployment insurance benefits, and payments under the Dominion Workmen's Compensation Act (excluding medical aid and hospitalization) are also included.

All transfers by the Dominion to the Provinces are excluded, but payments out of these funds are included in provincial transfers.

Provincial Governments.

Direct and agricultural relief; old age and blind pensions; mothers' allowances; trainees' allowances (including subsistence) under the Youth Training and War Emergency Programs; travel and lodging allowances of transferred workers; contributory pensions and payments of the Provincial Workmen's Compensation Boards (excluding medical aid and hospitalization); and miscellaneous lesser transfers.

Municipal Governments.

Direct relief; old age and blind pensions; mothers' allowances; and contributory pensions of the larger cities of Canada for which information is available.

The sources for government transfers are the Public Accounts of the Dominion of Canada, the Public Accounts of the Provinces and various provincial departmental reports, annual reports of selected municipalities, and the "Statistical Summary" of the Bank of Canada. Calendar year figures are used where available; in other cases fiscal years were adjusted back to a calendar year basis.

#### Industrial Pensions.

Outpayments from contributory industrial pension funds are included here. Estimates of these are based on results of the industrial pensions survey carried out by the Dominion Bureau of Statistics, raised to include estimated amounts for banks, insurance companies and railways. It is known that the coverage of this item is incomplete.

#### Table V, Item 4.

Included here are employer contributions to Workmen's Compensation funds, and employer and employee contributions to unemployment insurance and industrial pension funds. Contributions to group life, sickness and accident insurance schemes are excluded.

The figures for employer contributions are identical with those included in Table I, Item 1, under the same headings. Estimates of employee contributions are based on the industrial pensions survey carried out by the Dominion Bureau of Statistics, and on information from the Public Accounts of governments. In the case of railways, insurance companies and banks, no direct information regarding employee contributions is available. In these cases arbitrary assumptions are made as to the relationship of employee contributions to employer contributions.



Table V, Item 5.

Included under this heading are the following components of investment income:

- (1) Undistributed profits of corporations.
- (2) Depletion allowances.
- (3) Corporate profits taxes.
- (4) Withholding taxes.
- (5) Investment income of industrial pension funds.
- (6) Trading profits and other investment income of governments.
- (7) Inventory revaluation adjustment.

In each case the figures used are identical with those included in Table I, Item 3. Investment income of life insurance companies and fraternal societies is not included here although it is not all paid out to individuals in the current year, since it is not possible to separate out that part which is paid out.