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APPENDIX I: PART C  
NATIONAL WEALTH MEASUREMENT IN CANADA

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## NATIONAL WEALTH MEASUREMENT IN CANADA

A program for which the ultimate goal is the development of aggregate national and sectoral balance sheets which would be consistent with the remainder of the social accounting framework is in its early stages at the Dominion Bureau of Statistics. Many of the major categories for such balance sheets are becoming available through the development of directly or closely related projects or have been available for some time from work already well established within DBS. This report will indicate the data which are in progress of development or which are already available.

For purposes of outlining just what categories of national balance sheets are being, or have been, measured, it is useful to set out the standard framework for reference purposes. On a consolidated basis at any one time, national net worth, after adjustment for valuation differences on paper claims, equals the sum of—

- (i) the net value of domestic stock of reproducible tangible commodities;
- (ii) the net value of the domestic stock of nonreproducible tangible commodities in which individual or communal property rights can be held; and
- (iii) the value of net claims on nonnationals.

On a disaggregated or deconsolidated basis, for each sector and for subsectors (e.g., industries within the enterprise sector), there will also have to be recorded the value of paper assets and liabilities (i.e., the value of paper claims on sectors held by a sector and on a sector held by other sectors) with well-known and difficult problems involved in getting consistent valuations for these intra- or inter-sectoral paper claims.

### CONSOLIDATED NATIONAL WEALTH STATEMENTS

The DBS fixed capital stocks project is attempting to prepare estimates of the domestic stock of fixed reproducible capital by industry, following the initial lead of Profs. Wm. C. Hood and A. D. Scott,<sup>1</sup> by means of the familiar "perpetual inventory method."

The level of industrial detail at which estimates are being prepared is illustrated in table 1.

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<sup>1</sup> Wm. C. Hood and A. D. Scott, "Output, Labour and Capital in the Canadian Economy" (Hull: Queen's Printer, 1957), especially ch. 6 and accompanying appendix.

TABLE 1.—Preliminary estimates, fixed capital stocks project by DBS—1948 standard industrial classification—Industrial division and major groups

	Gross stock	Net stock	Net fixed capital formation	Capital consumption allowances
Current dollars.....	X	X	X	X
Constant 1949 dollars.....	X	X	X	X
Constant 1957 dollars.....	X	X	X	X
Original dollars.....	X	X	X	X

  

DBS 1948 standard industrial classification industrial divisions and major groups	Construction	Machinery and equipment	Total
I. Agriculture.....		X	
II. Forestry.....	X	X	X
III. Fishing and trapping.....	X	X	X
IV. Mining, quarrying, and oil wells.....	X	X	X
V. Manufacturing.....	X	X	X
Foods and beverages.....	X	X	X
Tobacco and tobacco products.....			
Rubber products.....	X	X	X
Leather products.....			
Textile products.....	X	X	X
Clothing.....	X	X	X
Wood products.....	X	X	X
Paper products.....	X	X	X
Printing, publishing, and allied industries.....	X	X	X
Iron and steel products.....	X	X	X
Transportation equipment.....	X	X	X
Nonferrous metal products.....	X	X	X
Electrical apparatus and supplies.....			
Nonmetallic mineral products.....			
Products of petroleum and coal.....	X	X	X
Chemical products.....	X	X	X
Miscellaneous manufacturing industries.....	X	X	X
VI. Construction.....	X	X	X
VII. Transportation, storage, and communication.....	X	X	X
Transportation.....	X	X	X
Air transport.....	X	X	X
Motor transport.....	X	X	X
Railway transport.....	X	X	X
Urban and suburban transportation systems.....	X	X	X
Water transport.....	X	X	X
Other transport.....	X	X	X
Storage.....	X	X	X
Grain elevators.....	X	X	X
Storage and warehousing.....	X	X	X
Communication.....	X	X	X
Radio and TV broadcasting.....	X	X	X
Telephones.....	X	X	X
VIII. Public Utility operation.....	X	X	X
Electric light and power and gas distribution.....	X	X	X
Water and sanitary services.....	X	X	X
IX. Trade.....	X	X	X
X. Finance, insurance and real estate (includes housing).....	X	X	X
XI. Service.....			
Total all industries.....			
Total business fixed capital as per national accounts.....			
Total public fixed capital as per national accounts.....			

## NOTES TO TABLE I

1. X denotes preliminary estimates for the years 1926-59 now completed.
2. The level of detail at which the estimates are being prepared is not necessarily the level of detail at which the estimates may be published.

The estimates are designed to be conceptually consistent with other parts of the standard Canadian social accounts—in particular, the estimates by industry are designed to relate, on the one hand, to estimates of constant dollar gross domestic product at factor cost by industry while, on the other hand, reassembled to match some conceptual differences in the handling of certain industries, they will be related to constant dollar estimates of business gross fixed capital formation in gross national expenditure data.

The fixed capital stocks project is now concentrated on completing the estimates of fixed reproducible capital by industry, bringing them up to date and experimenting with different assumptions as to average economic lives, methods of depreciation and hypothetical survival curves to see what effect these different assumptions have upon the "perpetual inventory" results. With respect to inventories, by industry, of raw materials, goods-in-process and final goods, such data have become available in a form more useful than book value inventories since the DBS began publishing estimates of the value of physical change in inventories for national product accounts purposes. The fixed capital stocks project should attempt, in the future, to assemble such inventory data by industry and constant and current dollar basis to round out estimates of reproducible tangible capital by industry.

For certain industries, benchmark data are available as a check on the estimates derived from the "perpetual inventory" study. For example, the DBS farm income and expenditure survey gives estimates of the 1958 current dollar value of the net stock of fixed reproducible capital (as well as livestock and poultry) in the agriculture industry<sup>2</sup> with similar data being available from the decennial censuses. With respect to a part of the real estate industry (i.e., that part dealing with the stock of residential reproducible tangible capital), a great deal of information, which is used in preparing the basic estimates of residential capital formation, is available from decennial censuses, and also from the 1958 Farm Income and Expenditure Survey and surveys of consumer finances.

With respect to stocks of commodities held by certain subsectors of the Canadian National Accounts Personal Sector<sup>3</sup> (e.g., farm and non-farm households), there are a number of sources from which partial data are available. The 1960 Survey of Consumer finances<sup>4</sup> obtained information from nonfarm households of the number of automobiles owned for private use as of December 31, 1959, along with other related information. The DBS annual household facilities survey, from a sample survey of selected types of households (farm and nonfarm), provides data on the aggregate number of households having different types of cooking equipment, refrigerators, homefreezers, and a variety of other consumer durables. No systematic attempt within DBS has yet been made to place constant or current dollar valuations on these stock estimates derived from the household facilities survey. In addition, selected city families drawn from DBS surveys of urban family expenditure in 1957, 1959, and 1962, taken in connection with weighting the Consumer Price Index, were asked to report ownership of selected consumer durables and other related information<sup>5</sup> but, again, no systematic attempt within DBS has been made to incorporate these data into a national wealth measurement framework. A number of private researchers have worked with the available data on stocks of consumer goods—with the primary purpose of constructing demand functions for particular types of consumer durables. Prof. A. D. Scott,

<sup>2</sup> DBS, "1958 Farm Survey Report No. 1: Expenditures, Receipts, and Farm Capital."

<sup>3</sup> Certain subsectors of the personal sector (private noncommercial organizations such as churches, universities, etc.), which are treated as associations of individuals, have their capital expenditures included in business gross fixed capital formation and stocks of such capital goods are estimated by the fixed capital stocks project.

<sup>4</sup> See DBS, "Distribution of Nonfarm Incomes in Canada by Size, 1959."

<sup>5</sup> This information has been published for year 1957 only. See DBS, "City Family Expenditure, 1957."

using the "perpetual inventory" method, has attempted tentative estimates of the stock of selected consumer goods for the year 1955 in constant and current dollars.<sup>6</sup>

With respect to the net value of the domestic stock of nonreproducible tangible commodities in which individual or communal property rights can be held, very little work has been done by DBS. Indeed, if one examines the estimates of the net value of natural resources which Prof. A. D. Scott prepared for the Income and Wealth Conference, "The Measurement of National Wealth",<sup>7</sup> one can appreciate just how much more work has to be done in this area in Canada.

With respect to the value of net paper claims on nonnationals, including data on the monetary stock of gold, a great deal of information is available.<sup>8</sup> Although a number of substantial problems remain to be solved (e.g., valuation problems), our data on the value of net claims on nonnationals can be regarded as one of the strongest (in the sense of conceptual consistency, statistical accuracy, and completeness) categories in Canada's consolidated national balance sheet.

#### DISAGGREGATED NATIONAL WEALTH ESTIMATES

Upon deconsolidation of the national balance sheet, the availability of the sectoral or industrial distributions of reproducible and nonreproducible tangible commodities discussed above must be supplemented with data on the value of paper assets and liabilities (i.e., the value of paper claims on sectors held by a sector and on a sector held by sectors).

In terms of sectors rather than industries, annual balance sheets are available for most sectors, excepting the consumer and unincorporated business sectors, from a variety of sources. The Department of National Revenue's "Taxation Statistics" gives annual unconsolidated corporation balance sheets (with certain exceptions such as for chartered banks, Crown corporations, etc.) for the taxation years 1944 to the present. For Crown corporations, life insurance companies, chartered banks, and other financial intermediaries balance sheet data are available from a number of sources, such as supervisory bodies. In 1962, Parliament passed the Corporations and Labour Unions Returns Act, to be administered by the Dominion Statistician, which will require corporations with total net assets over \$250,000 (with the exception of some corporations, such as chartered banks, Crown corporations, etc., now reporting to various administrative boards) to report annual balance sheet and income and expenditure data including a replica of their income tax returns with accompanying assets and depreciation schedules. The act was passed specifically to provide more information on nonresident investment in Canada but authorized DBS personnel will be permitted to have access to detailed corporation state-

<sup>6</sup> A. D. Scott, "Canada's Reproducible Wealth," "The Measurement of National Wealth," editors, R. Goldsmith and C. Saunders, "Income and Wealth, Series VIII" (London: Bowes & Bowes, Ltd., 1959), pp. 193-216.

<sup>7</sup> *Ibid.*, 214. Scott arrived at the following incomplete and extremely tentative estimates for the year 1951:

	<i>Billions of dollars</i>
Municipal land, average of high and low estimates.....	4.5
Forest land.....	2.0
Forests.....	7.0
Minerals, waterpower sites, etc.....	(?)

<sup>8</sup> See, for example, DBS, "The Canadian Balance of International Payments, 1960, and International Investment Position."

ments. Such authorization will greatly facilitate the implementation of a program of industry statistics on the legal entity reporting unit basis of classification and should be of considerable assistance to (amongst other DBS programs) the fixed capital stocks project.

Data emanating from "Taxation Statistics" and the Corporations and Labour Unions Returns Act suffer from a number of drawbacks in that the data are only available annually with corporations reporting on the basis of their different fiscal years and, more importantly, there is a lack of consistent reporting with respect to the detailed categories of balance sheets.

In 1959, the DBS, following the development of a set of annual national transactions accounts for 1946-54 by the Royal Commission on Canada's Economic Prospects,<sup>9</sup> inaugurated a long-term program which has as its objective the collection of quarterly balance sheet information (from which annual data could be derived) for all parts of the economy except the personal and unincorporated business enterprise sectors. This program is now underway for a number of industries in the incorporated business sector and the consistently related detailed categories of balance sheets for which respondents are asked to report is indicated in table 2. In terms of constructing annual sectoral balance sheets, one of the biggest problems will be the handling of the unrealized capital gains and losses which result when the estimates of current dollar stock of fixed capital, derived from the fixed capital stocks project, are used in place of the fixed assets categories derived from balance sheet statements.<sup>10</sup> In June 1963, publication was begun of quarterly balance sheets for selected financial institutions (trust companies, mortgage loan companies, sales finance and consumer loan companies) and similar data for other financial institutions and nonfinancial corporations will be published when they become available.

TABLE 2.—*Categories of balance sheets for which respondents are asked to report on the DBS experimental quarterly assets and liabilities survey*

- ASSETS
1. Cash on hand and on deposit:
    - (a) Canadian dollars:
      - (i) Cash on hand and in chartered banks, including term deposits.
      - (ii) Cash in other institutions, including guaranteed investment certificates.
    - (b) Foreign currency.
  2. Accounts receivable: Receivables, including current trade receivables from subsidiary and associated companies; less provision for bad or doubtful accounts.
  3. Inventories: Stocks of finished goods, work in progress, raw materials, fuels, and supplies. Gold mining companies should include gold bullion held on the premise and in transit, in inventories.
  4. Other current assets: Prepaid expenses, income taxes recoverable, accrued interest, and other current assets not elsewhere included. All investment securities should be included in their respective categories in item 5 below.

<sup>9</sup> See L. M. Read, S. J. Handfield-Jones, and F. W. Emerson, "A Presentation of National Transactions Accounts for Canada, 1946-54," in William C. Hood, "Financing of Economic Activity in Canada" (Ottawa: Queen's Printer; 1959), and also the unpublished paper prepared for the sixth conference of the International Association for Research in Income and Wealth by J. A. Sawyer and F. W. Emerson, "Estimates of Saving Prepared From Financial Transactions Accounts in Canada."

<sup>10</sup> See DBS 61-606, "Business Financial Statistics, Balance Sheets, Selected Financial Institutions," third quarter 1963.

TABLE 2.—*Categories of balance sheets for which respondents are asked to report on the DBS experimental quarterly assets and liabilities survey—Continued*

## ASSETS

5. Investments and advances: Securities held under buy-back agreements should be included under their appropriate investment categories and the total of such securities shown in footnote 1.
    - (a) Investments in Canadian bonds and other forms of indebtedness, other than investments in subsidiary and associated companies, and joint ventures.
      - (i) Short-term notes of finance companies and other unaffiliated Canadian companies.
      - (ii) Government of Canada treasury bills.
      - (iii) Other Government of Canada direct and guaranteed debt.
      - (iv) Provincial and municipal direct and guaranteed debt and Canadian corporate and institutional issues.
      - (v) Other Canadian investments—mortgages, notes, long-term advances, etc.
    - (b) Investments in Canadian preferred and common stocks.
    - (c) Investments in foreign bonds, debentures, treasury bills, stocks, mortgages, notes, long-term advances, etc., other than investments included in item 5(d).
    - (d) Investments in and advances to subsidiary and associated companies, and joint ventures.
  6. Property, plant, and equipment: Machinery, equipment, buildings, land, water rights, mineral resources, timber limits and stumpage rights, etc.; less accumulated depreciation, depletion and amortization. (See footnote 2.)
  7. Other assets: Deferred charges, intangible assets, trust or earmarked funds, and other noncurrent assets.
- Total assets.

## LIABILITIES

11. Short-term loans:
  - (a) Loans and overdrafts from chartered banks in Canadian currency.
  - (b) Other loans payable.
12. Accounts payable:
  - (a) Income and other taxes payable.
  - (b) Other payables, including current trade payables to subsidiary and associated companies.
13. Other current liabilities: Prepayments for goods and services, and other current liabilities not elsewhere included. Exclude long-term debt expected to be paid within 1 year
14. Long-term debt: Bonds, debentures, mortgages and other long-term debt, including funded debt due within 1 year
  - (a) Bonds, debentures and notes.
  - (b) Mortgages and agreements of sale.
  - (c) Loans from chartered banks in Canadian currency including secured loans.
  - (d) Other long-term debt.
15. Other liabilities: Including provision for pensions, guarantees, etc.
16. Accumulated tax reductions applicable to future years: Resulting from capital cost allowances claimed in excess of recorded depreciation and from other causes.
17. Interest of minority shareholders in subsidiaries.

## NET WORTH

20. Paid-in-capital: Share capital plus all contributed or paid-in surplus, such as premium or discount on shares, etc. Unincorporated branches of non-resident corporations should record head office account.
  21. Retained income (or deficit), including reserves.
  22. Appraisals: Excess of appraised value of fixed assets over costs.
- Total liabilities and net worth.

<sup>1</sup> Please state total value of securities held under buy-back agreements.

<sup>2</sup> Please state amount of accumulated depreciation, depletion, and amortization deducted in arriving at item 6.

TABLE 2.—*Categories of balance sheets for which respondents are asked to report on the DBS experimental quarterly assets and liabilities survey—Continued*

## NOTES TO TABLE 2

These general categories are changed or reworded depending upon the industry being surveyed.

Industries currently being surveyed include installment and other finance companies, trust and mortgage loan companies, investment trusts and mutual funds, investment dealers, miscellaneous finance (including insurance agents, real estate finance, and real estate operations) as well as most nonfinancial corporations. It is hoped that within 2 years, work will be underway in areas not now covered, such as insurance carriers and general government.

The Farm Income and Expenditure Survey, discussed above, will provide data on selected paper assets and liabilities for the year 1958 for the agriculture industry and farm households while the two surveys of consumer finances "Incomes, Liquid Assets and Indebtedness of Nonfarm Families in Canada 1955" and "Incomes, Liquid Assets and Indebtedness of Nonfarm Families in Canada 1958," provided data on selected assets and liabilities for nonfarm households.<sup>11</sup> As indicated above in relation to consolidated national wealth measurement, considerable data are available with respect to the net value of claims on nonnationals. But, though some work has been done on the problem of including in assets of the rest-of-the-world sector, nonnationals' share in the retained earnings of domestic corporations, etc., it is safe to say that the revaluation of paper assets and liabilities for that sector to take account of the true net worth lying behind the claims will prove to be a formidable task.

## CONCLUSION

This summary statement of work presently being done in Canada on consolidated and disaggregated national wealth measurement reveals that many components of this part of the standard social accounting framework are now available but that much remains to be done, both in drawing the various pieces of information together and in furthering developmental work in areas not satisfactorily covered at present.

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<sup>11</sup> The last two sources of information on sectoral balance sheets encounter the customary difficulty of segregating assets and liabilities between persons as consumers and as proprietors of unincorporated business enterprises.

