

# **Historical Canadian Macroeconomic Dataset 1871-1994**

*Compiled by:*  
**Prof. R. Marvin McInnis,  
Department of Economics,  
Queen's University, Kingston,  
Ontario, Canada  
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The data file entitled CANMACR1 consists of the following series for Canada, covering the period 1871-1994:

1. Year (1871 – 1994)
2. Gross National Product in current prices,
3. An Implicit price deflator (1986=100),
4. Population of Canada (Thousands),
5. Real Gross National Product in constant 1986 dollars,
6. Real per capita Gross National Product in constant 1986 dollars,
7. Government expenditures on goods and services (in current dollars),
8. Exports of goods and services (in current dollars),
9. Imports of goods and services (in current dollars),
10. Money supply (in current dollars),
11. Government of Canada Bond yields (average of 3-5 year bonds),
12. Non-Residential Investment Expenditures (in current dollars),
13. Total Investment Expenditures
14. Current account Balance (in current dollars).

The various series are derived from a variety of sources - the primary source for the period 1870-1926 being **Urquhart, M.C. *Gross National Product, Canada 1870-1926: The Derivation of the Estimates*. Kingston. McGill-Queen's University Press: 1993.** For the period 1926-1994, the various series have been obtained from CANSIM.

This documentation file provides its reader with a detailed summary of sources and methods used in the construction of these long-term series. As such it is divided into sections that are comparable to the series mentioned above.

### **Gross National Product:**

For the period 1871-1924, estimates for GNP have been taken from Urquhart, M.C. *Gross National Product, Canada 1870-1926: The Derivation of the Estimates*. Kingston. McGill-Queen's University Press: 1993. pp. 26-27. For the period 1928-1995, CANSIM Label # D11920 was used. Smoothing for the years 1925, 1926, and 1927 was accomplished using the following formula:

$$\text{For 1925: } \text{GNP}_{1925}^{\text{urquhart}} + [0.25 * (\text{GNP}_{1926}^{\text{urquhart}} - \text{GNP}_{1926}^{\text{cansim}})]$$

$$\text{For 1926: } \text{GNP}_{1926}^{\text{urquhart}} + [0.50 * (\text{GNP}_{1926}^{\text{urquhart}} - \text{GNP}_{1926}^{\text{cansim}})]$$

$$\text{For 1927: } \text{GNP}_{1927}^{\text{cansim}} + [0.25 * (\text{GNP}_{1926}^{\text{urquhart}} - \text{GNP}_{1926}^{\text{cansim}})]$$

*The final series for the nominal Gross National Product appear in Column 2 of CANMACR1.*

**Implicit Price Deflator:**

Three data series were used to calculate the implicit price deflator. For the period 1871-1926, GNP implicit price deflator estimates (with 1900=100) were taken from Urquhart, M.C. *Gross National Product, Canada 1870-1926: The Derivation of the Estimates*. Kingston. McGill-Queen's University Press: 1993. pp. 24-25. For the period 1926-1952, deflator estimates (with 1935-39=100) are the Cost of Living Index and were obtained from Urquhart, M.C. and Buckley, K.A.H. (eds.) *Historical Statistics of Canada*. Cambridge. Cambridge University Press: 1965. pp. 304. For the period 1952-1995, deflator estimates were obtained from CANSIM GDP Implicit Price deflator (with 1986=100) label # D14476.

The final series observed in CANMACR1 was obtained by the following procedure. First, the Urquhart series was linked to the Cost of Living Index. The formula used was:

$$(P_{\text{urquhart}} * P_{\text{cost of living}}^{1926}) / P_{\text{urquhart}}^{1926} = P_{\text{splice}}$$

This new series was then spliced with the CANSIM GDP implicit deflator. The formula for this second splice is given by:

$$(P_{\text{splice}} * P_{\text{cansim}}^{1952}) / P_{\text{splice}}^{1952} = \text{Final deflator.}$$

*This final deflator series appears in Column 3 of CANMACR1.*

**Population:**

For the period 1871-1925, data were obtained from CANSIM label #X100000; for the period 1926-1994, CANSIM label #D31248.

*This series appears in Column 4 of CANMACR1.*

**Real GNP, Real per capita GNP:**

These series were obtained by appropriately deflating the nominal GNP series with the implicit price deflator and population estimates.

*This series appears in Column 5, 6 of CANMACR1.*

**Government Expenditures on Goods and Services:**

For the period 1871-1924, estimates for GNP have been taken from Urquhart, M.C. *Gross National Product, Canada 1870-1926: The Derivation of the Estimates*. Kingston. McGill-Queen's University Press: 1993. pp. 17-18. For the period 1928-1995, CANSIM Label # D11139 was used. The smoothing methodology for the years 1925, 1926, 1927 is the same as in the Gross National Product Section above.

*The final series appears in Column 7 of CANMACR1.*

**Exports and Imports:**

For the period 1871-1926, both Exports and Imports were obtained from Urquhart, M.C. *Gross National Product, Canada 1870-1926: The Derivation of the Estimates*. Kingston. McGill-Queen's University Press: 1993. pp. 19-23. For the period 1927-1994, the estimates were obtained from CANSIM label # D70009 (exports) and #

D70027 (imports). No need for smoothing was required since for the overlap years, the entries from both sources for both series were identical.

*The series appear in Column 8 (Exports) and Column 9 (Imports) of CANMACR1.*

### **Money Supply:**

For the period 1871-1953, Money supply estimates were obtained from Urquhart, M.C. and Buckley, K.A.H. (eds.) *Historical Statistics of Canada*. Cambridge. Cambridge University Press: 1965. pp. 230-231. For the period 1870-1913, the series included in this measure of Money supply include Canadian deposits of Chartered Banks (H20), Dominion or Bank of Canada Note Issue held by others (H15), subsidiary coin issue held by others (H12), and Chartered Bank Note Issue held by others (H18)<sup>1</sup>. For the period 1913-1953, Money supply estimates consist of Personal Savings Deposits (H4), Government of Canada Bank Deposits (H5), "other" deposits (less float) (H6) and Notes and Coins held outside Banks (H1, H2). For the period 1953-1994, CANSIM label # B1631: Currency outside banks and deposits of Chartered Banks was used.

*The final series for the nominal Money Supply appear in Column 10 of CANMACR1.*

### **Interest Rate:**

For the period 1871-1913, the average yield on Dominion Government Bonds was obtained from Rich, G. *The Cross of Gold*. Ottawa: Carlton University Press: 1988. pp. 201. For the period 1914-1950, data derived from Table 15.3 Neufeld, E.P. *The Financial System of Canada: Its Growth and Development*. Macmillan of Canada: 1972. pp.565. For the period 1951-1994, CANSIM label # B14010.

*This series appears in Column 11 of CANMACR1.*

### **Non-Residential Investment Expenditures:**

This series has been derived from three sources that show close comparability. For the period 1871-1925, *Fixed Capital Flows and Stocks:1926-1978*. Statistics Canada. Catalogue #13-568. pp.331-332. For the period 1926-1960, CANSIM label #D814000. For the period 1961-1994, *Fixed Capital Flows and Stocks: Historical Review*. Statistics Canada. Catalogue #13-568. pp.61.

*This series appears in Column 12 of CANMACR1.*

### **Total Investment Expenditures:**

For the period 1871-1925, estimates for Total Investment have been taken from Urquhart, M.C. *Gross National Product, Canada 1870-1926: The Derivation of the Estimates*. Kingston. McGill-Queen's University Press: 1993. pp. 16-17. For the period 1926-1994, CANSIM label #D12182.

*This series appears in Column 13 of CANMACR1.*

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<sup>1</sup> Please note that this is not strictly the case. Between 1870 and 1922, only total estimates for Chartered bank note issue are given. Consequently, this measure was used for the period 1870-1913. Also, for the period 1870-1925, total estimates of subsidiary coin issue are available after which the data is disaggregated. For the period 1870-1913, Money supply is composed of the series: H20 + H19 + H15 +H13 (for the period 1901-1913).

**Current Account Balance:**

For the period 1871-1925, the balance on current account calculated from net of total credit and debit entries that appear in Urquhart, M.C. *Gross National Product, Canada 1870-1926: The Derivation of the Estimates*. Kingston. McGill-Queen's University Press: 1993. Pp.19-23. For the period 1926-1994, CANSIM label # D12201 was used.

*This series appears in Column 14 of CANMACR1.*