# Variable Names and Data Sources

*for*

## "Searching for Keynes"

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## Names and Data Sources

**AGRIC =** proportion of the labor force in agriculture.
1871-1926: Urquhart, (1993)**,** 24-55; 1926-1995 Cansim series D31251 divided by D31252; 1996-2001: Cansim II series V2710106 divided by V2710104.

$\Delta \mathbf{b}$ = real primary deficit per capita = **g-t**

$\Delta \hat{\mathbf{b}}$ = permanent or long run real primary deficit per capita

D( - ) = indicates a first difference of the indicated variable

**D(autoT)** = first difference of (the lagged value of the four year moving average of the ratio of personal income tax revenue to total tax revenue) **times** (the contemporaneous change in real income per capita).
Personal Income tax collections: 1880-1989, Gillespie, pp.285; 1990-2001: CANSIM II V156116.

**GNP =** gross national product in current dollars.
1870-1926: Urquhart (1993), pp. 24-25 (in millions); 1927-1938: Leacy et al (1983), Series E12, p.130; 1939–1960 *Canadian Economic Observer, Historical Statistical Supplement 1986*, Statistics Canada Catalogue 11-210 Table 1.4. CANSIM D11073 = GNP at market prices. 1961-2001 Cansim I D16466 = Cansim II V499724 (aggregated from quarterly data). See: Leacy, F.H., M.C. Urquhart & K.A.H. Buckley, (1983) *Historical Statistics of Canada, 2nd Edition*, Ottawa: Minister of Supply and Services Canada.

**GOV** = total government expenditure net of interest payments.
1870-1989: Gillespie (1991), pp.284-286; 1990-1996: Public Accounts of Canada 1996-97: 1997-2000: Federal Government Public Accounts, Table 3 Budgetary Revenues Department of Finance web site, September 2001. To this we add the return on government investment (**ROI**) that was substracted by Gillespie from both revenue and expenditure, and subtract out interest paid to the private sector. Data on **ROI**: 1870 to 1915: Public Accounts 1917 p.64; 1915-1967: Dominion Government Revenue and Expenditure: Details of Adjustments 1915-1967 Table W-1; 1916-17 to 1966-67: Securing Economic Renewal - The Fiscal Plan, Feb 10, 1988, Table XI; 1987-88 to 1996-97: Public Accounts 1996, Table 2.2. Interest on the Debt (**ID**) was subtracted out (with adjustment for interest paid to the Bank of Canada (**BCI**) ultimately returned to the government). Data on **ID**: 1870-1926: Historical Statistics of Canada, Series H19-34: Federal Government budgetary expenditures, classified by function, 1867-1975; 1926-1995: Cansim D11166. 1996-2000: Cansim D18445. Finally, data for **BCI:** copied by hand from the Annual Reports of The Bank of Canada, Statement of Income and Expense, Annually, 1935-2000. Net Income paid to the Receiver General (for the Consolidated Revenue Acct).  Note: all government data had to be converted from fiscal to calendar years. For the Canadian Government the fiscal year ended on March 31 from 1908 onward and ended on June 30 for 1907 and before. Conversion to calendar year made accordingly.

**g** = real government spending per capita = **GOV/(P*POP)**

$\hat{g}$ = long run or permanent size of real government expenditure per capita

**IMMIGRATION**
1868 – 1953: Firestone (1958), Table 83, Population, Families, Births, Deaths; Updated by Cansim D27 (1955 to 1996). Cansim Sum of X100615 (Females) plus X100614 (Men) for 1954;1997-2001, Cansim D27 (sum of quarters). See: O.J. Firestone. *Canada's Economic Development: 1867 - 1953*, Bowes and Bowes; London, 1958.

**IMMRATIO** = immigrants as a fraction of total population = **IMMIGRATION/POP.**

**IPIUS** = Index of Industrial Production for the United States.
1870-1929: Table A15. NBER, Nutter; 1930-1970, Table A16. (BEA) Bureau of Economic Analysis;1971-1995: Cansim D360048 (1987=100);1996-2000, U.S. Department of Commerce, Business Cycle Indicators, Index of Industrial Production 1992=100.

**OPEN** = (exports + imports)/GNP**.**
Exports and Imports: 1870-1926, Urquhart, (1993) Table 1.4; 1927-1960, Leacy, et al, 1983, Series G383, 384; 1961-2001: CANSIM series D14833 & D14836.

**%YOUNG** = percentage of the population below 17.
1870-1920 Leacey et al (1983). Interpolated from Census figures Table A28- 45 sum of columns 29, 30, 31, and 32 all divided by 28 (adjusted to make 1921 the same); 1921-2001 Cansim C892547.

**P =** GNP deflator before 1927 and GDP deflator after (1986 = 100).
1870-1926: Urquhart, (1993), 24-25;1927-1995 (1986=100): Cansim data label D14476; 1996-2001 Cansim D140668.  All indexes converted to 1986 = 100 basis.

**POP =** Canadian population.
1870-1926:  Urquhart, (1993), 24-25; 1927 - 1995:  CANSIM data label D31248; 1995 - 2001: Cansim D1 (average of four quarters).

**OILPERM** = dummy 1 for 1974 on, 0 otherwise

**RYPC =** real income per capita = GNP/(POP*P).

$x^e$ = forecast value of permanent real income per capita:

$r$ = long term government bond rate.
1870-1913: Rich (1988),  Average Yield on Dominion Government Bonds - Table 7-4, p.201; 1914-1919. Homer (1973) Province of Ontario Bonds Annual Average, %,  p. 484; 1920 - 1958: Homer (1973), Long Term Dominion of Canada Dollar Bonds Annual Average, % p. 484; 1959-1995: Gov't of Can. Bond Yield Ave 5-10 year, Cansim series B14030; 1995-2001: updated by hand as average of 12 months Cansim B14030. See: Sidney Homer. (1977). *A History of Interest Rates*. Rutgers University Press.

$r^e$ = real rate of interest = r - the actual rate of inflation (using **P**).

**Shift-1980** = 1 for the years 1980-2000, 0 otherwise

**TAXES** = aggregate tax revenue plus return on investment.
1870-1995: Sum of the fourteen different categories of taxes collected by Gillespie(1991); 1996-2000 updated and annualized [(1/4), (3/4) ] from column entitled total budgetary revenues in *Fiscal Reference Tables*, Federal Government Public Accounts, Table 3 Budgetary Revenues Department of Finance web site, September 2001. **ROI,** which was excluded by Gillespie from both revenue and expenditure, was added. For source see GOV above.

$t$ = real taxes per capita = **TAXES/(P*POP)**

$\hat{t}$ = long run or permanent taxes per capita

**URATE** = the unemployment rate.
1870 - 1918: unavailable; 1919-1995: Cansim D767863; 1996-2001: Cansim D980745 (annual average of monthly data).

**USCON** = U.S. real consumption per capita.
**Nominal consumption:** 1871-1888: S. Kuznet. "Capital in the American Economy Its Formation & Financing", NBER Princeton University Press, 1961. Table R-26 Col.(4). Detailed source notes in Table R-27. *Adjusted. 1889-1928: J. W. Kendrick. "Productivity Trends in the United States", NBER, Princeton University Press 1961. Table A-IIb, Col.(4). *Adjusted. 1929-2002: U.S. Bureau of Economic Analysis, National Income and Product Accounts (NIPA) Tables 1.1, series A002RC  http://www.bea.doc.gov/bea/dn/nipaweb/index.asp. *Adjustments: [Kuznet series 1871-1889 is adjusted by the proportional change between Kuznet and adjusted Kendrick data for 1889. Kendrick series 1888-1929 is adjusted by the proportional change between Kendrick and the NIPA source for 1929]. **Deflator:** 1869-1928, Balke and Gordon. *Journal of Political Economy*, 1989 (97:1) pp.38-92, Table 10; 19-1929-2001, and  U.S. Bureau of Economic Analysis, National Income and Product Accounts (NIPA), May,2002. Table 7.3. **U.S population:** 1869-1939, U.S. Bureau of the Census, Historical Statistics of the U.S.on CD-ROM, Colonial Times To 1970-Bicentennial Edition. Series A7; 1940-2001, Dept. of Commerce, Bureau of Census, *Economic Report of the President* 2002, B-34.

**WW1**= dummy 1 for the years 1914-1918, 0 otherwise.

**WWI aftermath** = dummy1 for the years 1919-1921, 0 otherwise.

**WW2** = dummy 1 for the years 1939-1945, 0 otherwise.

**WWII aftermath** = dummy 1 for the years 1946-1949, 0 otherwise.

$\mathbf{y^e}$ = transitory real income per capita = RYPC – $\mathbf{x^e}$.

$\Delta \mathbf{y^e_u}$ = change in the transitory shock to unemployment.
Measured as the change in the deviation of URATE from the lagged value of its four year moving average.