Data Appendix:
The Great Depression in Canada and the United States: A Neoclassical Perspective
by Pedro Amaral and Jim MacGee

Original Data: Description

O.1. Canadian Gross national expenditure deflator (1971 = 100)
O.2. Canadian Civilian non-institutional population older than 14 (thousands)
O.3. Canadian Gross national product (millions of Canadian dollars)
O.4. Canadian Private consumption (millions of Canadian dollars)
O.5. Canadian Gross fixed capital formation (millions of Canadian dollars)
O.6. Canadian Inventory change (millions of Canadian dollars)
O.7. Canadian Government expenditure (millions of Canadian dollars)
O.8. Canadian Exports (millions of Canadian dollars)
O.9. Canadian Imports (millions of Canadian dollars)
O.10. Canadian Residual (millions of Canadian dollars)
O.11. Canadian Wages and salaries (millions of Canadian dollars)
O.12. Canadian Military pay (millions of Canadian dollars)
O.13. Canadian Corporation profits before taxes (millions of Canadian dollars)
O.14. Canadian Dividends paid to non-residents (millions of Canadian dollars)
O.15. Canadian Net interest and government profits (millions of Canadian dollars)
O.16. Canadian Net income of farm operators (millions of Canadian dollars)
O.17. Canadian Net income of non-farm unincorporated (millions of Canadian dollars)
O.18. Canadian Inventory valuation adjustment (millions of Canadian dollars)
O.19. Canadian Indirect taxes less subsidies (millions of Canadian dollars)
O.20. Canadian Capital consumption allowances (millions of Canadian dollars)
O.21. Canadian Residual (millions of Canadian dollars)
O.22. US population older than 16 (thousands)
O.23. US Gross national product (millions of 1929 dollars)
O.24. US detrended consumption nondurables and services (1929 = 100)
O.25. US detrended consumption durables (1929 = 100)
O.26. US detrended business investment (1929 = 100)
O.27. US detrended government purchases (1929 = 100)
O.28. US detrended exports (1929 = 100)
O.29. US detrended imports (1929 = 100)
O.30. Canadian terms of trade (1913 = 100)
O.31. Canadian terms of trade (1948 = 100)
O.32. Canadian employment (thousands)
O.33. Canada, non-agricultural employment (thousands)
O.34. Canada, agricultural employment (thousands)
O.35. Average hours worked, non-agriculture (per week)
O.36. Index, industrial wages (1949 = 100)
O.37. Index, farm wages (35-39=100)
O.38. Canadian non-agriculture relief workers
O.39. Monetary Base, M0 (millions of Canadian dollars)

O.40. M1 (millions of Canadian dollars)
O.41. Canadian commercial failures (number of failures)
O.42. Canadian commercial failures, liability (thousands of dollars)
O.43. U.S. commercial failures (number of failures)
O.44. U.S. commercial failures, liability (millions dollars)
O.45. U.S. capital stock (millions of 1929 dollars)
O.46. U.S. hours worked, non-military (millions).
O.47. Canada capital stock (millions of 1857 dollars)
O.48. Canadian GNP, 1919-1923 (1900 Canadian $), Urquehart
O.49. Canadian GNP deflator/implicit price index, 1919-1923 (1900 = 100), Urquehart
O.50. Canadian population, 1919-1923, (thousands)
O.51. Canadian GNP, 1919-1923, (1900=100), Altman
O.52. Canadian GNP deflator/implicit price index, 1919-1923 (1900 = 100), Urquehart
O.53. U.S. GDP (billions of 1987 $)
O.54. U.S. GDP private (billions of 1987 $)
O.55. U.S. GDP nonfarm (billions of 1987 $)
O.56. U.S. GDP farm (billions of 1987 $)
O.57. U.S. GDP gov (billions of 1987 $)
O.58. U.S. total GDP defl (1987=100)
O.59. U.S. gov GDP defl (1987=100)
O.60. U.S. farm GDP defl (1987=100)
O.61. Canadian GDP at factor cost (current Cdn $)
O.62. Canadian GDP, agriculture at factor cost (millions of current Cdn $)
O.63. Canadian GDP, government at factor cost (millions of current Cdn $)
O.64. Canadian net taxes at factor cost (millions of current Cdn $)
O.65. U.S. hours worked, private non-farm (millions)
O.66. Canadian three month treasury bill (percent)
O.67. Canadian short term dominion bonds (percent)
O.68. Canadian commercial paper (percent)
O.69. Canadian tong term dominion bonds (percent)
O.70. Canadian index, manufacturing wages (1949=100)
O.71. U.S. personal consumption expenditures (billions of 1982 U.S. $)
O.72. U.S. average weekly hours worked (hours)
O.73. U.S. persons engaged in production (less military), full time equivalents (thousands)
O.74. U.S. persons engaged in farming, full time equivalents (thousands)
O.75. U.S. persons employed by government, full time equivalents (thousands)
O.76. U.S. persons employed by government enterprises, full time equivalents (thousands)
O.77. Canada Dominion government employees.
O.78. U.S. full-time and part-time employed plus self-employed less military (thousands)
O.79. U.S. State and local nonschool, except work relief, employment (thousands).
O.80. Canada, full-time university teachers.
O.81. Canada, teachers in publicly controlled elementary and secondary schools.
O.82. Canada, average hours worked per year (non-agriculture)

Original Data: Source

O.1. Historical statistics of Canada Series K172
O.2. Historical statistics of Canada Series D126. The value for 1920 is estimated as the ratio of D126 in 1921 and Canadian population times the Canadian population in 1920.
O.3. Historical statistics of Canada Series F32
O.4. Historical statistics of Canada Series F14
O.5. Historical statistics of Canada Series F16
O.6. Historical statistics of Canada Series F25
O.7. Historical statistics of Canada Series F15
O.8. Historical statistics of Canada Series F29
O.9. Historical statistics of Canada Series F30
O.10. Historical statistics of Canada Series F31
O.11. Historical statistics of Canada Series F1
O.12. Historical statistics of Canada Series F2
O.13. Historical statistics of Canada Series F3
O.14. Historical statistics of Canada Series F4
O.15. Historical statistics of Canada Series F5
O.16. Historical statistics of Canada Series F6
O.17. Historical statistics of Canada Series F7
O.18. Historical statistics of Canada Series F8
O.19. Historical statistics of Canada Series F10
O.20. Historical statistics of Canada Series F11
O.21. Historical statistics of Canada Series F12
O.22. Current Population Reports Series P-25 No.311
O.23. Kendrick (1961) Table A-III
O.24. Cole and Ohanian (1999) Table 2
O.25. Cole and Ohanian (1999) Table 2
O.26. Cole and Ohanian (1999) Table 2
O.27. Cole and Ohanian (1999) Table 2
O.28. Cole and Ohanian (1999) Table 2
O.29. Cole and Ohanian (1999) Table 2
O.30. Historical statistics of Canada, F357-359*
O.31. Historical statistics of Canada, F357-359*
O.32. Historical statistics of Canada, D129
O.33. Historical statistics of Canada, D130
O.34. Historical statistics of Canada, D131
O.35. Historical statistics of Canada, D408*
O.36. Historical statistics of Canada, E198
O.37. Historical Statistics of Canada, L88-97*
O.38. Bryce (1985), Table 2. Sum of (i) Persons employed on municipal relief projects, (ii) persons employed on provincial relief works and (iii) persons employed on federal relief works or special projects.
O.39. Metcalfe et al

O.40. Metcalfe et al
O.41. Historical statistics of Canada, Y215*
O.42. Historical statistics of Canada, Y216*
O.43. U.S. Depart. of Commerce (1975), V20-30
O.44. U.S. Depart. of Commerce (1975), V20-30
O.45. Kendrick (1961) Table A-XV, National Economy.
O.46. Kendrick (1961) Table A-X, Total Civilian.
O.47. Brown (1965), Table B-1, Series 5 Total National Physical Capital.
O.48. Urquehart (1993), Table 1.6.
O.49. Urquehart (1993), Table 1.6
O.50. Urquehart (1993), Table 1.6
O.51. Altman (1992), Table 1, Variant A.
O.52. Altman (1992), Table 1, Variant A.
O.53. Dept of Commerce, BEA, NIPA(29-58) Table 1.8
O.54. Dept of Commerce, BEA, NIPA(29-58) Table 1.8
O.55. Dept of Commerce, BEA, NIPA(29-58) Table 1.8
O.56. Dept of Commerce, BEA, NIPA(29-58) Table 1.8
O.57. Dept of Commerce, BEA, NIPA(29-58) Table 1.8
O.58. Dept of Commerce, BEA, NIPA(29-58) Table7.14, Line 1
O.59. Dept of Commerce, BEA, NIPA(29-58) Table7.14, Line 11
O.60. Dept of Commerce, BEA, NIPA(29-58) Table7.14, Line 6
O.61. Historical statistics of Canada, F61*
O.62. Historical statistics of Canada, F46*
O.63. Historical statistics of Canada, F59*
O.64. Historical statistics of Canada, F62*
O.65. Kendrick (1961) Table A-X, Private:Non-Farm.
O.66. Historical statistics of Canada, H588-603*
O.67. Nixon (1937), Average yield on (short term) Government Bonds, Table I.
O.68. Nixon (1937), yield on (long term) Corporation Bonds, Table I.
O.69. Historical statistics of Canada, H604-618*
O.70. Historical Statistics of Canada, Series E198-208.
O.71. Dept of Commerce, BEA, NIPA(29-82) Table 2.5.
O.72. Bailey (1983), Table 1.
O.73. Dept of Commerce, BEA, NIPA(29-58) Table 6.8A.
O.74. Dept of Commerce, BEA, NIPA(29-58) Table 6.8A.
O.75. Dept of Commerce, BEA, NIPA(29-58) Table 6.8A.
O.76. Dept of Commerce, BEA, NIPA(29-58) Table 6.8A.
O.77. Historical Statistics of Canada, W177-213*.
O.78. Dept of Commerce, BEA, NIPA(29-58) Table 6.4A and 6.7A.
O.79. Dept of Commerce, BEA, NIPA(29-58) Table 6.4A.
O.80. Historical Statistics of Canada, W475-485.
O.81. Historical Statistics of Canada, V68-78.*
O.82. Historical Statistics of Canada, D409*.

Note:
Historical Statistics of Canada series can be downloaded from:
http://www.statcan.ca/english/freepub/11-516-XIE/sectiona/toc.htm

* Historical Statistics of Canada, 1965.

Constructed Series: Description

C.1. Detrended Canadian GNP (1929 = 100), (TABLE I)
C.2. Detrended Canadian consumption (1929 = 100), (TABLE I)
C.3. Detrended Canadian investment (1929 = 100), (TABLE I)
C.4. Detrended Canadian government expenditures (1929 = 100), (TABLE I)
C.5. Detrended Canadian exports (1929 = 100), (TABLE I)
C.6. Detrended Canadian imports (1929 = 100), (TABLE I)
C.7. Detrended US GNP (1929 = 100), (TABLE I)
C.8. Detrended US Consumption (1929 = 100), (TABLE I)
C.9. Detrended US investment (1929 = 100), (TABLE I)
C.10. Detrended US government expenditures (1929 = 100), (TABLE I)
C.11. Detrended US exports (1929 = 100), (TABLE I)
C.12. Detrended US imports (1929 = 100), (TABLE I)
C.13. Detrended Canadian TFP (1929 = 100), (Table II)
C.14. Detrended US TFP (1929 = 100), (Table II)
C.15. Detrended Canadian capital (1929 = 100), (Table II)
C.16. Detrended US capital (1929 = 100), (Table II)
C.17. Canadian hours (1929 = 100), (Table II)
C.18. US hours (1929 = 100), (Table II)
C.19. Detrended Canadian private non-agricultural TFP (1929 = 100), (Table III)
C.20. Detrended US private non-agricultural TFP (1929 = 100), (Table III)
C.21. Indexed Canadian Monetary Base (1929 = 100), (Table IV)
C.22. Indexed Canadian M1 (1929 = 100), (Table IV)
C.23. Indexed Canadian Price level (1929 = 100), (Table IV)
C.24. Detrended Canadian GNP per capita 1920-22 (Table VII)
C.25. Indexed Canadian GNP deflator 1920-22 (Altman) (Table VII)
C.26. Indexed Canadian GNP deflator 1920-22 (Urquhart) (Table VII)
C.27. Detrended Canadian GNP per capita 1920-22: Altman for comparison, Table VII.
C.28. Canadian indexed industry real wages (Figure 3)
C.29. Canadian indexed agriculture real wages (Figure 3)
C.30. Canadian detrended farm real wages (1920-22, 1929-33) (Table X)
C.31. Canadian detrended manufacturing real wages (1920-22, 1929-33) (Table X)
C.32. Indexed Canadian terms of trade (Figure 5)
C.33. Canada Private non-agriculture GDP.
C.34. Canada, Private non-agriculture hours.
C.35. Total government employment.
C.36. Canadian Private Non-Agricultural Employment (thousands).
C.37. U.S. private non-agricultural GDP.
C.38. Canadian Ex-Post Real Interest Rate on Long Term Government Bonds wages (1921-22, 1930-33) (Table IX).
C.39. Detrended Canadian GDP per worker (Figure 1).
C.40. Predicted Canadian labor.
C.41. Predicted Canadian capital.

C.42. Predicted Canadian investment.
C.43. Predicted detrended Canadian GDP per worker.
C.44. Indexed detrended Canadian GDP per worker (Figure 1).
C.45. Predicted US labor.
C.46. Predicted US capital.
C.47. Predicted US investment.
C.48. Predicted detrended US GDP per worker.
C.49. Indexed detrended US GDP per worker.
C.50. Detrended real manufacturing wage index.
C.51. Detrended real manufacturing wage.
C.52. Predicted Canadian labor.
C.53. Predicted Canadian capital.
C.54. Predicted Canadian investment.
C.55. Predicted detrended Canadian GDP per worker.
C.56. Indexed detrended Canadian GDP per worker.
C.57. Inverse of Canadian terms of trade.
C.58. Predicted Canadian labor.
C.59. Predicted Canadian capital.
C.60. Predicted Canadian investment.
C.61. Predicted detrended Canadian GDP per worker.
C.62. Indexed detrended Canadian GDP per worker.
C.63. Real wages – industry (1929=100)
C.64. Real wages – agriculture (1929=100).

Construction of Series

C.1. O.3/ (O.1*O.2), detrended using a 2 percent trend.
C.2. O.4/ (O.1*O.2), detrended using a 2 percent trend.
C.3. (O.5+O.6)/ (O.1*O.2), detrended using a 2 percent trend
C.4. O.7/ (O.1*O.2), detrended using a 2 percent trend
C.5. O.8/ (O.1*O.2), detrended using a 2 percent trend
C.6. O.9/ (O.1*O.2), detrended using a 2 percent trend
C.7. O.23/ O.22 detrended using a 2 percent trend
C.8. O.71/O.22, detrended using a 1.9 percent trend
C.9. Equals O.26
C.10. Equals O.27
C.11. Equals O.28
C.12. Equals O.29
C.13. TFP calculated as described below, where Y_t is (O.3/O.1), K_t is O.47, L_t is (O.32*O.35) and $\theta_{Can} = 0.3$, detrended using $2^{1-\theta}$ percent trend.
C.14. TFP calculated as described below, where Y_t is O.23, K_t is O.45, L_t is O.46 and $\theta_{U.S.} = 0.33$, detrended using $2^{1-\theta}$ percent trend.
C.15. O.47/ O.2, detrended using a 2 percent trend
C.16. O.45/ O.22, detrended using a 2 percent trend

C.17. O.32*O.82/ O.2, index: 1929=100
C.18. O.46/ O.22, index: 1929=100
C.19. TFP calculated as described below, where Y_t is C.33, K_t is O.47, L_t is C.34 and $\theta_{Can} = 0.3$, detrended using $2^{1-\theta}$ percent trend.
C.20. TFP calculated as described below, where Y_t is C.37, K_t is O.45, L_t is ((O.73-O.74-O.75+O.76)*O.72) and $\theta_{U.S.} = 0.33$, detrended using $2^{1-\theta}$ percent trend.
C.21. O.39/O.2, index: 1929=100.
C.22. O.40/O.2, index: 1929=100.
C.23. O.1, index 1929=100.
C.24. For years 1920-1922, O.48/O.2, detrended using a 2 percent trend; For years 1929-1933 this is series C1.
C.25. O.52, index:1920=100 (1920-1922); 1929-1933 is O.1, index 1929=100.
C.26. O.49, index:1920=100 (1920-1922); 1929-1933 is O.1, index 1929=100.
C.27. 1920-1922: O.51/O.2, detrended using a 2 percent trend.
C.28. O.36/O.1, index:1929=100.
C.29. O.37/O.1, index:1929=100.
C.30. 1920-1922: O.37/O.49, 1929-1933: O.37/O.1, detrended using 1.4 % trend.
C.31. 1920-1922: O.70/O.49, 1929-1933: O.70/O.1, detrended using 1.4 % trend.
C.32. Spliced O.30 and O.31 in 1926: Index, 1929=100.
C.33. ((O61-O62-O63)/(O61-O63)*(O61+O64)*(O61-O63)/O61)/O1)*100.
C.34. C.36*O.82.
C.35. O.77 + O.80*+O.81* + (O.79/O.78)*O.32. * We used linear (straight line) interpolation to fill in the missing values.
C.36. (O.33-C.35-O.38/1000).
C.37. O.53*O.58(1929 value) – O.57*O.59(1929 value) – O.56*O.60(1929 value)
C.38. Equals O.69 – inflation rate, where inflation rate is calculated as $(\frac{P_t - P_{t-1}}{P_{t-1}} * 100)$ and the deflator is O.49 for 1921-1922 and O.1 for 1930-1933.
C.39. (O61+O64)/(O2*O1), detrended using 2 % trend.
C.40. 0.2173+0.1917*C13/100-0.0441*C41. These coefficients are the output from the code: neocanus.m (use Canadian parameter values).
C.41. Time t value is (1-delta)C41_{t-1}+C42, with initial (1929) value 1.7946. Delta for Canada is 0.05.
C.42. -0.2822+0.5239*C13/100-0.0849*C41. These coefficients are the output from the code: neocanus.m (use Canadian parameter values).
C.43. C13/100*C40^(1-theta)*C41^(theta), theta=0.3.
C.44. Series C43, indexed, 1929=100.
C.45. 0.213+0.1951*C14/100-0.0351*C46. These coefficients are the output from the code: neocanus.m (use US parameter values).
C.46. Time t value is (1-delta)C46_{t-1}+C47, initial (1929) value is 2.2316.
C.47. -0.3324+0.6044*C14/100-0.072*C46. These coefficients are the output from the code: neocanus.m (use US parameter values).
C.48. C14/100*C45^(1-theta)*C46^(theta). Theta=0.33
C.49. Series C48, indexed.
C.50. C28 detrended using 2% trend.

C.51. (C50/100)*1.1637, where 1.1637 is the real wage value in 1929.
C.52. ((1-theta)/C51)^(1/theta)*C53. theta=0.3
C.53. Time t value is (1-delta)C53_{t-1}+C54, with initial (1929) value 1.7946.
C.54. 0.7187-0.3471-0.1571*C53. These coefficients are the output from the code: wagescan.m
C.55. C52^(1-theta)*C53^(theta). Theta = 0.3.
C.56. Series C55, indexed.
C.57. 100/O31, indexed 1929=1.
C.58. 0.2831+0.1916-0.0657*C57-706.7348*C59. These coefficients are the output from the code: tradecan.m There is a typo in the parameter values in the paper (page 68). It should read rho=1.25 and phi=0.7.
C.59. Time t value is (1-delta)*C59_{t-1}+C60, with initial (1929) value 0.000111924. Delta=0.05.
C.60. -0.00000684295+0.000032663859-0.000010730814*C57-0.084829133492*C59. These coefficients are the output from the code: tradecan.m
C.61. C58^(1-theta)*C59^(theta). Theta for Canada is 0.3.
C.62. Series C61, indexed.
C.63. (O.36/O.1) indexed
C.64. (O.37/O.1) indexed

Note: Coefficients in the equations for series C58 and C60 are from the linear policy function that solves the planner's problem described in the paper with a detrended TFP of one every period (the coefficient on TFP is the second number in each formula). The MATLAB codes used to generate these numbers are appended.

Detrending

The series were detrended according to

$$Y_d(t) = \left(Y(t)\right) / \left(Y(1929) * \left(1.0 + x\right)^{t-1929} \right)$$

where $Y_d(t)$ denotes the detrended series, $Y(t)$ is the undetrended series and x is the trend.[1]

Table I. The series for Canada are: C.1 through C.6. The series for U.S. are: C.7 through C.12.
Note: Series C:2 through C:6 in the Review of Economic Dynamics were detrended using 2.4 % (the average annual growth rate of per capita GDP in Canada over 1947-1997). The series reported in the data appendix are detrended using 2.0%.

Table II. The series reported are C.13 through C.18.

[1] Note that in our calculations we often rounded the Canadian trend of $1.02^{0.7}$ to 1.014 and the U.S trend of $1.02^{0.67}$ to 1.0134.

Detrended TFP is computed according to:

$$A_t = \left(\frac{Y_t}{K_t^{\Theta} L_t^{1-\Theta}} \right) / \left((1.02)^{1-\Theta} \right)^{t-1929}$$

Note: There was an error in the TFP series for Canada published in the Review of Economic Dynamics. The correct TFP series is reported in C.13 of the data appendix.

Table III.: The series for Canada is C.19 and for the U.S. is C.20.

Table IV. The series are O.39/O.2, O.40/O.2, O.1, O.66, O.67 and O.68 respectively. The first three series are indexed, 1929=100.

Table V. These series are from Table 8 of Cole and Ohanian (1999).

Table VI. The derivation of these parameters is outlined in the text.

Figure 1. The solid line is C.39. The dashed line is C.44.

Figure 2 The solid line is C.7. The dashed line is C.49.

Table VII. The Canadian series are C.24, C.25 and the U.S. series are from Cole and Ohanian (2000a).
An alternative estimate of Canadian GNP for 1920-22 based on Altman (1992) is reported in C.27. The value of Y Can. in 1922 should read 94.77 not 97.77.

Table VII in the paper mistakingly reports that the price index for Canada is from Urquhart (1993) (first three rows of C.26). The data reported for 1920-22 is actually from Altman (1992) (first three rows of C.25).

Table VIII. The Canadian data is O.41 and O.42. The U.S. data is O.43 and O.44.

Table IX. The U.S. data is from Cole and Ohanian (2000a), Table 4. The Canadian data is O.69 and C.38.

Figure 3. The solid line is C.63. The dashed line is C.64. (The series are not detrended.)

Table X. The Canadian series are C.30 and C.31. The U.S. series are from Cole and Ohanian (2000a).

Figure 4. The solid line is C39. The dashed line is C56.

Figure 5. The series is C.32.

Figure 6 The solid line is C.39. The dashed line is C.62.