

“Is Switzerland in a Great Depression?”
Data Appendix

Timothy J. Kehoe
University of Minnesota and
Federal Reserve Bank of Minneapolis

Kim J. Ruhl
University of Texas at Austin

The documentation in this file refers to the data in *SwissDepressionData.xls* which can be found at www.econ.umn.edu/~tkehoe or www.eco.utexas.edu/~kjr296.

Original Data: Description

	Country	Series	Unit	System of Accounts
O.1	Switzerland	GDP at current prices	mil. SFr	SNA68
O.2	Switzerland	Exports at current prices	mil. SFr	SNA68
O.3	Switzerland	Imports at current prices	mil. SFr	SNA68
O.4	Switzerland	Investment at current prices	mil. SFr	SNA68
O.5	Switzerland	GDP at constant prices	mil. 1995 SFr	SNA68
O.6	Switzerland	Exports at constant prices	mil. 1995 SFr	SNA68
O.7	Switzerland	Imports at constant prices	mil. 1995 SFr	SNA68
O.8	Switzerland	GDP at current prices	mil. SFr	SNA93
O.9	Switzerland	Exports at current prices	mil. SFr	SNA93
O.10	Switzerland	Imports at current prices	mil. SFr	SNA93
O.11	Switzerland	GDP percentage change over previous year at prices of preceding year	percent	SNA93
O.12	Switzerland	Exports percentage change over previous year at prices of preceding year	percent	SNA93
O.13	Switzerland	Imports percentage change over previous year at prices of preceding year	percent	SNA93
O.14	Switzerland	Average annual hours worked per worker	hours	-
O.15	Japan	GDP at constant prices	mill. 2000 Yen	SNA93
O.16	Japan	Population, 15-64	1000s	-
O.17	Finland	GDP at constant prices	mil. 2000 Euro	SNA93
O.18	Finland	Population, 15-64	1000s	-
O.19	United States	Exports at current prices	mil USD	SNA93
O.20	United States	Imports at current prices	mil USD	SNA93
O.21	United States	Exports at constant prices	mil 2000 USD	SNA93
O.22	United States	Imports at constant prices	mil 2000 USD	SNA93
O.23	Switzerland	GDP at constant prices	mil 1990 G-K \$	-
O.24	Switzerland	Population, total	1000s	-
O.25	United States	GDP at constant prices	mil 1990 G-K \$	-
O.26	United States	Population, total	1000s	-
O.27	United States	Population, 15-64	1000s	-
O.28	United States	GDP at current prices	bil. USD	US NIPA
O.29	United States	Gross private domestic investment at current prices	bil. USD	US NIPA
O.30	United States	Gross government investment at current prices	bil. USD	US NIPA
O.31	United States	GDP deflator	2000 = 100	US NIPA
O.32	United States	Average annual hours worked per worker	hours	-
O.33	United States	Employment	1000s	-
O.34	Switzerland	GDP at constant prices	mil. 1995 SFr	SNA68
O.35	Switzerland	Investment at constant prices	mil. 1995 SFr	SNA68
O.36	Switzerland	Population, 15-64	1000s	-
O.37	Switzerland	Average weekly hours worked in manufacturing per worker	hours	-
O.38	Switzerland	Average weekly hours worked in manufacturing per worker	hours	-
O.39	Switzerland	Average annual hours worked per worker	hours	-
O.40	Switzerland	Employment	1000s	-

Original Data: Source

	Provider	Source Document
O.1	Source OECD	Statistics::OECD Databases::National Accounts::Annual National Accounts Volume I
O.2	Source OECD	Statistics::OECD Databases::National Accounts::Annual National Accounts Volume I
O.3	Source OECD	Statistics::OECD Databases::National Accounts::Annual National Accounts Volume I
O.4	Source OECD	Statistics::OECD Databases::National Accounts::Annual National Accounts Volume I
O.5	Source OECD	Statistics::OECD Databases::National Accounts::Annual National Accounts Volume I
O.6	Source OECD	Statistics::OECD Databases::National Accounts::Annual National Accounts Volume I
O.7	Source OECD	Statistics::OECD Databases::National Accounts::Annual National Accounts Volume I
O.8	SFSO	T3b 80-90 d.xls (nominal tab) and T3b 90-02 e.xls (CP tab), line B.1*b
O.9	SFSO	T3b 80-90 d.xls (nominal tab) and T3b 90-02 e.xls (CP tab), line P.6
O.10	SFSO	T3b 80-90 d.xls (nominal tab) and T3b 90-02 e.xls (CP tab), line P.7
O.11	SFSO	T3b 80-90 d.xls (reel tab) and T3b 90-02 e.xls (change py tab), line B.1*b
O.12	SFSO	T3b 80-90 d.xls (reel tab) and T3b 90-02 e.xls (change py tab), line P.6
O.13	SFSO	T3b 80-90 d.xls (reel tab) and T3b 90-02 e.xls (change py tab), line P.7
O.14	Abrahamsen et al. 2005	-
O.15	Source OECD	Statistics::OECD Databases::National Accounts::Annual National Accounts Volume I
O.16	OECD CDE	Labor Market Statistics - Data::LFS by sex and age
O.17	Source OECD	Statistics::OECD Databases::National Accounts::Annual National Accounts Volume I
O.18	OECD CDE	Labor Market Statistics - Data::LFS by sex and age
O.19	Source OECD	Statistics::OECD Databases::National Accounts::Annual National Accounts Volume I
O.20	Source OECD	Statistics::OECD Databases::National Accounts::Annual National Accounts Volume I
O.21	Source OECD	Statistics::OECD Databases::National Accounts::Annual National Accounts Volume I
O.22	Source OECD	Statistics::OECD Databases::National Accounts::Annual National Accounts Volume I
O.23	Maddison	Table 1: GDP
O.24	Maddison	Table 2: Population
O.25	Maddison	Table 1: GDP
O.26	Maddison	Table 2: Population
O.27	OECD CDE	Labor Market Statistics - Data::LFS by sex and age
O.28	BEA	Table 1.1.5, line 1
O.29	BEA	Table 1.1.5, line 6
O.30	BEA	Table 3.9.5, line 3
O.31	BEA	Table 1.1.9, line 1
O.32	OECD CDE	Labor Market Statistics - Data::LFS by sex and age
O.33	OECD CDE	Labor Market Statistics - Data::LFS by sex and age
O.34	Kehoe and Ruhl 2003	series C.1
O.35	Kehoe and Ruhl 2003	series C.3
O.36	OECD CDE	Labor Market Statistics - Data::LFS by sex and age
O.37	Kehoe and Ruhl 2003	series O.25
O.38	Kehoe and Ruhl 2003	series O.26
O.39	OECD CDE	Labor Market Statistics - Data::LFS by sex and age
O.40	Kehoe and Ruhl 2003	Series C.11

Data Source Notes

1. Source OECD refers to the website www.sourceOECD.org.
2. SFSO refers to the Swiss Federal Statistics Office website, www.bfs.admin.ch.
3. OECD CDE refers to the OECD's Corporate Data Environment website, www1.oecd.org/scripts/cde.
4. Maddison refers to the *World Economy: Historical Statistics* dataset by Angus Maddison. This dataset can be found at www.eco.rug.nl/~Maddison.
5. BEA refers to the United States' Bureau of Economic Analysis website, www.bea.gov.
6. The Kehoe and Ruhl (2003) dataset can be found at www.econ.umn.edu/~tkehoe.

Constructed Data: Description

	Country	Series	Units	System of Accounts
C.1	United States	GDP at constant prices	bil. 2000 USD	US NIPA
C.2	United States	Gross investment at constant prices	bil. 2000 USD	US NIPA
C.3	United States	Capital stock at constant prices	bil. 2000 USD	-
C.4	United States	Total hours worked	1000s	-
C.5	United States	Total factor productivity	no unit	-
C.6	Switzerland	Average annual hours worked per worker	hours	-
C.7	Switzerland	GDP at constant prices	mil. 1995 SFr	SNA68
C.8	Switzerland	Gross investment at constant prices	mil. 1995 SFr	SNA68
C.9	Switzerland	Capital stock at constant prices	mil. 1995 SFr	-
C.10	Switzerland	Total hours worked	1000s	-
C.11	Switzerland	Total factor productivity	no unit	-
C.12	Switzerland	Exports at constant prices	mil. 1980 prices SFr	SNA93
C.13	Switzerland	Imports at constant prices	mil. 1980 prices SFr	SNA93
C.14	Switzerland	GDP at constant prices	mil. 1980 prices SFr	SNA93
C.15	Switzerland	Command-basis GDP	mil. 1980 prices SFr	SNA93
C.16	Switzerland	Command-basis GDP	mil. 1980 prices SFr	SNA68
C.17	United States	Population 15-64	1000s	-
C.18	Switzerland	Population 15-64	1000s	-

Construction of Series

	Country
C.1	O.28/O.31 * 100
C.2	(O.29+O.30)/O.31 * 100
C.3	See note 2 below
C.4	O.32 * O.33
C.5	See note 3 below
C.6	O.37 is spliced onto O.38 in 1973 this new series is spliced onto O.39 in 1991
C.7	O.34 is spliced onto O.5 in 1970
C.8	O.4 is deflated by the GDP deflator, O.1/O.5 and O.35 is spliced onto this in 1970.
C.9	See note 2 below
C.10	O.40 * C.6
C.11	See note 3 below
C.12	See note 4 below
C.13	See note 4 below
C.14	See note 4 below
C.15	real GDP – real exports + nominal exports deflated by import price deflator: C.14 – C.12 + O.9/(O.10/C.13)
C.16	real GDP – real exports + nominal exports deflated by import price deflator: O.5 – O.6 + O.2/(O.3/O.7)
C.17	O.26 is spliced onto O.27 in 1959.
C.18	O.24 is spliced onto O.36 in 1955.

Construction Notes

1. A detrended variable, Y_t^d , is calculated as

$$Y_t^d = Y_t / (1 + \gamma)^{t-\bar{t}}$$

where Y_t is the original data, γ is the trend growth rate and \bar{t} is the base year.

2. Capital stocks are generated using the perpetual inventory method. Given a capital stock for 1955 and a depreciation rate, δ , investment 1955-2000 is cumulated using the law of motion for capital

$$K_{t+1} = (1 - \delta)K_t + X_t.$$

The capital stock in 1955 and the depreciation rate are chosen so the average capital-output ratio, 1956-1965, is the same as the capital-output ratio in 1955 and the average depreciation-output ratio, 1970-2000, is the same as the capital consumption allowance-GDP ratio 1970-2000 from the country's national account statistics.

3. Total factor productivity is computed as

$$A_t = Y_t / (K_t^\alpha L_t^{1-\alpha}),$$

where Y_t is output, K_t is capital and L_t is number of hours worked.

4. A data series from the SFSO is provided at current prices, Y_t , and as percentage change over previous year at prices of preceding year γ_t^Y . To compute a constant price series with base year \bar{t} , $Y_t^{\bar{t}}$ we compute

$$Y_t^{\bar{t}} = \gamma_t^Y Y_{t-1}^{\bar{t}} \quad t \neq \bar{t}, \quad Y_{\bar{t}}^{\bar{t}} = Y_{\bar{t}}.$$

Figures: Description

Figure 1: The figure shows O.25/C.13 in base 2 logarithms.

Figure 2: The figure shows O.23/C14 in base 2 logarithms.

Figure 3: The figure shows $Y_t/N_t = C.1/C.15$, $A_t^{\frac{1}{1-\alpha}} = (C.5)^{\frac{1}{1-\alpha}}$, $L_t/N_t = C.4/C.15$ and $(K_t/Y_t)^{\frac{\alpha}{1-\alpha}} = (C.3/C.1)^{\frac{\alpha}{1-\alpha}}$.

Figure 4: The figure shows $Y_t/N_t = C.7/C.16$, $A_t^{\frac{1}{1-\alpha}} = (C.11)^{\frac{1}{1-\alpha}}$, $L_t/N_t = C.10/C.16$ and $(K_t/Y_t)^{\frac{\alpha}{1-\alpha}} = (C.9/C.7)^{\frac{\alpha}{1-\alpha}}$.

Figure 5: The solid line is O.14 and the dashed line is C.6.

Figure 6: For the United States, the data are C.1/C.15 and for Switzerland the data are C.7/C.16. Both series are detrended by 2 percent per year.

Figure 7: For the United States, the data are C.1/C.15 and for Switzerland the data are C.7/C.16. The series “15% below trend” is $x_{1973}^{15} = 85$ and $x_t^{15} = 1.02x_{t-1}^{15}$ for $t > 1973$. The series “20% below trend” is $x_{1973}^{20} = 80$ and $x_t^{20} = 1.02x_{t-1}^{20}$ for $t > 1973$.

Figure 8: The solid line is C.7/C.18 and the dashed line is C.16/C.18. Both series are detrended by 2 percent per year.

Figure 9: The solid line is C.7/C.18 and the dashed line is C.14/C.18. Both series are detrended by 2 percent per year.

Figure 10: For the United States, the data are $(O.20*O.23)/(O.22*O.21)$, for Switzerland (SNA93), the data are $(O.9*C.13)/(C.12*O.10)$ and for Switzerland (SNA68) the data are $(O.2*O.7)/(O.6*O.3)$.

Figure 11: The command-basis GDP, SNA93 data are C.16 spliced onto C.15 in 1980, the real GDP, SNA93 data are C.14 spliced onto C.7 in 1980 and the real GDP, SNA68 data are C.7. All three series are divided by C.18 and detrended by 2 percent per year.

Figure 12: The Japan data are O.15/O.16, the Finland data are O.17/O.18 and the Switzerland data are C.7/C.18. All three series are detrended by 2 percent per year.