

Data on the stock of gold bullion held by the banks is taken from S. J. Butlin et al. 1971, 113, table 1, average of weekly figures for December quarter until 1900, then average of weekly figures for June quarter. The data are for total bullion, but according to the notes on page 77, bank bullion holdings are mainly gold bullion.

For the years 1861–1900, changes in the monetary gold stock for Australia are then estimated as the sum of changes in the stock of gold coin in banks of issue and private hands in New South Wales, plus the sum of changes in the gold coin stock in the colonies of Victoria and Western Australia, plus the change in bullion held by Australian Trading Banks. Data from 1861 to 1900 are for calendar years. Data on the monetary gold stock for 1901 to 1944 are taken from S. J. Butlin et al. 1971, 453–457, table 42, total gold coin held by banks and the public, and bullion held by Australian Trading Banks from S. J. Butlin et al. 1971, 115, table 1, end of financial year (June quarter averages). An estimate of the gold stock for the financial year 1899 was calculated as the average of the gold stock in 1899 and 1900. The estimated gold stock at the end of 1899 and 1900 was calculated by taking the cumulative sum of net additions to coin in the colonies of Victoria and Western Australia from 1872 to 1899 and 1900 (i.e. the sum of gold coin issued less coin withdrawn, plus gold coin imported less coin exported), plus the stock of gold coin in banks of issue and private hands in New South Wales in 1899 and 1900, plus the gold bullion holdings of Australian Trading Banks. Data on changes in the monetary gold stock from 1900/1901 onwards are calculated as the first difference of the sum of coin stock held by banks and the public plus bullion held by trading banks, listed in S. J. Butlin et al. 1971.

The main drawback with estimating the monetary gold stock using this method is that it tends to overstate the actual gold stock. As S. J. Butlin et al. (1971, 92) caution: “Because of inadequacies in the gold production figures and the freedom until 1914 with which coins in circulation in Australia were imported and exported and the probable statistical significance thereafter of unrecorded imports and exports of coins, it is not possible to produce satisfactory estimates of coinage in use in the nineteenth century, or to be more exact, it would not be possible to do so without conducting much more detailed research.” Another relevant comment on the accuracy of the statistics is made in the *Annual Report* (United Kingdom, Deputy Master of the Mint 1902, 138): “The above return shows that only 13.73 percent of the gold coined at the Melbourne, Sydney, and Perth Mints during the last 29

years has been retained in the States coining it. The amount actually retained is probably much less than this, for considerable quantities are taken away by passengers for Europe which do not appear in the Customs House Returns, and which probably are not counterbalanced by sums brought in by incoming passengers. . . ." Since reliable data are not available on funds taken overseas and inbound by passengers, there is little that can be done to the estimated figures for the monetary gold stock to adjust for this source of error.

Canada

GDP

GDP data from 1870 to 1926 are calculated by subtracting net interest and dividend payments from abroad from the figures for GNP. Data for GNP are from Urquhart (1986, 11–15, table 2.1, row 25), market prices, thousands of (Canadian) dollars. GNP data from 1927 to 1944 are from Urquhart and Buckley (1965, 131, series E27), gross national expenditure at market prices, millions of dollars. Data for net interest and dividend payments from 1870 to 1926 are from Urquhart (1986, 11–15, table 2.1, row 8 less row 21), interest and dividends credits less interest and dividends debits, market prices, thousands of dollars. Data from 1927 to 1944 are from Urquhart and Buckley (1965, 160, series F60 less F66), current receipts of interest and dividends less current payments of interest and dividends, millions of dollars.

Capital Formation

Capital formation data for 1870 to 1926 are from Urquhart (1986, 16–17, table 2.2, col. 8), grand total, gross fixed capital formation, current dollars, millions. Data from 1927 to 1944 are from Urquhart and Buckley (1965, 131, series E17), total business gross fixed capital formation, millions of dollars. Capital formation data for 1927–1944, unlike pre-1927 data, include changes in stocks. Changes in stocks data for 1927–1944 from Urquhart and Buckley (1965, 131, series E21), total value of the physical change in inventories, millions of dollars.

Current Account

Current account data from 1870 to 1926 are from Urquhart (1986, 20–25, table 2.4, rows 9 and 22), total current credits and total current debits, thousands of dollars. These data include net exports of gold coin and bullion. Data from 1927 to 1944 are from Urquhart and Buckley (1965,

160, series F71), net balance, all countries, millions of dollars. Data include net exports of nonmonetary gold. Data for the current account excluding all gold flows from 1870 to 1926 are calculated by subtracting net exports of gold coin and bullion from the current account. Data on the current account excluding gold from 1927 to 1944 are calculated by subtracting net exports of nonmonetary gold from the current account.

Gold

Data on net exports of gold coin and bullion for 1870 to 1926 are from Urquhart (1986, 20–25, table 2.4, rows 2 and 16), exports of gold coin and bullion, less imports of gold coin and bullion, thousands of dollars. Data on net exports of nonmonetary gold for 1868 to 1899 are from Rich (1988, 245–246, table A-3, col. 3), millions of dollars. Data on net exports of nonmonetary gold for 1900 to 1913 are calculated by taking the sum of net gold exports and the change in the monetary gold stock. Data on net gold exports are from Urquhart (1986) as listed above. Data on the change in the monetary gold stock are from Rich (1988) as listed below. Data on net exports of nonmonetary gold from 1927 to 1944 are from Urquhart and Buckley (1965, 160, series F58), current receipts, net exports of nonmonetary gold, millions of dollars, all countries. Data on net exports of monetary gold from 1927 to 1937 are from Urquhart and Buckley (1965, 164, series F99), monetary gold movement (net). Data for 1938–1939 are calculated as the change in the gold holdings of the Bank of Canada, from *The Canada Yearbook* (Canada, Dominion Bureau of Statistics 1939, 934 and 1941, 805). Data for 1940–1945 are from Canada, Dominion Bureau of Statistics 1949, 57, statement 8—Canada's holdings of gold and U.S. dollars converted to Canadian dollars at the official exchange rate of US\$0.909090 = C\$1. Net exports of gold from 1927 to 1944 are calculated as net exports of nonmonetary gold minus the change in the monetary gold stock.

Data on the monetary gold stock from 1869 to 1871 are calculated as the sum of bank gold and subsidiary coin plus the stock of gold held against Dominion notes. Data on bank gold and subsidiary coin are from Curtis 1931, 36, current gold and subsidiary coin, thousands of dollars, December figures. Data on gold held against Dominion notes are from Curtis 1931, 92, thousands of dollars, December figures. Data on the monetary gold stock from 1872 to 1913 come from Rich 1988, 239–242, table A1, Dominion government gold holdings plus the gold holdings of chartered banks, end of year. Data on the monetary gold stock from 1914 to 1926 are calculated as the sum of official Canadian

gold reserves, plus bank gold and subsidiary coin holdings, plus bank gold held in the central reserves of the banking system (a private gold reserve managed by trustees from the Ministry of Finance and the Canadian Bankers Association). Data on the official gold reserves are from *The Canada Yearbook* (Canada, Dominion Bureau of Statistics 1927–1928, 857, table 3), total Canadian gold reserves, end of year figure. Data on bank gold and subsidiary coin are from Curtis (1931, 36) current gold and subsidiary coin, thousands of dollars, December figures. Data on bank gold held in the central gold reserves are from Curtis (1931, 35), gold coin, thousands of dollars, December figures.

Denmark

GDP

GDP data from 1850 to 1944 are from Hansen 1977, 261–263, table 5, gross factor incomes (*bruttofaktorindkomst*) plus net import of goods and services (*netto import af varer og tjenester*) plus indirect taxes less subsidies (*indirekte afgifter—pristilskud*), equaling disposal of merchandise and services (*varer og tjenester til rådighed*), current market prices (*lobende markedspriser*), millions of kroner.

Capital Formation

Capital formation data from 1850 to 1944 are from Hansen 1977, 264–266, table 6, col. 2, gross investment (*brutto-investering*), current prices, millions of kroner. Data do not include stocks.

Current Account

Current account data from 1874 to 1944 are from Bjerke and Ussing 1958, 152–153, table VI, col. 4, net imports of goods and services, millions of kroner. According to the League of Nations 1927, 85, Danish trade statistics exclude gold bullion and all specie. Silver bullion is included in merchandise trade. Thus the current account data should not include gold trade.

Gold

Data on the monetary gold stock from 1874 to 1906 are from the United States, Bureau of the Mint 1876–1920. Data on the gold stock for 1875 and 1894 are calculated by adding net exports data for the following year to gold stock figures for the previous year. Data on the gold stock for 1877 and 1886–1888 are calculated by subtracting net exports data

for the year from the gold stock figures for the previous year. Data on the gold stock for 1874 and 1878 are calculated as the average of the preceding and following years. U.S. dollar values are converted to kroner at the exchange rate of 0.268 U.S. dollars per kroner. Data on the gold holdings of the central bank (*Danmarks Nationalbank*) from 1907 to 1944 are from Denmark, *Danmarks Statistik 1897–1947*. The change in the monetary gold stock is assumed to equal the change in the gold holdings of the central bank.

Data on gold exports and imports for 1874 to 1906 are from the United States, Bureau of the Mint 1876–1920. Data on gold imports and exports from 1910 to 1930 are from the League of Nations 1924, 1927, 1931, 1932, bullion and specie import, bullion and specie export, then gold import and export. The figures for bullion and specie import include some non-gold coin. However, there is a close correspondence between gold bullion and specie trade and total bullion and specie trade from the League of Nations figures for the years with overlapping data (1922–1930), suggesting that the non-gold element of bullion and specie trade was small. On this basis, the figures for total bullion and specie trade were used from 1910 to 1921, then gold bullion and gold specie trade figures were used from 1922 to 1930. Net exports of gold from 1907 to 1909 and from 1931 to 1934 are assumed to equal minus the change in the monetary gold stock (i.e., an increase in the monetary gold stock implies and equal amount of gold imports). Data on monetary gold exports for 1935 to 1944 are from Denmark, *Danmarks Statistik 1897–1947*. Again due to lack of data, total net exports of gold for 1935 to 1944 are assumed to equal monetary gold exports.

Finland

Finland became an autonomous Grand Duchy connected with Russia in 1809, and declared independence from Russia on December 6, 1917. Finland had its own monetary system from 1860 and was on the gold standard from 1877 to 1914. The unit of currency was the Finnmark (*Finnish markka*, FIM), equivalent to one French gold franc. Finland returned to the gold standard on January 1, 1926 and remained on the gold standard until October 1931.

GDP

GDP data from 1860 to 1944 from Hjerppe 1989, 201–203, table 3A1, col. 1, market prices, thousands of FIM.

Capital Formation

Capital formation data from 1860 to 1938 from Hjerppe 1989, 201–203, table 3A1, col. 5, gross fixed capital expenditure, market prices, thousands of FIM. Changes in stocks data from 1860 to 1938 from Hjerppe 1989, 201–203, table 3A1, col. 7, increase in stocks plus statistical discrepancy, market prices, thousands of FIM.

Current Account

Current account data from 1860 to 1938 from Hjerppe 1989, 201–203, table 3A1, cols. 2 and 6, imports of goods and exports of goods, market prices, thousands of FIM. The statistical discrepancy includes data on net exports of services. Since these are not reported separately by Hjerppe, we exclude them from our current account data for Finland. According to the League of Nations (1927, 104), Finnish merchandise trade statistics include gold specie and bullion movements in the data for manufactured gold and unwrought gold, respectively.

Gold

Net exports of gold from 1860 to 1909 from Pihkala 1970, 80–91, table 2, value of exports [43: *Raha* (coinage)] less Pihkala 1970, 112–123, table 7, value of imports [1252: *Hopea, kulta, platina* (silver, gold, platinum)]. These data include some silver and platinum trade. Net exports of gold from 1910 to 1930 are from the League of Nations 1924, 1927, 1931, 1932, gold bullion and specie export less gold bullion and specie import. Net exports of gold from 1931 to 1944 are from Finland, *Suomen Virallinen Tilasto* 1929–1947, item numbers 951–953, precious metal imports: *Kultaa: valmistamatonta ja jatteita, lankaa ja levyä, teoksia muunlaisia, rahaa, muita* (gold, manufactured and unmanufactured, coin), then from 1939 items 61-005, 61-102 to 61-014, and 62-001. Exports data are given in series 61-002 (*Kultaa: valmistamaton seka jatteet ja romu*) and 62-001 (*Kultaraha* or gold coin).

Data on the monetary gold stock from 1871 to 1944 are taken from Finland, *Tilastollinen Paatoimisto* 1907–1951, gold assets of the Bank of Finland. The change in the monetary gold stock is calculated as the first difference of the gold assets of the Bank of Finland. Data on the current account excluding gold are calculated by subtracting net gold exports (which include some silver and platinum) from the current account data.

France

GDP

GDP data from 1850 to 1900 are from Lévy-Leboyer and Bourguignon 1985, 329–332, table A-III, series 1, *produit interieur brut, millions de francs courants*. Data from 1901 to 1944 are from Villa 1993, 459, series PIBQ, *production interieure brute en valeur—en gros francs courants*.

Capital Formation

Capital formation data from 1850 to 1900 are equal to gross fixed capital formation plus changes in stocks. Capital formation data are from Lévy-Leboyer and Bourguignon 1985, 329–332, table A-III, series 4, *investissements, bruts* (gross fixed capital formation), *millions de francs courants*. Changes in stocks data from 1850 to 1900 are from Lévy-Leboyer and Bourguignon 1985, 329–332, table A-III, series 8, *variations des stocks* (change in stocks), *millions de francs courants*. Capital formation data from 1901 to 1944 are equal to gross fixed capital formation plus changes in stocks. Capital formation data are from Villa 1993, 439, series IE, IG, IM, *investissement des entreprises, investissement des administrations, investissement des menages, en valeur, en gros francs courants* (sum of investment by businesses, government, households). Changes in stocks data are from Villa 1993, 457, series DS, *variations de stocks en valeur—en gros francs courants* (changes in stocks).

Current Account

Current account data from 1850 to 1900 are from Lévy-Leboyer and Bourguignon 1985, 329–332, table A-III, series 5, 6, and 7, *exportations* (exports) *plus gains invisibles* (invisible earnings) minus *importations* (imports), *millions de francs courants*. Current account data from 1901 to 1923 are from Villa 1993, 435–448 series EXPORT, plus series SUS, plus series IDVX, plus series DREX, series DOMX, minus series IMPORT minus series ODRX, *exportations en valeur* (exports), plus *solde des utilisations de services* (balance of services), plus *interets et dividendes verses par l'exterieur* (interest and dividends), plus *depenses et recettes exterieurs* (external expenditures and revenues), plus *dommages de guerre verses par l'exterieur* (war reparations), minus *importations en valeur* (imports), minus *operations diverses de rapartitions exterieur* (sundry external transactions), all *en gros francs courants*. Current account data from 1924 to 1944 are from Villa 1993, 436, series EBX, *epargne brute de l'exterieur—en gros francs courants*.

According to France, Ministère des Finances et des Affaires Économiques 1952, 195, external trade data exclude gold, silver, and copper coin, raw gold and silver, gold and silver in bars, ingots, and powder. On this basis, the current account data excluding gold were assumed to equal the original current account data.

Gold

Data on net exports of gold and silver for 1850 to 1875 are from the United States, Bureau of the Mint 1900, 424–425. U.S. dollar values are converted to French francs at the par exchange rate of 0.193 U.S. dollars per franc.

Data on net exports of gold from 1876 to 1914 are from the National Bureau of Economic Research series 14114, excess of gold exports over imports, sum of 12 months data. Data for 1915 to 1930 are from the League of Nations 1924, 1927, 1931, 1932, gold bullion and specie exports less gold bullion and specie imports. Data from 1931 to 1944 are from France, Ministère des Finances et des Affaires Économiques 1966, 365, table I, *mouvements d'or, million de francs* 1928. The figures for net exports of gold include gold and silver from 1850 to 1870.

Estimates of the French monetary gold stock for 1850 to 1878 are reported by Flandreau 1995, 308. (Indeed, his estimates reach back to 1840.) According to him (see his footnote 54), the figures includes gold holdings of the Bank of France. Data from 1879 to 1913 are estimated using data from Sicsic 1989, 728, table 4, and 732, table 11. Sicsic provides revised estimates of the monetary gold stock, apparently including Bank of France holdings, in 1878, 1885, 1891, 1897, 1903, and 1909. These estimates are regressed on a constant and the annual monetary gold stock data for the corresponding years as calculated by J. Denuc (method of M. Pupin), which Sicsic reports in his table 4. The coefficients from this regression are then used together with the Denuc-Pupin annual data to arrive at predicted figures for the monetary gold stock from 1878 to 1913. To avoid a discontinuity in 1879 from changing over from Flandreau's data to Sicsic's, the change in the monetary gold stock for 1879 is calculated as the difference between our predicted 1879 value based in the Denuc-Pupin data Sicsic reports and Sicsic's own estimate for 1878.

Data on the monetary gold stock from 1913 to 1927 are from France, Ministère des Finances et des Affaires Économiques 1966, 517, table III, *Banque de France encaisse d'or* (Bank of France gold holdings, annual average). Data from 1928 to 1945 are from France, Ministère des

Finances et des Affaires Économiques 1966, 562, table II, *Banque de France encaisse d'or* (Bank of France gold holdings, year end), multiplied by the price of gold from France, Ministère des Finances et des Affaires Économiques 1966, 562, table II, *cours de l'or à Paris, cours d'achat par la Banque de France*. Price data from 1938 to 1945 are from France, Ministère des Finances et des Affaires Économiques 1952, 503, *cours de l'or à Paris et à Londres depuis 1938*, end of December figures.

Germany

GDP

GDP data from 1850 to 1939 are from Hoffman 1965, 825–826, table 248, col. 5, *Nettosozialprodukt zu Markt-preisen* (NNP at market prices), raised 8.4 percent to approximate GDP following the procedure in Maddison 1991.

Capital Formation

Capital formation data from 1850 to 1939 from Hoffman et al. 1965, 825–826, table 248, col. 2, *Nettoinvestitionen* (net investment). Data include stocks. Hoffman et al. 1965 report separate inventory figures only for the years 1924–1939 and 1950–1959; see Hoffman et al. 1965, 237, table 32, col. 4, *Investitionen der Landwirtschaft, Vorräte* (investment in agriculture, stocks), plus 247, table 36, col. 3, *Investitionen im Gewerbe, Vorräte*, (investment in trade/industry, stocks). Our pre-1913 numbers on stocks in trade and industry (used only for illustrative purposes in appendix 9.1) are estimated by calculating the average of stocks to the sum of fixed investment and stocks for the years 1924–1939, 1950–1959, and multiplying that average by the annual sum data on total investment.

Current Account

Current account data from 1860 to 1938 are from Hoffman et al. 1965, 825–826, col. 4, *Saldo der Leistungsbilanz*. The current account data exclude net exports of precious metals. The current account excluding gold is calculated by adding net exports of precious metal to the current account and subtracting net exports of gold.

Gold

Exports data from 1872 to 1942 from Germany, Deutsche Bundesbank 1976, 324, table J 1.03, col. 11, *Ausfuhr, darunter gold* (exports of gold)

and col. 13, *Einfuhr, darunter gold* (imports of gold). Exports data for 1872 to 1879 are estimated by taking the average of gold exports to total exports of precious metal for the period 1880 to 1913 and multiplying by the corresponding figure for total precious metal exports. Imports data for 1872 to 1875 are estimated by taking the average of gold imports to total imports of precious metal for the period 1876 to 1913 and multiplying by the figure for corresponding figure for total precious metal imports.

Gold holdings of the Reichsbank for 1876–1945 from Germany, Deutsche Bundesbank 1976, 36, table C 1.01, col. 2, *Aktiva: Gold in Barren and Munzen* (gold in bars and coin). Data for 1878, 1879, 1883, 1887, 1888, 1890 are not shown separately, but data are given for sum of *Gold in Barren und Munzen* and *Deutsche Scheidemunzen* (total gold in bars and coin and German subsidiary coin). Data for 1878, 1879, 1883, 1887, 1888, 1890 are estimated by taking the ratio for the previous year of gold in bars and coin to the sum of gold in bars and coin plus subsidiary coin, and multiplying by the corresponding sum for the missing year. Gold coin in circulation from 1876 to 1913 from Germany, Deutsche Bundesbank 1976, 14, table B 1.01, col. 7, *Munzen, Goldmunzen* (coin, gold coin). The monetary gold stock is calculated as the sum of gold coin in circulation plus the gold holdings of the Reichsbank.

Italy

GDP

GDP data are calculated by taking the figures for GNP and subtracting net factor incomes and current transfers received from the rest of the world. GNP data from 1861 to 1925 are from Italy, Istituto Centrak di Statistica (ISTAT) 1957, 249–250, table 36, col. 6, *reddito nazionale lordo ai prezzi di mercato* (gross national product at market prices), *milioni di lire*. Net factor incomes from abroad are from Italy, ISTAT 1957, 249–250, table 36, col. 3, *esterno redditi netti dall'estero*, *milioni di lire*. Current transfers are from Italy, ISTAT 1957, 255, table 39, col. 4, *trasferimenti correnti, saldo*, *milioni di lire*. GNP data for 1926 to 1945 are from Italy, ISTAT 1986, 143, table 8.1, col. 1, *reddito nazionale netto* (net national income), plus col. 2, *ammortamenti* (depreciation). Net factor incomes from abroad are from Italy, ISTAT 1986, 151, table 8.11, cols. 2, 7, *exportazione redditi dei fattori less importazione redditi dei fattori* (exports of factor income less imports of factor income).