

A Long Run Perspective on Saving

by

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Graphs and Statistical Appendix

Sources for Savings and Investment Estimates at Current Prices

Australia: 1870-1900 (calendar years) from N.G. Butlin (1962), p.6 for GDP at current market prices, p.16 for gross fixed capital formation (excluding defence construction), p.18 for gross residential investment, and p.422 for investment abroad (current account balance). As Butlin explain on p.9, he was unable to estimate investment in inventories. 1900/01 to 1959/60 (fiscal years, i.e. 1 July to 30 June) from M.W. Butlin (1977), pp.78-9, for GDP, non-residential fixed investment, residential investment and inventories; pp.108-9 for investment abroad (exports minus imports and net property income paid abroad). 1960/1 to 1989/90 (fiscal years) from OECD (1991) for GDP, total fixed investment, inventories, and investment abroad (surplus of the nation on current transactions). OECD (1990) for residential investment 1976-88, OECD (1989) for 1966-75 residential investment. 1960-65 residential investment from M.W. Butlin (1977), p.80. There is a break in continuity of the residential figures between 1965 and 1966.

Canada: 1870-1926 from Urquhart (1986) pp.16 and 17 for non residential and residential investment, pp.20-5 for investment abroad (balance on current international payments). GDP 1870-1959 supplied by M.C. Urquhart 1927-59 non residential investment and inventories, and 1927-70 residential investment from Statistics Canada (1976). 1927-59 investment abroad (balance on current international payments) from Urquhart and Buckley (1965) pp.160 and 162. 1960-88 non-residential investment, inventories, investment abroad and GDP from OECD (1991). Residential investment 1976-88 from OECD (1990) and 1971-5 from corresponding earlier volumes. There is a break in continuity of the residential investment figures after 1971-2.

France: 1820-1913 from Lévy-Leboyer and Bourguignon (1985), pp.328-332 for GDP at current market prices, gross domestic investment and investment abroad (exports plus invisible earnings minus imports). It would appear that the domestic investment series excludes inventories. For 1914-49 there is no complete information at current prices. Carré, Dubois and Malinvaud (1972) show ratios of fixed investment annually for 1922-38, which I have used (pp.652) and a very summary table (p.364) from which one might infer something about interwar investment abroad. OECD (1970) for 1950-9 (all magnitudes). 1960-88 from OECD (1991) for GDP, gross fixed investment, inventories and investment abroad; residential investment from OECD (1970, 1989 and 1990). There are breaks in the continuity of residential investment in 1963 and 1969, and after 1974.

Germany: 1870-1913 investment abroad and net domestic product from Hoffmann and Associates (1965) pp.125-6. I have raised net domestic product by 8.4 per cent to estimate GDP (the average ratio for 1925-9). 1925-39 total gross fixed investment and 1925-34 residential investment in current prices within 1937 boundaries (i.e. including Saarland, but excluding Austria and Sudetenland) from Kirner (1968) pp.80-1, and 1935-9 housing investment from p.77. GDP at current market prices for 1925-39 from FSO (1972), p.260, adjusted to include the Saar (i.e. upward adjustment of 1.2 per cent for 1925-32 and 1.8 per cent for 1933 -parallel with population). 1925-34 inventories from Keese (1967) p.53, 1935-38 inventories from Erbe (1958) p.109. 1925-38 investment abroad from Hoffmann (1965) p.826. 1950-9 all magnitudes from OECD (1970). 1960-88 residential investment from FSO (1991), other 1960-88 magnitudes from OECD (1991).

India: 1870-99 gross capital formation (including inventories) at current prices for territory of

Indian Union from Roy (1987) pp.42-3. 1870-1900 GDP for undivided India at 1946-7 prices from Heston (1983) pp.396-7 (with interpolation for 1870-1, 1873-81 and 1883) adjusted to a current price basis with national income deflator of Mukherjee (1969) p.94. Territorial adjustment to GDP for this period was made by linking it to estimate for 1900 described below. 1900-01 to 1949-50 (fiscal years) for territory of Indian Union (i.e. post 1947 India), gross fixed capital formation, investment in inventories and investment abroad at current prices from Roy (1979) pp.156-8. GDP at current market prices for 1900-1 to 1946-7 for territory of Indian Union derived as follows: GDP at 1938 factor cost for undivided India from Maddison (1985) p.209 adjusted to a market price basis by a coefficient of 1.048 (a ratio derived from national accounts for 1950-55) adjusted to a current price basis from the implicit national income deflator derivable from Sivasubramanian (1965) pp.337-8 and territorial adjustment (ratio of population in Indian Union - Roy (1979) pp.118-9 to population of undivided India - Maddison (1971) p.165). 1950-51 to 1979-80 GDP, gross domestic capital formation and gross savings at current market prices from CSO (1989) pp.2-4, and 1980-1 to 1988-9 magnitudes from CSO (1990). 1948-50 GDP movement derived by linking national income at market prices from CSO (1964), p.8 to 1950 GDP at market prices from CSO (1989), GDP movement from 1947 to 1948 assumed parallel to national income movement shown in Mukherjee (1969) p.130. For investment abroad, Roy (1979) used balance of payments studies by Pandit (1937) and Banerji (1963). It appears that both of these referred to the territory of undivided India, but Roy made no adjustment for this. For 1927, 1931, 1935 and 1936 she has misquoted Banerji and I have corrected for this. I have not checked her figures with those of Pandit. Her inventory estimate (see Roy pp.84-6) is inferred from year to year changes in Mukerji's (1962) estimates of national income. As I have used my own estimates of GDP, there is an element of inconsistency in my ratio of inventories to GDP. My GDP shows slower growth but a higher level than Mukerji's.

Japan: 1885-1940 from Ohkawa, Takamatsu and Yamamoto (1974), p.186 for gross non residential non-military capital formation (minus duplication), and residential investment, p.200 for GDP. Figures on inventories were not available. 1885-1940 investment abroad from Ohkawa and Shinohara (1979) pp.332-4. 1941-59 from Ohkawa and Shinohara (1979) for GDP (GNP from pp.254-5 minus income from abroad from pp.269-70), inventories (pp.254-5), non-residential and residential capital formation (pp.362-3), investment abroad (exports of goods and services and income received from abroad minus imports of goods and services and factor income paid abroad) from pp.254-5. Data for 1946-51 are for fiscal years (1 April to end March). 1960-88 from OECD (1991) for GDP total fixed investment, inventories and investment abroad (consolidated with statistical discrepancy). Residential investment from OECD (1990) for 1976-88, OECD (1982) for 1963-75 and Ohkawa and Shinohara (1979) for 1960-62. There is a break in the residential investment series in 1962.

Korea: 1911-38 GDP at current market prices, gross domestic fixed capital formation, and investment abroad (exports of goods and services and factor income received from abroad minus imports of goods and services and factor income paid abroad) from Mizoguchi and Umemura (1988) p.236. The increase in stocks is partly included in their fixed capital formation but some inventories were counted as consumption. 1953-69 GDP, non-residential investment, investment in dwellings, inventories and investment abroad (exports of goods and services minus imports of goods and services and statistical discrepancy) from Bank of Korea (1975) pp.140-1, and 186-7. 1970-88 from Bank of Korea (1990) pp.126-9 and Tables 7 and 8.

Netherlands: 1921-59 from Van Bochove and Huitker (1987) for GDP at current market prices, total gross fixed investment, inventories and investment abroad. Residential investment for 1921-39 supplied by CBS, 1950-68 residential investment from OECD (1970). 1960-88 from OECD (1991) for GDP, gross fixed investment, inventories and investment abroad. Residential investment 1969-81 from CBS (1985) p.73, and 1982-88 from OECD (1990). There is a break in the residential series after 1968.

Taiwan: 1903-38 from Mizoguchi and Umemura (1988) p.232, data availability as for Korea in this period. 1951-76 from Executive Yuan (1987) and (1989) for 1977-89. Table 1 for GDP, total domestic fixed capital formation and inventories. Investment abroad ("excess savings") from Table 8. Share of residential investment in gross fixed capital formation from Table 9.

UK: 1870-1920, from Feinstein (1988) pp.429-30 for gross non-residential and residential capital formation, pp.462-3 for inventories and net investment abroad. Adjusted GDP at current market prices from Feinstein (1972), i.e. GNP minus property income from abroad pp.T-10-11, plus the difference between Feinstein's new (1988) and old (1972) estimates of total fixed capital formation, inventories and net investment abroad. 1921-49 generally from Feinstein (1972) p.T-11 for GDP at current market prices, T-9 for gross domestic fixed capital formation, inventories and net foreign investment, T-86 for dwellings. 1947-82 fixed non-residential and residential investment from the capital accumulation files of the Central Statistical Office. 1960-89 GDP, inventories and investment abroad (consolidated with statistical discrepancy) from OECD (1991). Gross fixed non-residential and residential investment 1983-88 from OECD (1990).

USA: 1870-90 GNP in current prices from Balke and Gordon (1989) p.84 adjusted to a GDP basis and linked at 1890 to estimate described below. 1890-1928, GDP estimated from Kendrick (1961) pp.296-7 for GNP at current market prices adjusted by the ratio of GDP to GNP at constant prices from pp.298-9. Inventories and net investment abroad 1870-1890 from worksheets from Kuznets (1961) supplied by NBER and 1890-1928 from Kendrick (1961), pp. 296-7. 1870-1959 gross non-residential fixed investment (excluding military) and 1870-1973 residential fixed investment from US Dept of Commerce (1987), pp.343-4, 355-6, 367-8 and 369-70. 1929-59 from US Dept. of Commerce (1986) for GDP (equals GNP from pp.1-2 minus income from abroad from pp.43-4), change in business inventories from pp.1-2, net investment abroad (consolidated with statistical discrepancy) from pp.218-9. 1960-88 from OECD (1991) for GDP, total gross fixed investment, inventories and investment abroad (consolidated with statistical discrepancy). Residential investment 1973-88 from OECD (1990) and equivalent earlier volumes. There is a break in continuity of all the series at 1960 as OECD has a wider definition of investment and GDP than the US Dept. of Commerce. There is a break in the continuity of residential investment after 1972.

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