

Economic Growth, spring 2007

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Course web: www.econ.ku.dk/dalgaard/growth.htm

As part of “Endogenous Growth through Factor Accumulation, Part I: Physical Capital”

Detailed Outline: The Jones Critique of AK models

- I. The Jones critique of AK models:
 - a. Robustness
 - b. Empirical critique
- II. A Rebuttal (Mcgratten)
 - a. Another look at the data
 - b. Another look at theory

TABLE II
TIME SERIES PROPERTIES OF SELECT OECD GROWTH RATES

Country	ADF test 1900–1987	Time trend 1900–1987	Difference in means	Time trend 1950–1988
Australia	0.29 (-6.46)***	0.028 (1.61)	1.834 (2.85)***	-0.010 (-0.15)
Austria	0.07 (-8.59)***	0.052 (1.62)	2.974 (2.71)**	-0.110 (-2.53)**
Belgium	0.23 (-7.26)***	0.035 (1.34)	1.740 (1.44)	-0.032 (-0.68)
Canada	0.37 (-6.25)***	0.015 (0.54)	0.617 (0.56)	0.020 (0.38)
Denmark	0.04 (-8.83)***	0.016 (0.93)	0.772 (0.93)	-0.029 (-0.41)
Finland	0.23 (-7.27)***	0.033 (1.24)	1.823 (1.48)	-0.036 (-0.63)
France	0.24 (-7.18)***	0.036 (1.19)	1.472 (1.06)	-0.087 (-2.38)**
Germany	0.02 (-9.05)***	0.033 (1.16)	2.242 (1.79)*	-0.153 (-3.26)***
Italy	0.27 (-6.93)***	0.031 (1.31)	2.166 (2.17)**	-0.095 (-2.63)**
Japan	0.12 (-8.10)***	0.055 (1.90)*	3.989 (3.90)***	-0.182 (-3.07)***
Netherlands	0.19 (-7.57)***	0.026 (1.16)	1.003 (1.05)	-0.075 (-1.40)
Norway	-0.00 (-9.20)***	0.028 (1.75)	1.282 (1.42)	0.025 (0.73)
Sweden	0.22 (-7.39)***	0.020 (0.94)	1.190 (1.48)	-0.033 (-1.00)
United Kingdom	0.24 (-7.19)***	0.025 (1.38)	1.639 (1.88)*	0.002 (0.06)

Notes. Test-statistics are reported in parentheses. See the notes to Table I, except note that the Difference in means in this table refers to 1900–1929 versus 1950–1987. Significance levels are denoted by (*) for 10 percent, (**) for 5 percent, and (***) for 1 percent.

TABLE IV
TIME SERIES PROPERTIES OF SELECT OECD INVESTMENT RATES 1950–1988

Country	Total investment		Producer durables investment	
	ADF test	Time trend	ADF test	Time trend
Australia	0.559 (-2.27)	-0.083 (-1.50)	0.805 (-1.71)	0.030 (1.60)
Austria	0.748 (-1.72)	0.279 (4.46)***	0.420 (-3.59)*	0.071 (3.82)***
Belgium	0.794 (-2.06)	0.034 (0.41)
Canada	0.531 (-2.95)	0.083 (1.91)*	0.810 (-1.71)	0.077 (3.85)***
Denmark	0.882 (-1.41)	-0.018 (-0.11)	0.651 (-2.66)	0.096 (5.55)***
Finland	0.618 (-2.57)	-0.068 (-0.69)	0.677 (-2.84)	0.042 (1.22)
France	0.916 (-1.17)	0.166 (1.68)	0.902 (-1.28)	0.113 (5.69)***
Germany	0.769 (-2.27)	-0.146 (-2.12)**	0.659 (-3.48)*	0.086 (6.18)***
Italy	0.797 (-2.53)	-0.095 (-0.85)	0.374 (-4.30)**	0.037 (3.69)***
Japan	0.899 (-1.41)	0.426 (2.84)***	0.820 (-1.56)	0.159 (7.76)***
Netherlands	0.823 (-2.21)	-0.140 (-1.36)	0.854 (-1.69)	0.008 (0.21)
Norway	0.573 (-3.02)	-0.036 (-0.64)	0.666 (-2.73)	-0.155 (-2.62)**
Sweden	0.819 (-1.82)	-0.033 (-0.43)	0.443 (-3.61)**	0.052 (6.08)***
United Kingdom	0.723 (-2.62)	0.158 (2.71)**	0.605 (-2.73)	0.066 (5.48)***
United States	0.028 (-5.74)***	0.068 (2.18)**	0.712 (-2.43)	0.080 (5.90)***

Notes. Data on total investment are taken from Summers and Heston [1991]. Data on producer durable investment is unpublished data provided by Robert Summers. The ADF tests in this table include a time trend in the regression. The Time trend columns report the coefficient on a time trend in a simple regression, as in Table I.

Chart 16–18 The Long-Run Trends

Gross Fixed Domestic Investment's Average Annual Percentage of Gross Domestic Product and Average Annual Growth Rate of Per Capita Gross Domestic Product During Three Periods of 1870–1989 in 11 Countries

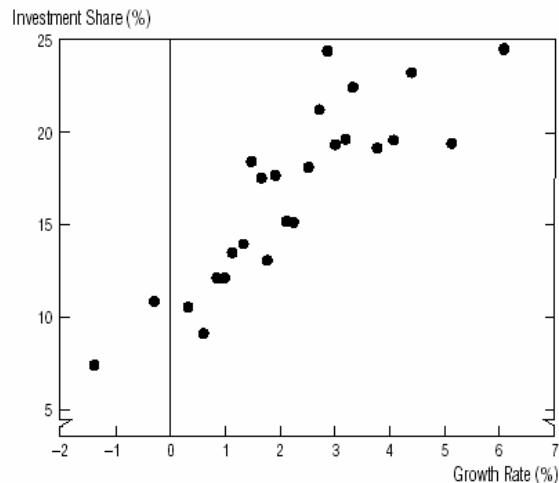
■ 1870–1914 ■ 1915–49 ■ 1950–89

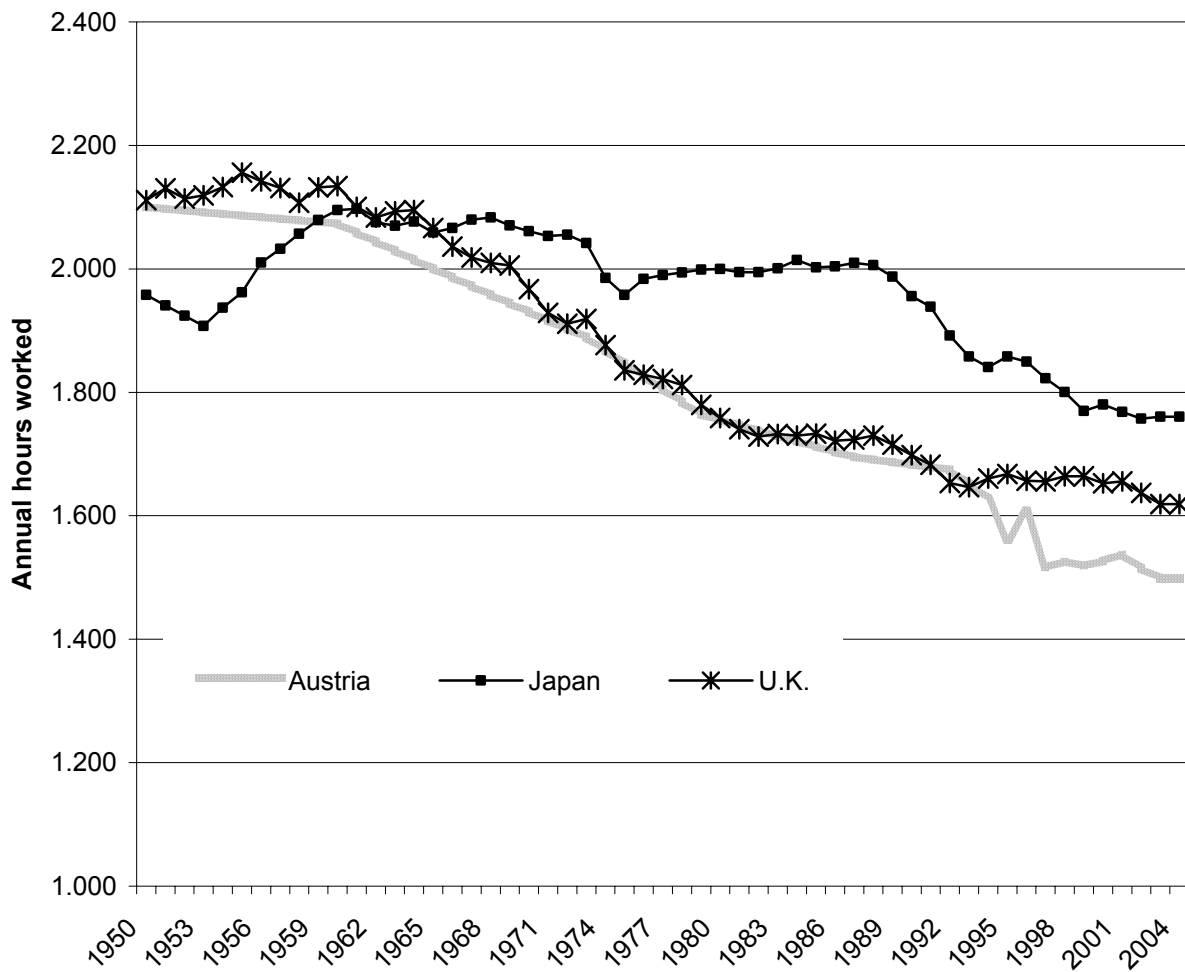
Chart 16 In Western European OECD Countries . . .



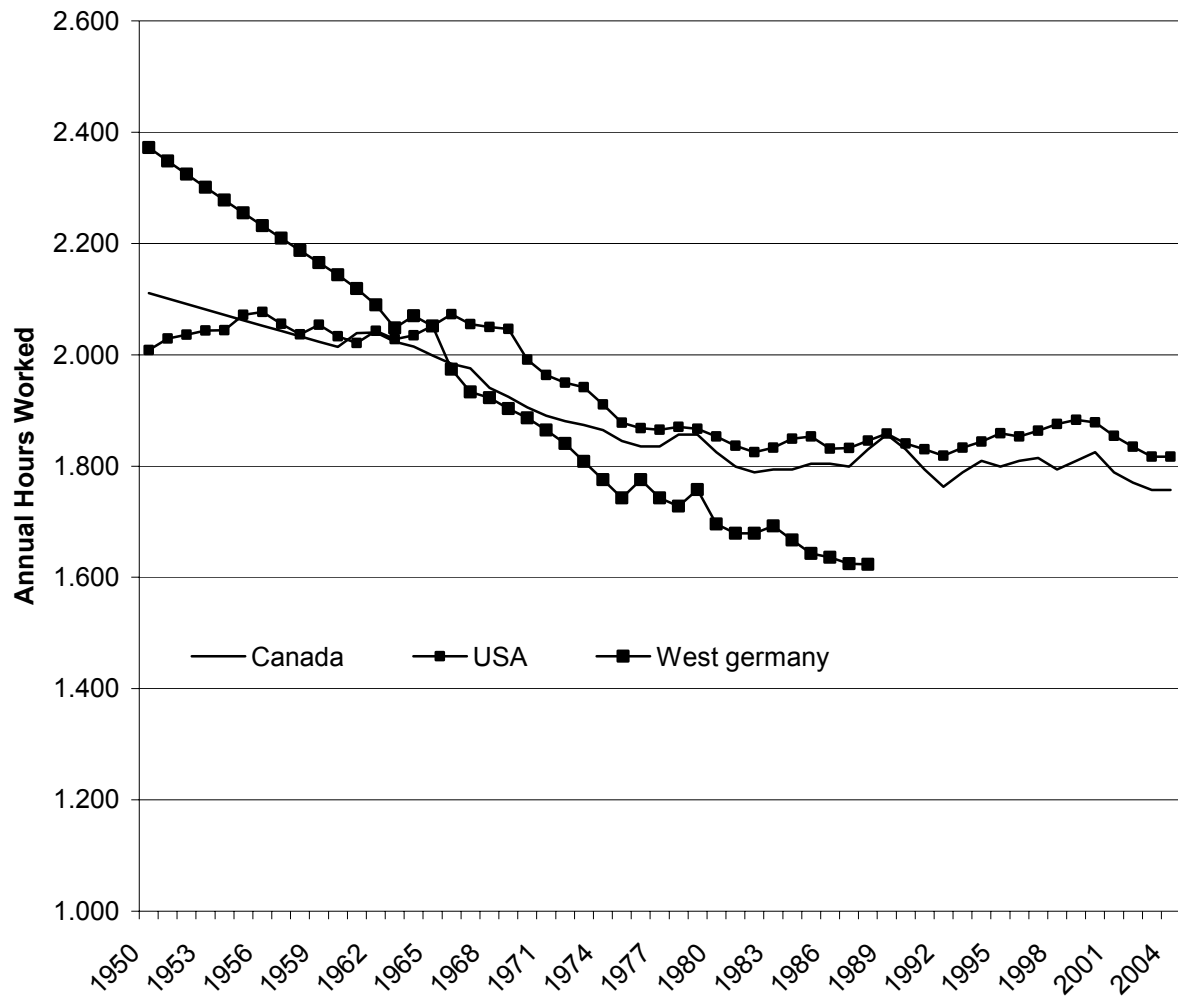
Chart 19 The Cross-Country Relationship Between Investment and Growth

Growth Rate of Gross Domestic Product per Worker and Investment Share of Gross Domestic Product for 125 Countries, Ranked by Annualized 25-Year Growth Rates, Then Averaged in Groups of Five, 1960–85





Source: Groningen Growth Project. <http://www.ggdcc.net/dseries/totecon.html>



Source: Groningen Growth Project. <http://www.ggdgc.net/dseries/totecon.html>