Economic Growth

as a

Power Process

Blair Fix

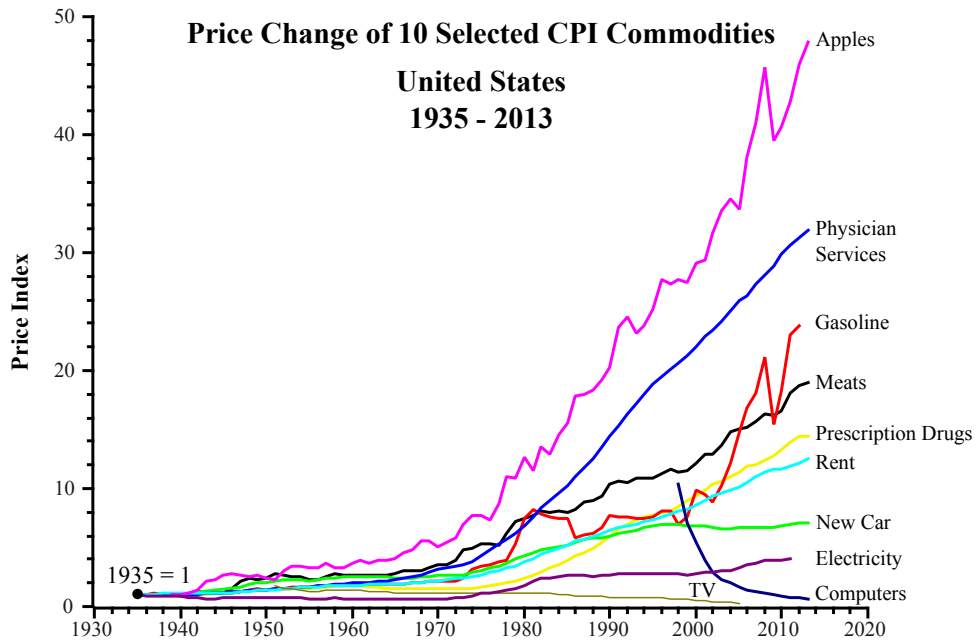## CHARTBOOK

To accompany a presentation by Blair Fix
in the Second Speaker Series on Capital as Power
Organized by the *Forum on Capital as Power*
Sponsored by the York Department of Political Science
and Graduate Program in Social and Political Thought
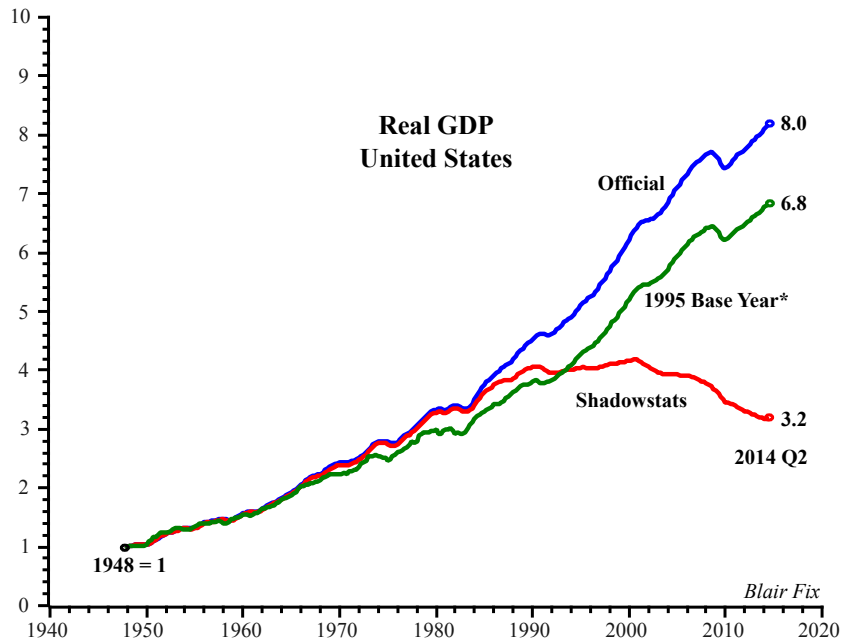
York University
October 27, 2015

ABSTRACT: Is economic growth a miracle of the free market? According to mainstream theory, growth is best ensured through conditions of 'perfect competition'. However, economic growth is tightly correlated with the concentration of power in the hands of large corporations. Why? The capital as power framework provides potential answers that turn mainstream theory on its head: growth seems to be intimately related to the formation of hierarchy.

Price Change of 10 Selected CPI Commodities
United States
1935 - 2013

Figure showing price index curves from 1935 to 2013 for: Apples, Physician Services, Gasoline, Meats, Prescription Drugs, Rent, New Car, Electricity, TV, Computers. (1935 = 1)

Figure 1: Divergent price change as a changing meter stick

Source: BLS Consumer Price Index, All Urban Consumers. Commodities added after 1935 are indexed to the unweighted average price for the year in which they are introduced

Real GDP
United States

Figure showing Real GDP curves from 1948 to 2014: Official (8.0), 1995 Base Year* (6.8), Shadowstats (3.2, 2014 Q2). (1948 = 1)

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Figure 2: Conflicting measures of economic growth

Source: Official real GDP from BEA Table 1.1.6. 'Shadowstats' GDP from John Williams' Shadow Government Statistics (shadowstats.com). 'Vintage' 1995 base year GDP from Federal Reserve Bank of Philadelphia (ROUTPUT95Q1). *Note that this data ends in 1995, but I have projected it forward (for comparison purposes) using official growth rates.
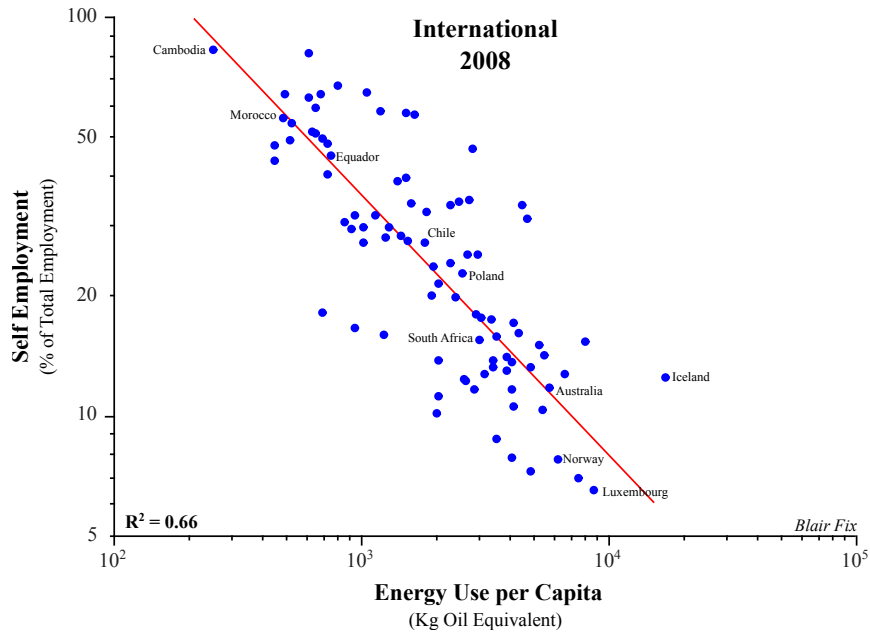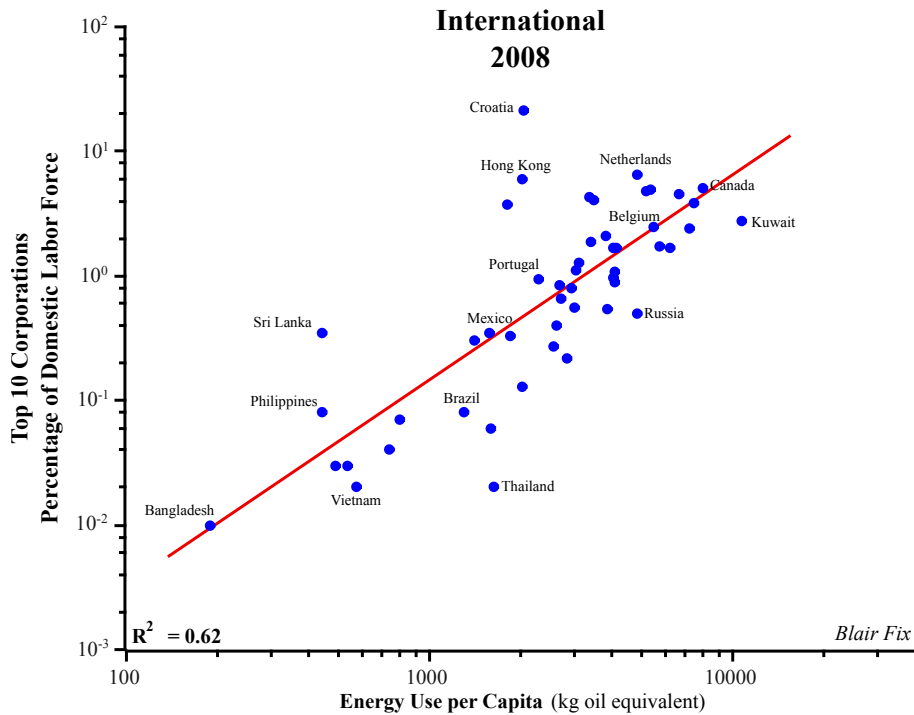
Figure 3: International self-employment vs. energy use

Sources: All data is from the World Bank: National energy use per capita (EG.USE.PCAP.KG.OE), self-employment fraction (SL.EMP.SELF.ZS).
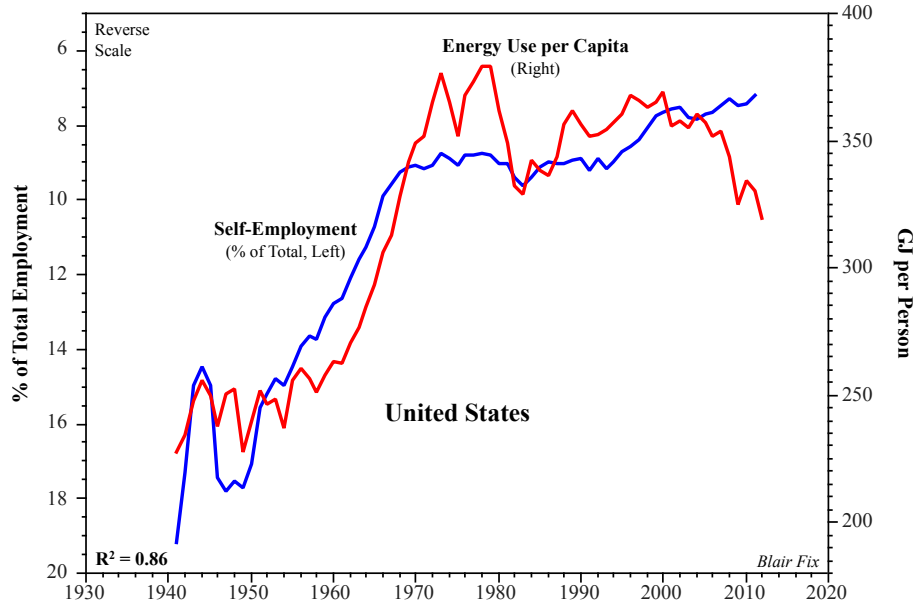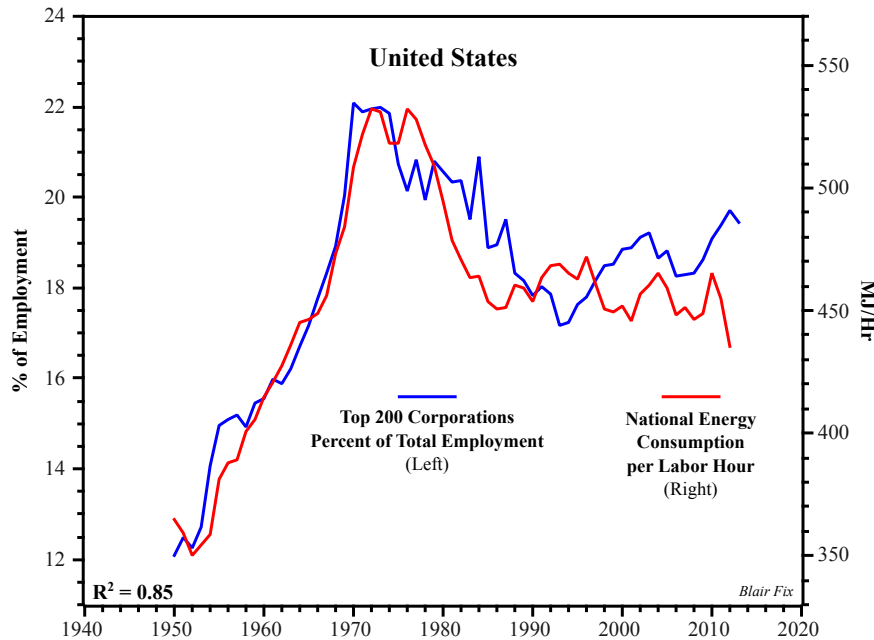

Figure 4: United States self-employment vs. energy use

Sources: US Self-Employment data is from Burea of Economic Analysis tables 6.7A–D. Total employment from BEA Persons Engaged in Production, tables 6.8A–D. US energy consumption from 1950 onwards is from Energy Information Agency, Table 1.3 (Primary Energy Consumption by Source). Energy data from 1941-1949 is from Benjamin Warr's REXS database (Table 1.F.a, Exergy Inputs by Type – spliced to EIA data in 1950). US population is from Angus Maddison *Statistics on World Population, GDP and Per Capita GDP, 1-2008 AD*.
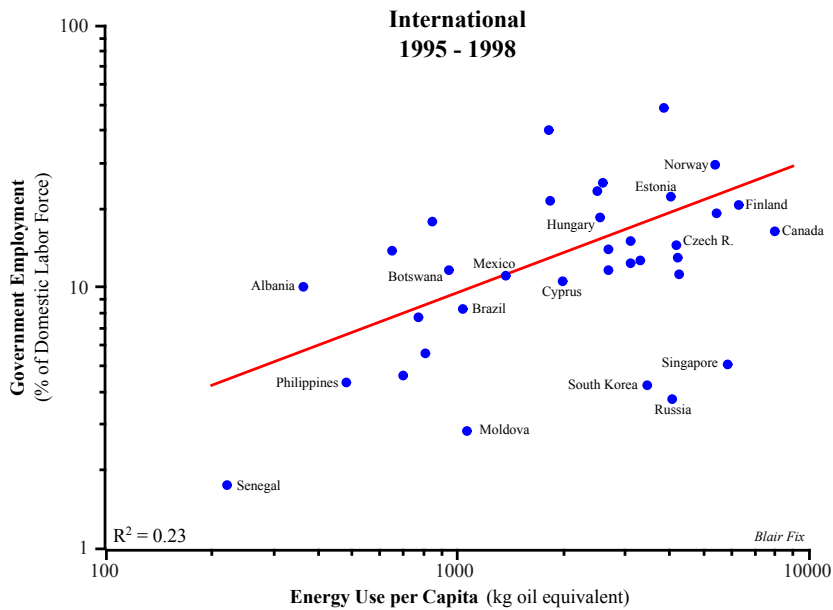
Figure 5: International corporate employment concentration vs. energy use

Sources: National energy use per capita and total labor force data is from the World Bank (indicator codes EG.USE.PCAP.KG.OE. and SL.TLF.TOTL.IN, respectively). Employment of top 10 corporations (ranked by number of employees) is from COMPUSTAT Global Fundamentals (series EMP).
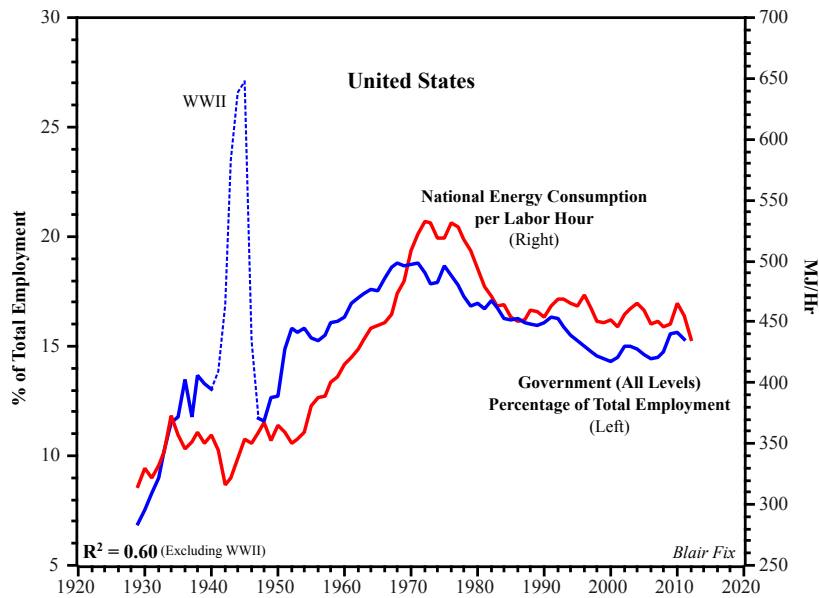

Figure 6: United States corporate employment concentration vs. energy use

Sources: Total US employment from BEA Tables 6.5 B-D (Full-Time Equivalent Employees by Industry). Employment of top 200 corporations (ranked by number of employees) from COMPUSTAT (series DATA29). Total energy consumption from EIA Table 1.3 (Primary Energy Consumption by Source). Total labor hours from BEA Tables 6.9 B-D (Hours Worked by Full-Time and Part-Time Employees by Industry).

Figure 7: International government employment concentration vs energy use

Sources: National energy use per capita and total labor force data is from the World Bank (indicator codes EG.USE.PCAP.KG.OE. and SL.TLF.TOTL.IN, respectively). Government employment is from Hammouya, *Statistics on Public Sector Employment: Methodology, Structures and Trends* (1999). I use total employment of the general government sector. Government employment data points vary between the years 1995-98 and are matched with energy and labor force data for the appropriate year.
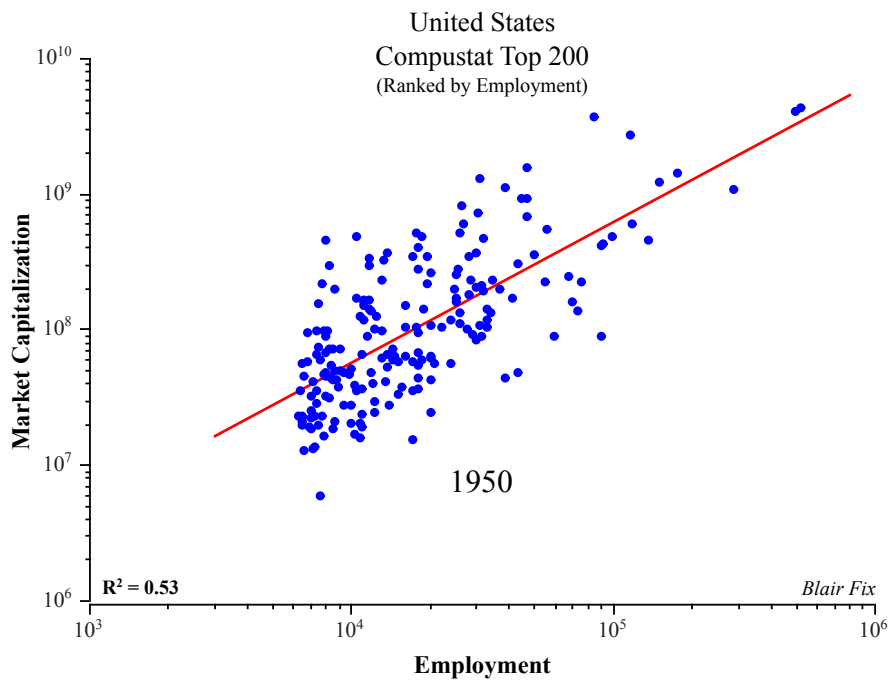

Figure 8: United States government employment concentration vs energy use

Sources: US government and total employment data from BEA Tables 6.5 B-D, Full-Time Equivalent Employees by Industry. Total labor hours for 1948-2012 from BEA Tables 6.9 B-D. Data for 1929-1947 is from Burea of Economic Analysis, *Long Term Economic Growth, 1860-1970* (1973), Series A-68 (via Warr's REXS database). US energy consumption from EIA Table 1.3, Primary Energy Consumption by Source. Energy data for 1929-48 from REXS database Table 1.F.a, Exergy Inputs by Type. Exergy is converted to energy (heat content) using constants from Tables A.1-A.6 in Ayres and Warr (2005), Accounting for growth: the role of physical work, in Structural Change and Economic Dynamics, 16(2), 181–209.
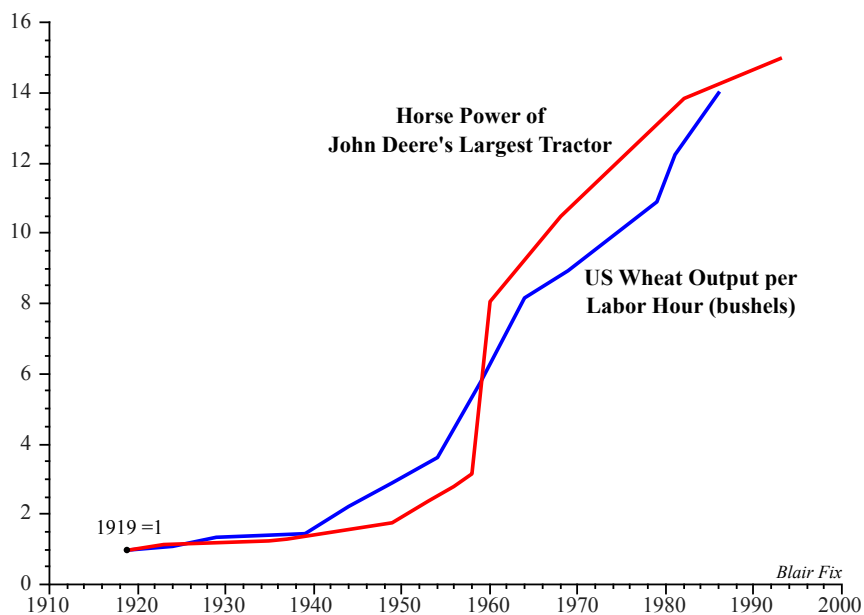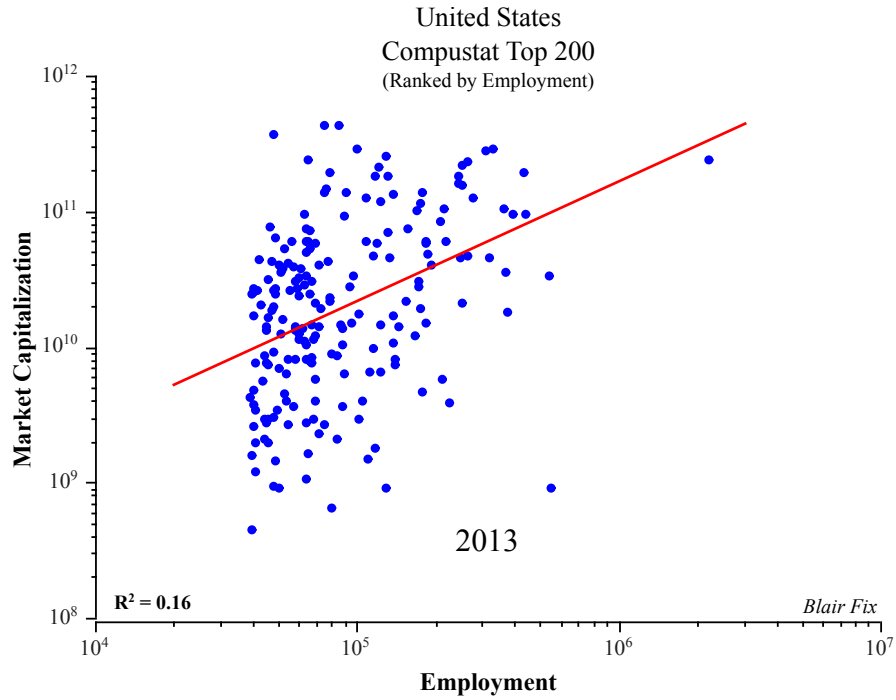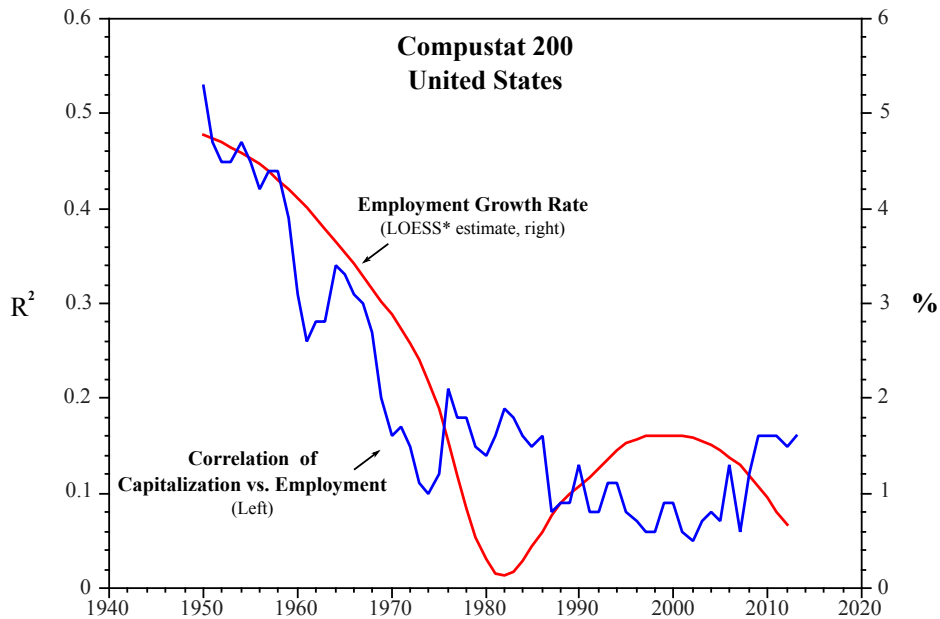
Figure 9: Technomass Productivity

Wheat labor productivity is from *Historical Statistics of the United States*, Table Da1148. John Deere tractor data from `http://www.tractordata.com/farm-tractors/tractor-brands/johndeere/johndeere-tractors.html`.

**Figure 10: Breadth regressions in 1950**

United States
Compustat Top 200
(Ranked by Employment)

Market Capitalization

2013

R² = 0.16

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Employment

Figure 11: Breadth regressions in 2013

Compustat 200
United States

Employment Growth Rate
(LOESS* estimate, right)

Correlation of
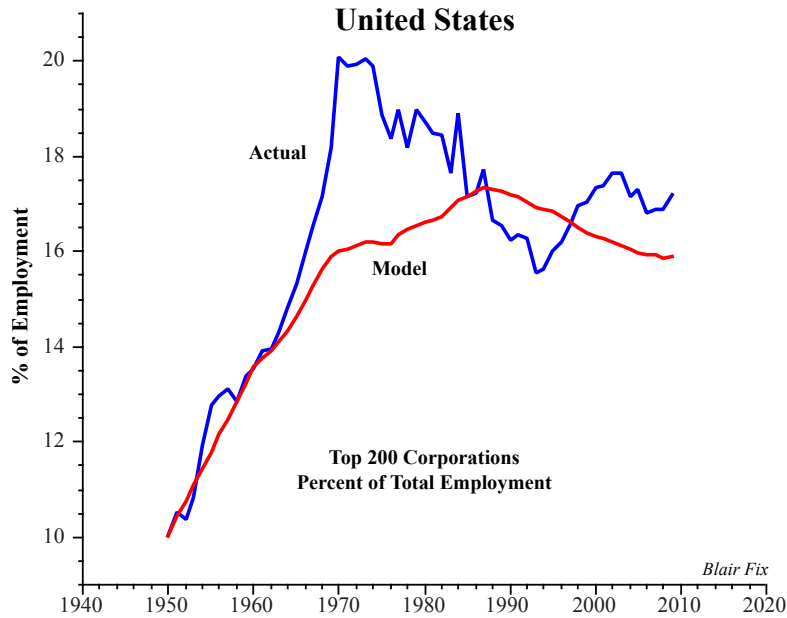Capitalization vs. Employment
(Left)

R²

%

Figure 12: Breadth regressions vs Compustat 200 employment growth

LOESS stands for locally weighted scatter plot smoothing. Sources for Figure 10-12: all data from Compustat North America: Number of Employees (DATA29); market capitalization calculated by multiplying stock price (fiscal year close, DATA24) by common shares outstanding (DATA25) .
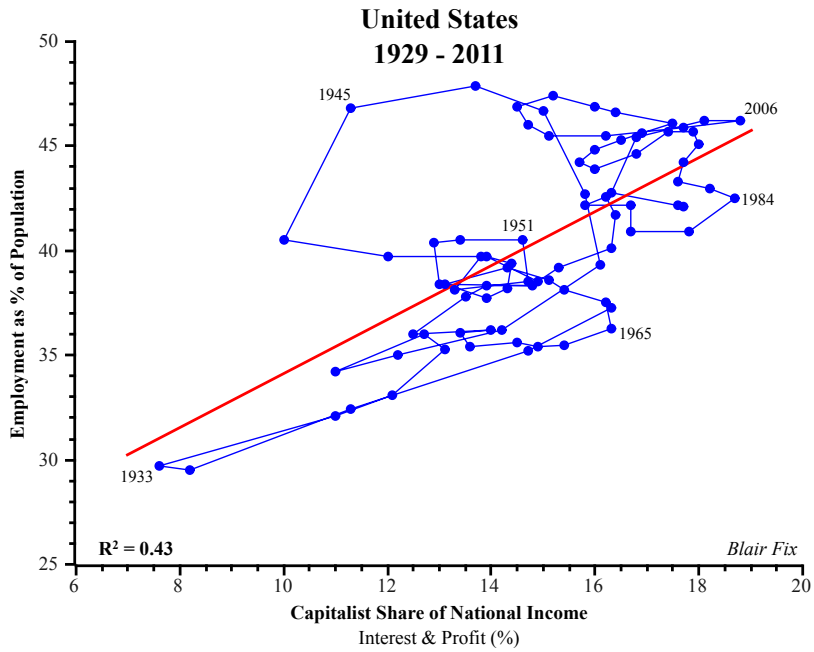
Figure 13: Relative employment vs capitalist income

Sources: Total employment is from BEA Persons Engaged in Production, tables 6.8A–D. Population is from Angus Maddison *Statistics on World Population, GDP and Per Capita GDP, 1-2008 AD*. Capitalist portion of national income (corporate profits before tax + net interest) is from BEA table Table 1.12. National Income by Type of Income.

Figure 14: A model of employment concentration

Model data: population from Angus Maddison *Statistics on World Population, GDP and Per Capita GDP, 1-2008 AD*. Capitalist income share (corporate profits before tax + net interest) is from BEA table Table 1.12. National Income by Type of Income. Note that the model uses the linear trend of capitalist income share (rather than raw data). For R^2 data (capitalization vs. employment of Compustat Top 200), see Fig. 12. Model parameters are: $\alpha = 2.68$, $\lambda = 0.116$.