Dr Piketty on Wealth and Capital: Finance versus Accumulation

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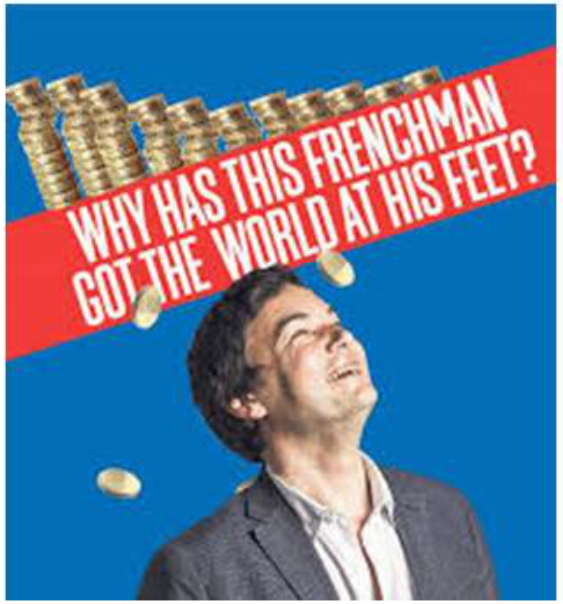
Piketty's Capital

$R > G = \frac{\cdot}{\cdot}$



Piketty's Capital

"a magnificent, sweeping meditation on inequality"; "the most important economics book of the year—and maybe of the decade." (Krugman)

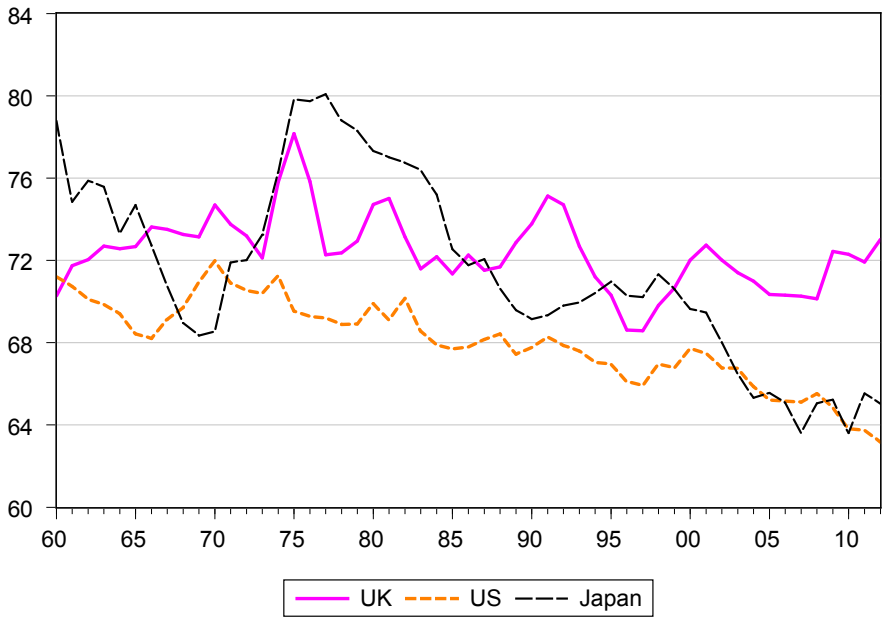
"a new and powerful contribution to an old topic: as long as the rate of return exceeds the rate of growth, the income and wealth of the rich will grow faster than the typical income from work" (Solow)

"a modern surge in inequality has new economists wondering, as Marx and Ricardo did, which forces may be stopping the fruits of capitalism from being more widely distributed. 'Capital in the Twenty-First Century' ... is an authoritative guide to the question." (Economist)

Piketty's Capital

- Rising inequality of wealth and income in advanced economies since 1970s
- Piketty attributes this to rising capital/income ratio
- Implication is strong capital investment
- Piketty presents data on capital/income ratios and saving rates
- These series mainly measure price effects
- Causality of rising wealth/income $\rightarrow$ rising profits/income is incorrect
- Piketty confuses financial saving with capital accumulation
- Only financial mechanisms can generate the results claimed

Functional distribution of income



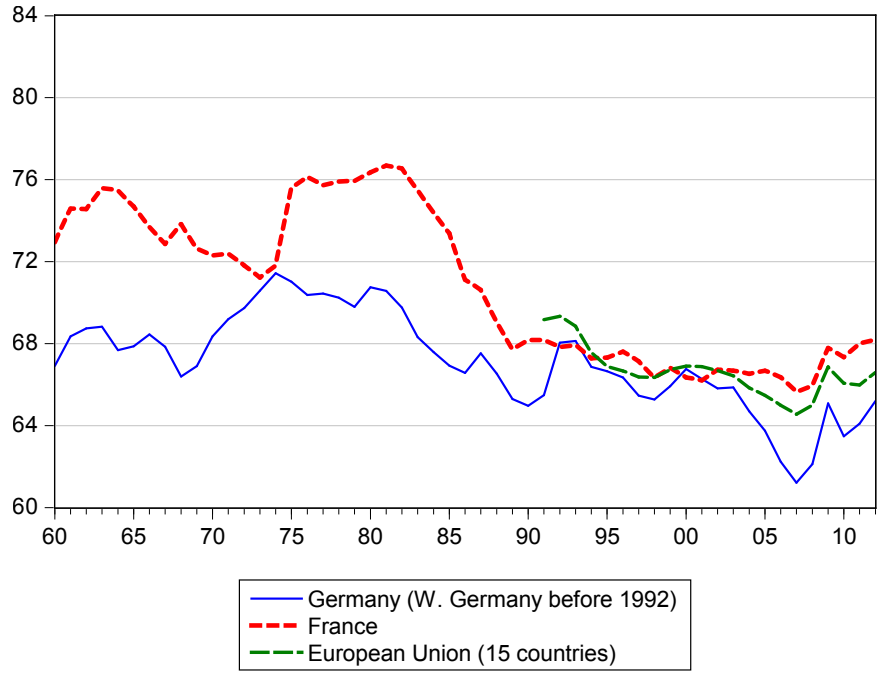
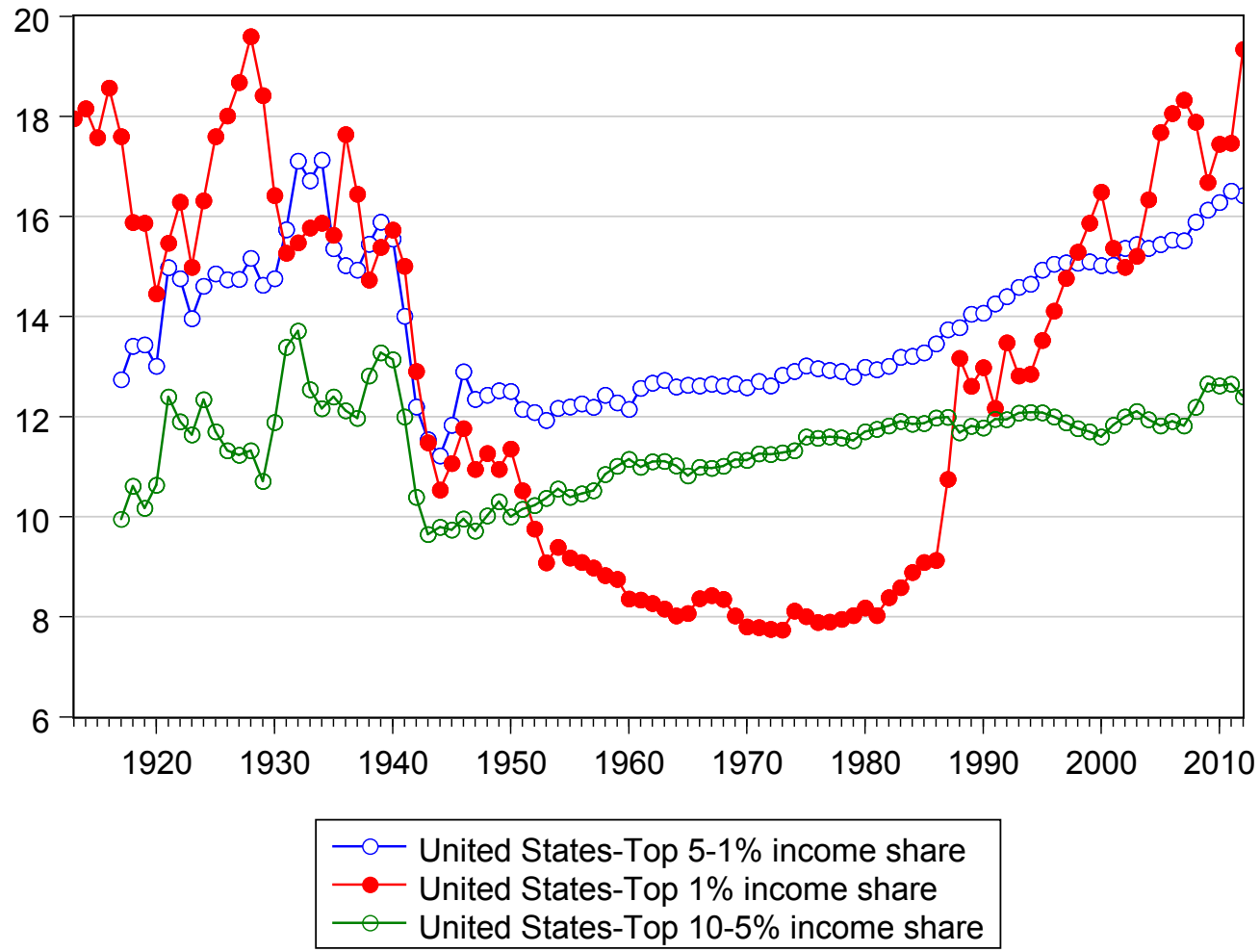


Figure: Adjusted wage share as % of GDP at current factor cost, 1960–2012 (2013–14 predicted)

Source: AMECO

Personal income distribution



Source: Alvaredo, Atkinson, Piketty & Saez (2013)

Piketty's Laws of Capitalism

First Law of Capitalism: capital income equals rate of profit times capital/output ratio

$$\alpha = r \cdot \beta$$

Second Law of Capitalism: capital/output ratio determined by saving rate and growth rate (both exogenous)

$$\beta = s/g$$

Fundamental force for divergence: rate of profit exceeds growth of output

$$r > g$$

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Second Law of Capitalism: Harrod-Domar-Solow equation

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- **Growing inequality caused by high s and low g $\rightarrow$ rising K/Y and Π/Y**
- A crisis of **overaccumulation?**

Second Law: Solow growth model

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Even more important was ***Solow****'s introduction in 1956 of a* ***production function with substitutable factors****, which made it possible to invert the formula and write $\beta = s/g$.*

– Piketty (2014)

Elasticity of K/L substitution

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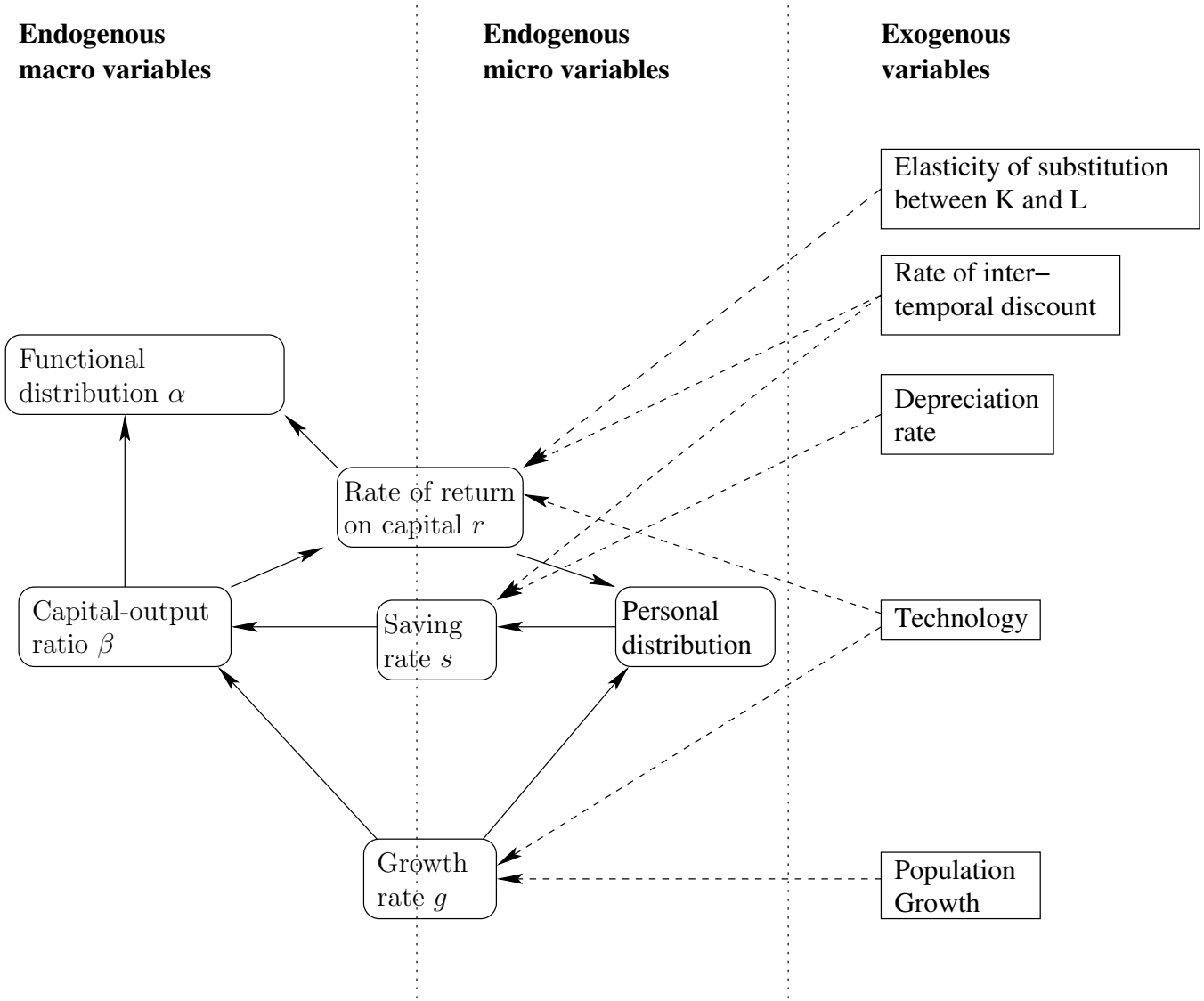
Over a very long period of time, the elasticity of substition between capital and labour seems to have been greater than one . . . ***Intuitively this corresponds to a situation in which there are many different uses for capital in the long run.*** *. . . On the basis of historical data, one can estimate an elasticity between 1.3 and 1.6 . . . on the basis of historical experience the most likely outcome is . . . that the* ***accumulation effect*** *will outweigh the decrease in the return on capital (p. 221)*

Fundamental force for divergence: $r > g$

This fundamental inequality . . . will play a crucial role in this book. In a sense it sums up the overall logic of my conclusions. When the rate of return on capital significantly exceeds the growth rate of the economy . . . then it logically follows that inherited wealth grows faster than output and income. ***People with inherited wealth only need save a portion of their income from capital to that capital grow more quickly than the economy as a whole.***

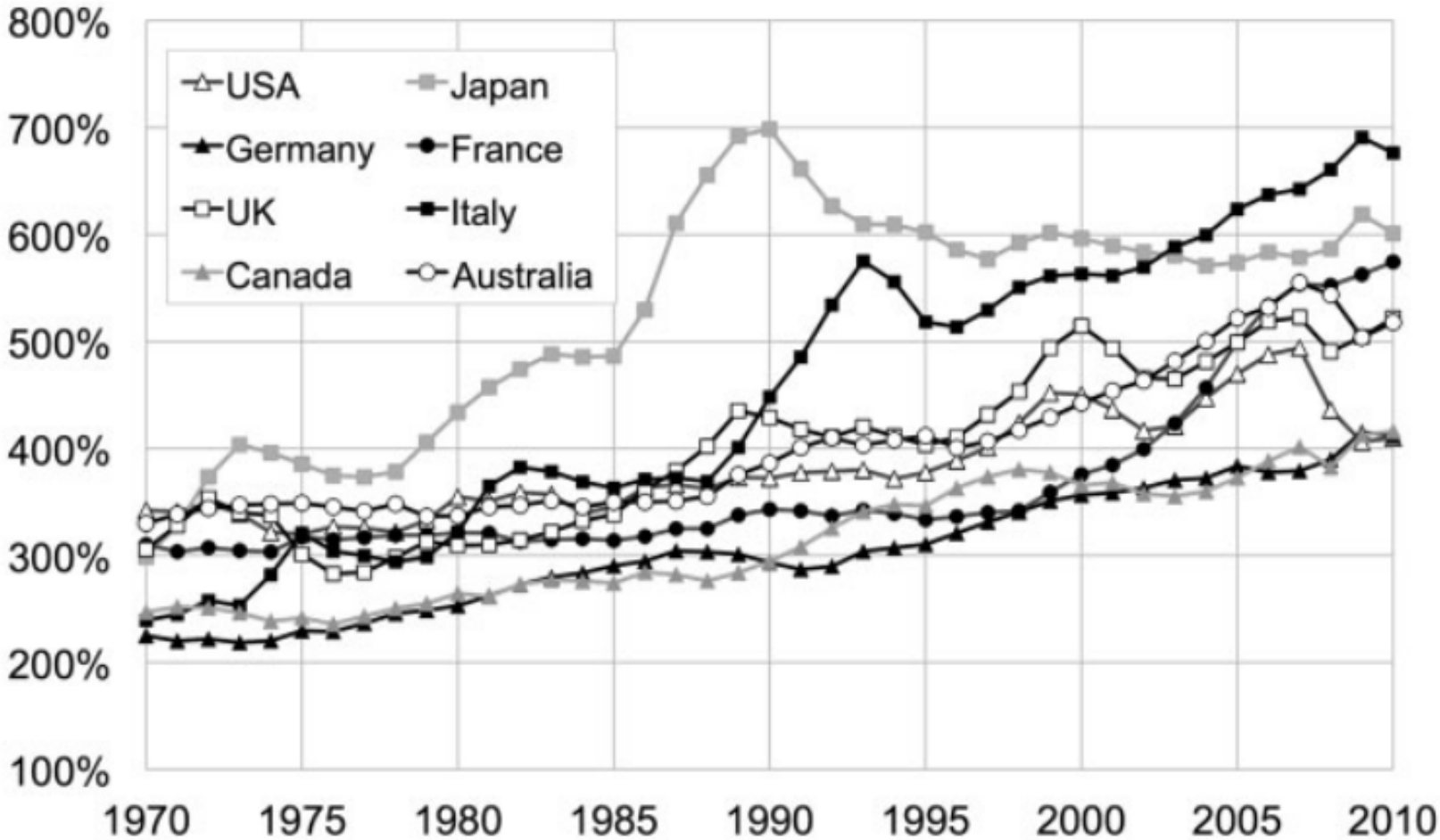
Piketty's Laws of Capitalism



Piketty in a nutshell

Source: Michell (2014)

Private capital/income ratios



Definition of capital

- Two definitions of capital (Hodgson, 2014)
  - A physical factor of production
  - ‘ . . . a fund of money to be invested by a person or firm in some enterprise. It can also refer to the money value of tangible and intangible assets owned by the person or firm’ (Hodgson, p. 1070)
- Piketty: ‘I use the words “capital” and “wealth” interchangeably as if they were prefectly synonymous’ (p. 47)
- ‘no need for the c-word if the w-word means the same’ (Hodgson, p. 1064)

Digression: the capital controversies

- No way to 'measure' physical quantity of heterogenous capital other than at market prices
- In Solow aggregate production function, quantity of capital determines price—equals marginal productivity
- 'the problem is not the *measurement* of "capital" but its *meaning* . . . capital hires labour but labour does not hire capital.' (Harcourt 1976, p. 29)

Capital controversies

Controversy continued, however, in the 1950s and 1960s between economists based primarily in Cambridge, Massachusetts (including Solow and Samuelson, who defended the production function with substitutable factors) and economists working in Cambridge, England (including Joan Robinson, Nicholas Kaldor, and Luigi Pasinetti), who (not without a certain confusion at times) saw in Solow's model a claim that growth is always perfectly balanced, thus negating the importance Keynes had attributed to short-term fluctuations. ***It was not until the 1970s that Solow's so-called neoclassical growth model definitively carried the day.***

– Piketty (2014)

Three definitions of capital

- Physical quantity of factor of production.
- Market value of factor of production.
- Financial wealth—claims on other agents.
  - Measured at current prices
  - In flow terms: accumulation of financial claims, *matched by issuance of liabilities elsewhere*
  - *Not* equivalent to macroeconomic saving

Financial investment is a transfer of assets, not a use of income. Buying [financial assets] transfers liquidity from one economic agent to another . . . macroeconomically, financial investment cannot substitute for physical investment

– Stockhammer (2000)

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$$\Pi = I + C_c + (C_w - W)$$

$$\frac{\Pi}{K} = \frac{I}{K} + \frac{C_c - S_w}{K}$$

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- $r > g$ **requires** $C_c > S_w$.
- If workers consume income and 'people with inherited wealth' save **all** income, then $r{=}g$.

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- Kalecki's 'internal exports'

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Difficult to measure!

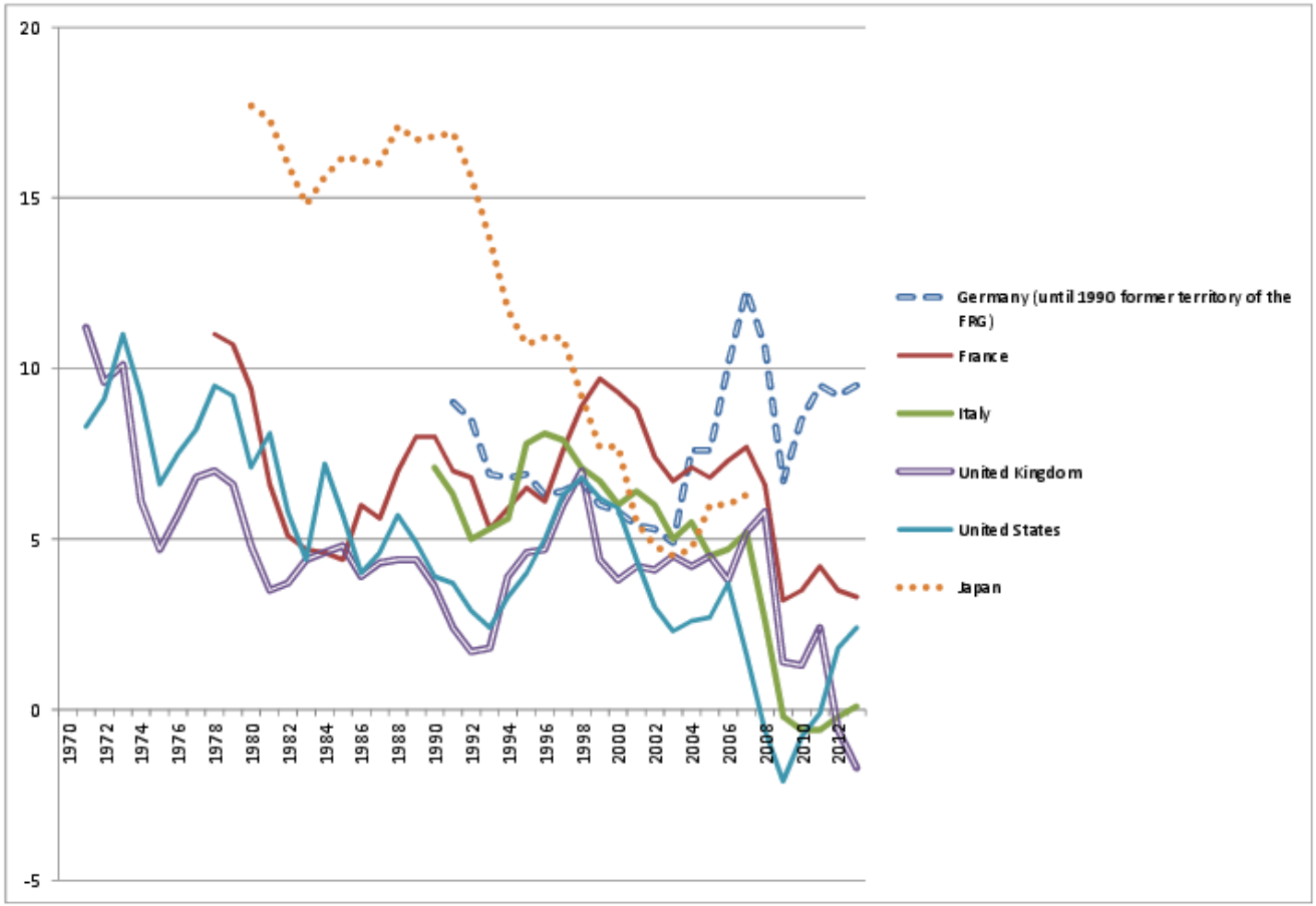


FIGURE: Net saving, per cent of GDP

Definition of wealth and capital

- National wealth can be measured at *market value* or *book value*
  - ***'market value national wealth'**, ... The capital stock of corporations is included in national wealth through the equity holdings of households and the government.*
  - ***'book-value national wealth'**, sums all the nonfinancial assets ... of all domestic sectors and adds the net foreign asset position.*
- Piketty uses **market value national wealth**

The main reason is that corporate tangible assets seem to be systematically over-estimated in national balance sheets.

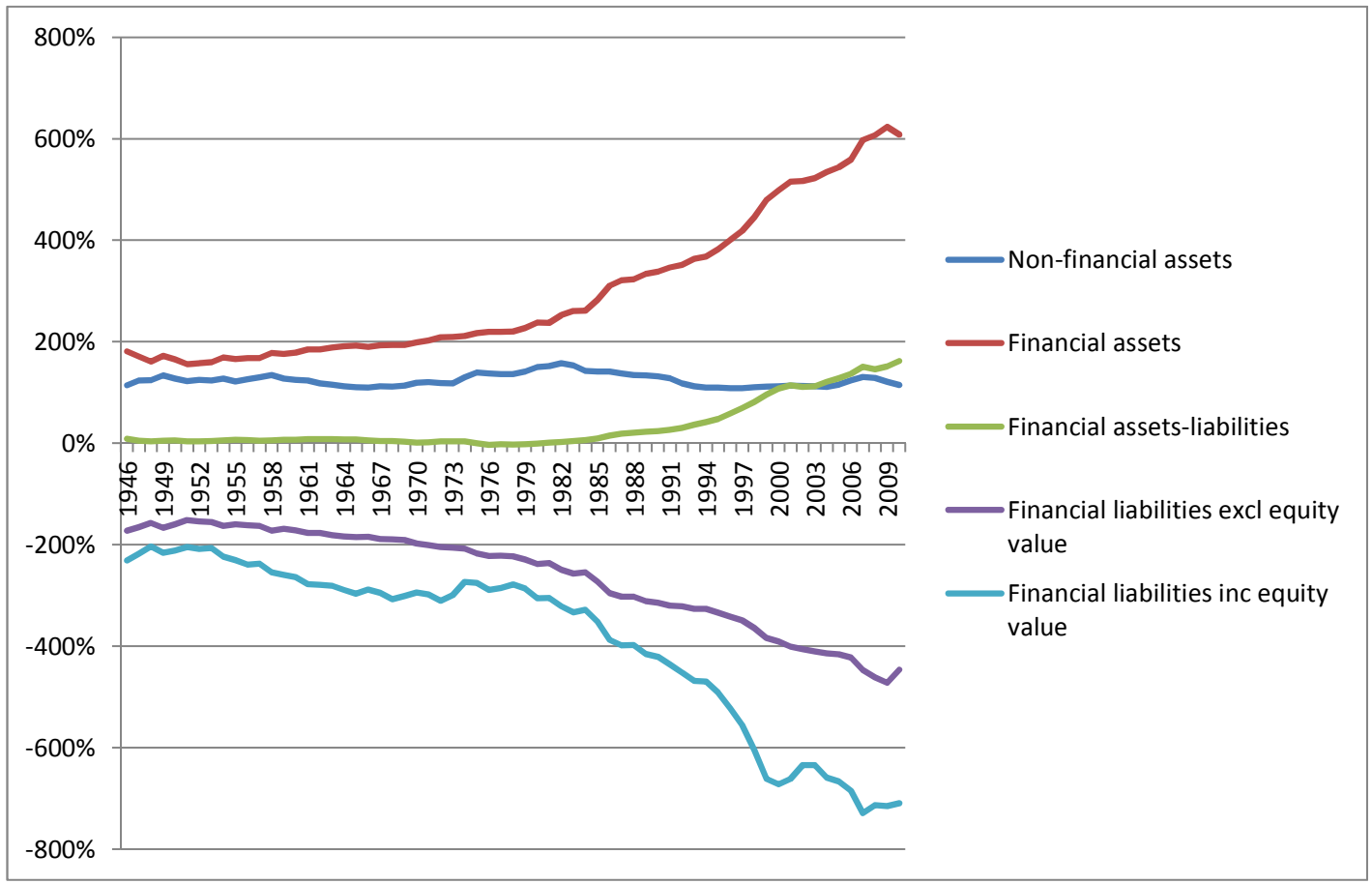
Measuring K/Y: Macroeconomic balance sheet

	Households		Non-fin Firms		Fin Firms		Row		Total
	A	L	A	L	A	L	A	L	
Cptl	$H.p_h$		$K.p_k$						$H.p_h + K.p_k$
Fin	$A_h.p_a$	$L_h.p_l$	$A_f.p_a$	$L_f.p_l$	$A_b.p_a$	$L_b.p_l$	$A_b.p_a$	$L_b.p_l$	0
Eq	$e.p_e$			$e_{nf}.p_{enf}$		$e_f.p_{ef}$			0
Tot		NW_h		NW_f		0		0	$H.p_h + K.p_k$ $-(A_b.p_a - L_b.p_l)$

Table: Macroeconomic balance sheet.

$$Capital_{piketty} = H.p_h + A_h.p_a - L_h.p_l + e.p_e$$
$$Capital_{michell} = H.p_h + K.p_k - A_b.p_a - L_b.p_l$$

Consolidated balance sheet of US corporate sector



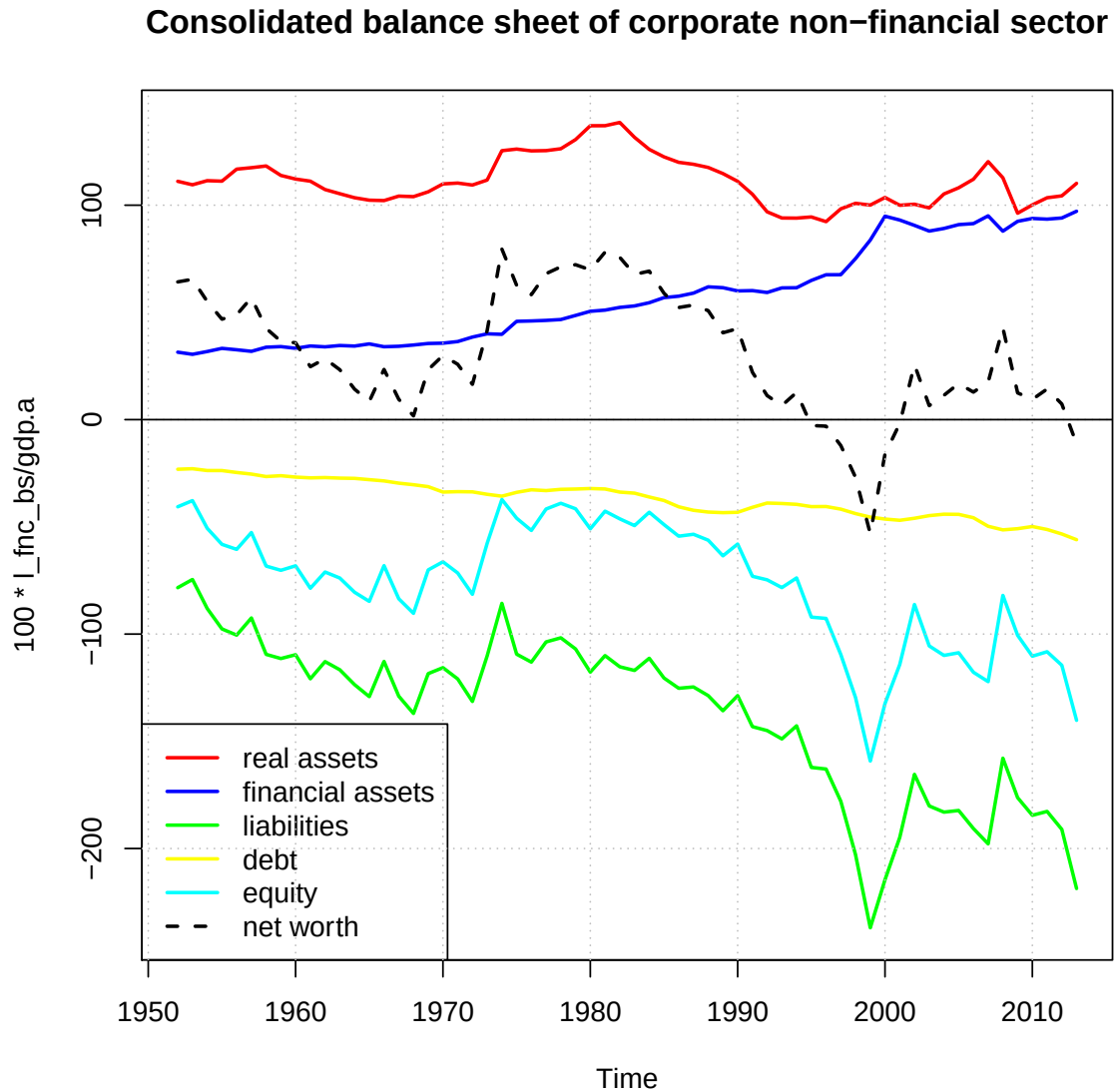


FIGURE: Non-financial firms' balance sheet – US

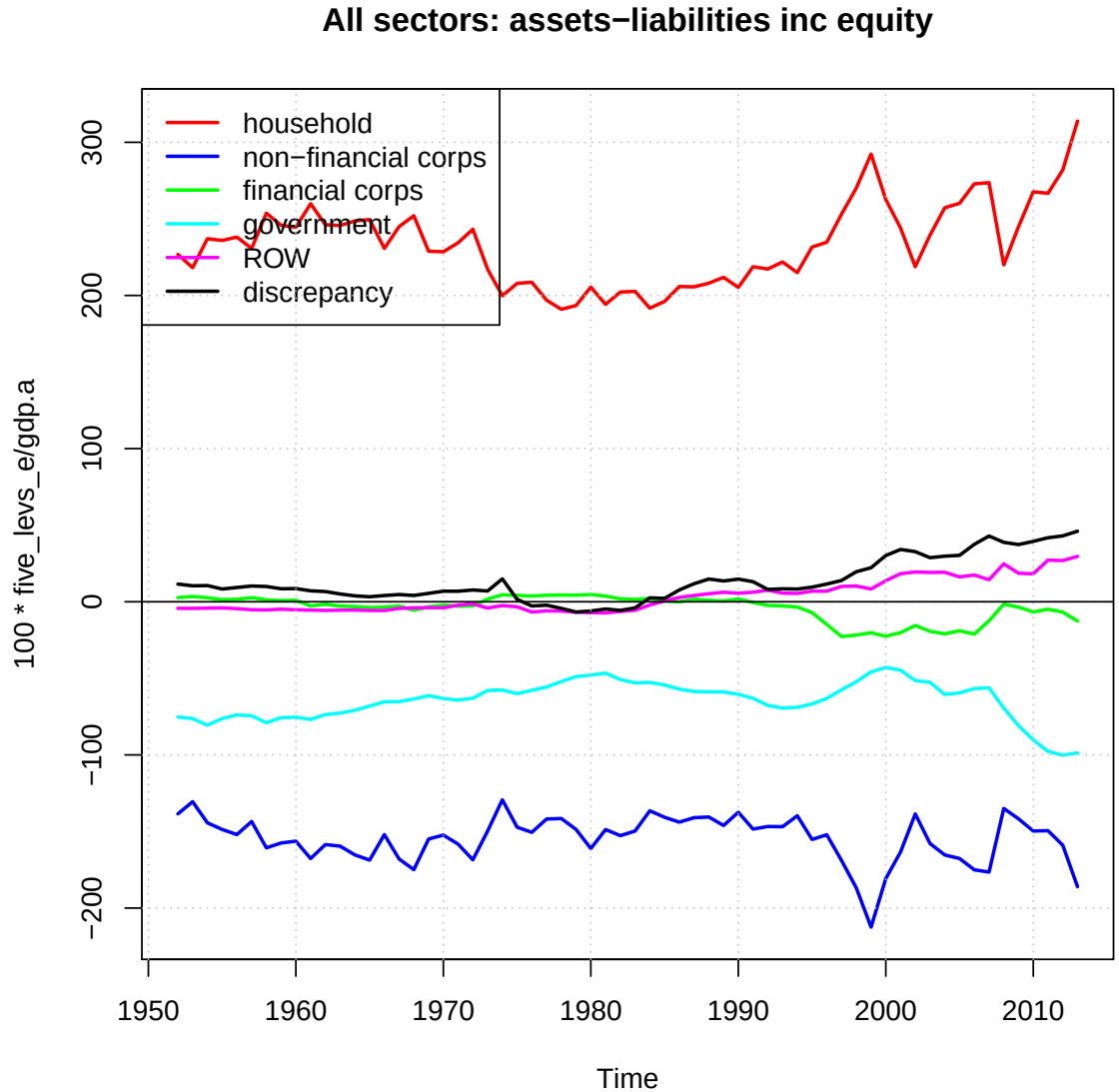
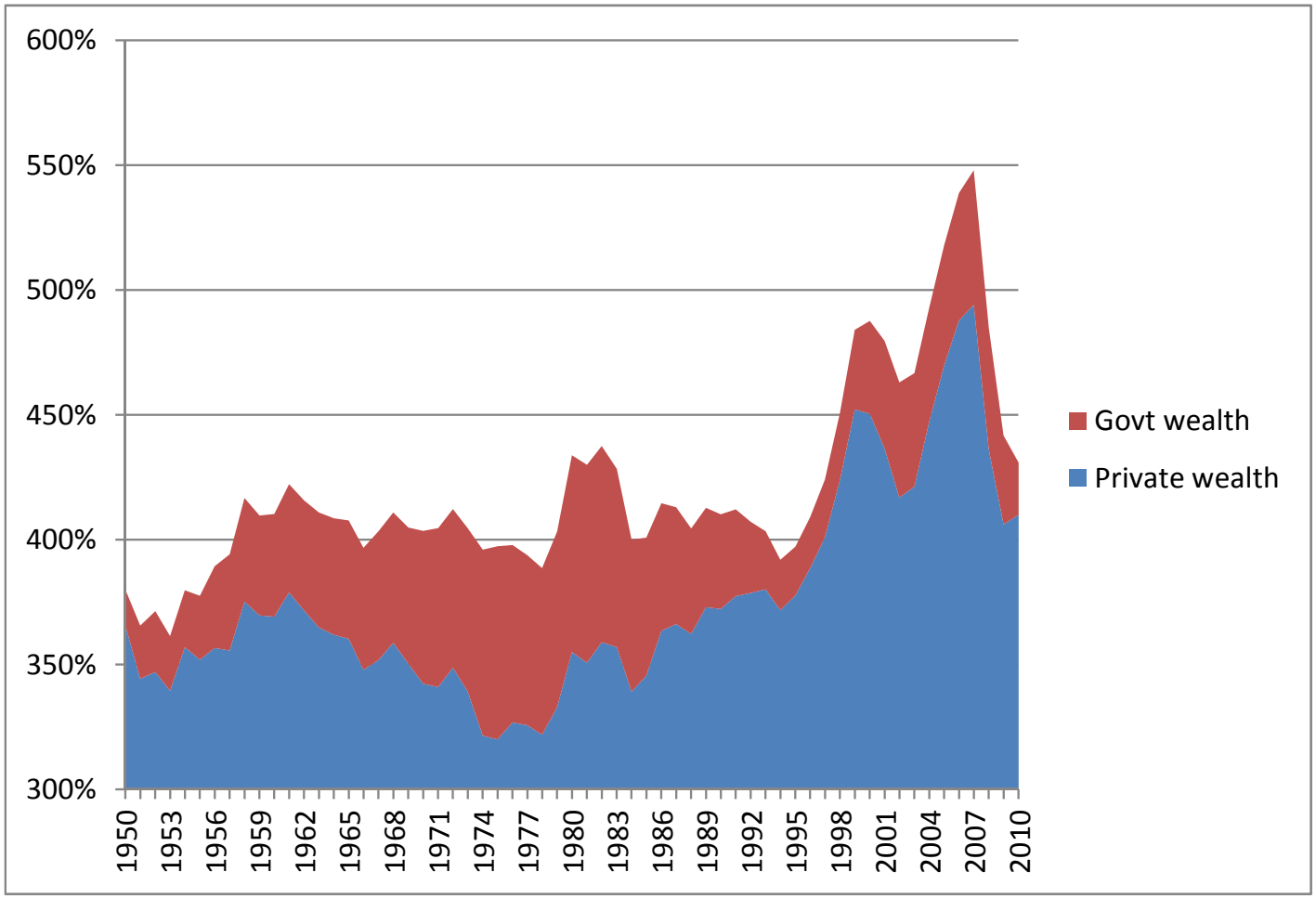


FIGURE: Aggregate net financial positions (stock) – US

Private vs. public wealth - US



US private sector wealth accumulation

- House prices.
- Equity prices.
- Statistical discrepancy.
- Transfer of net assets from public to private sector.

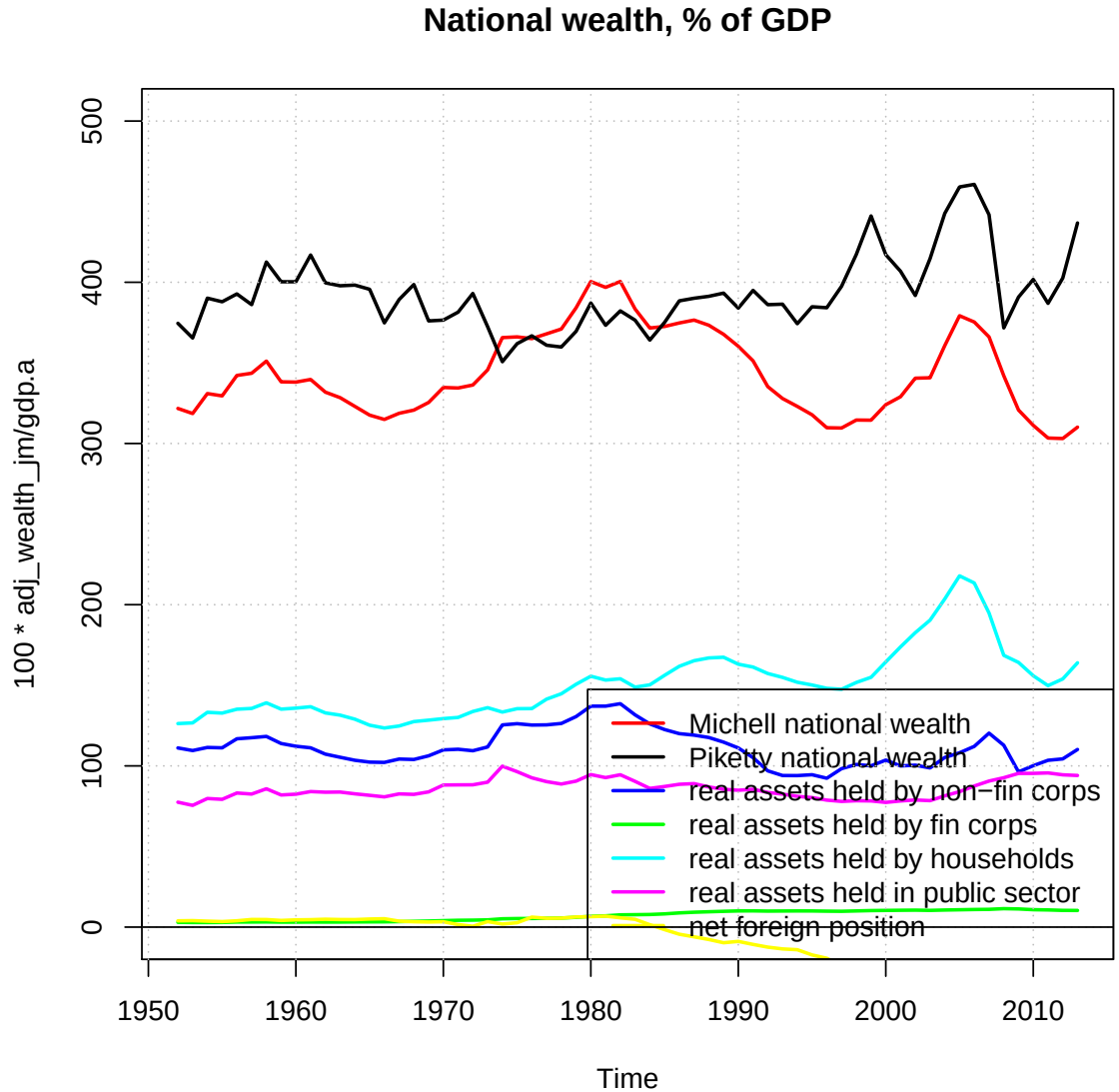
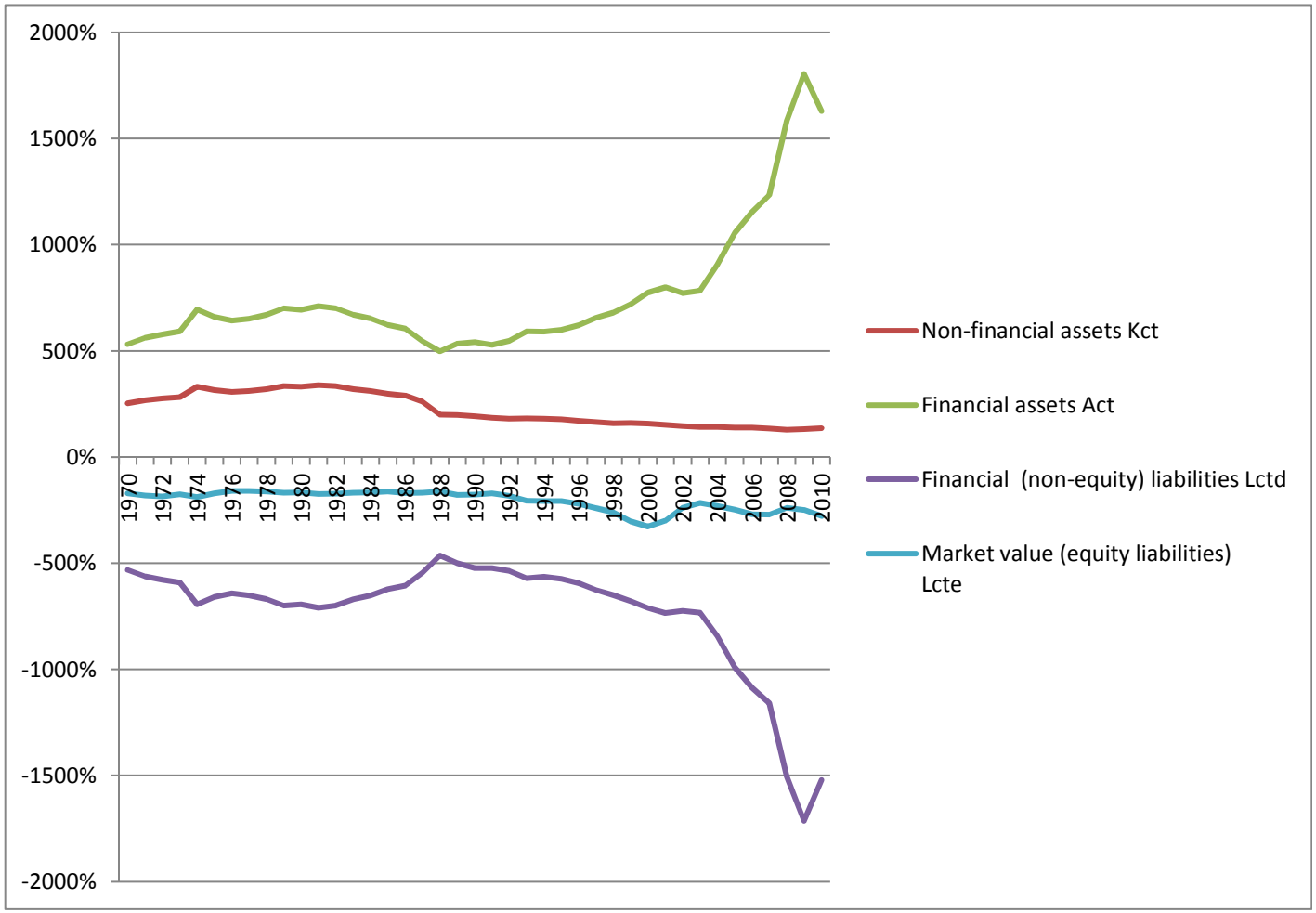
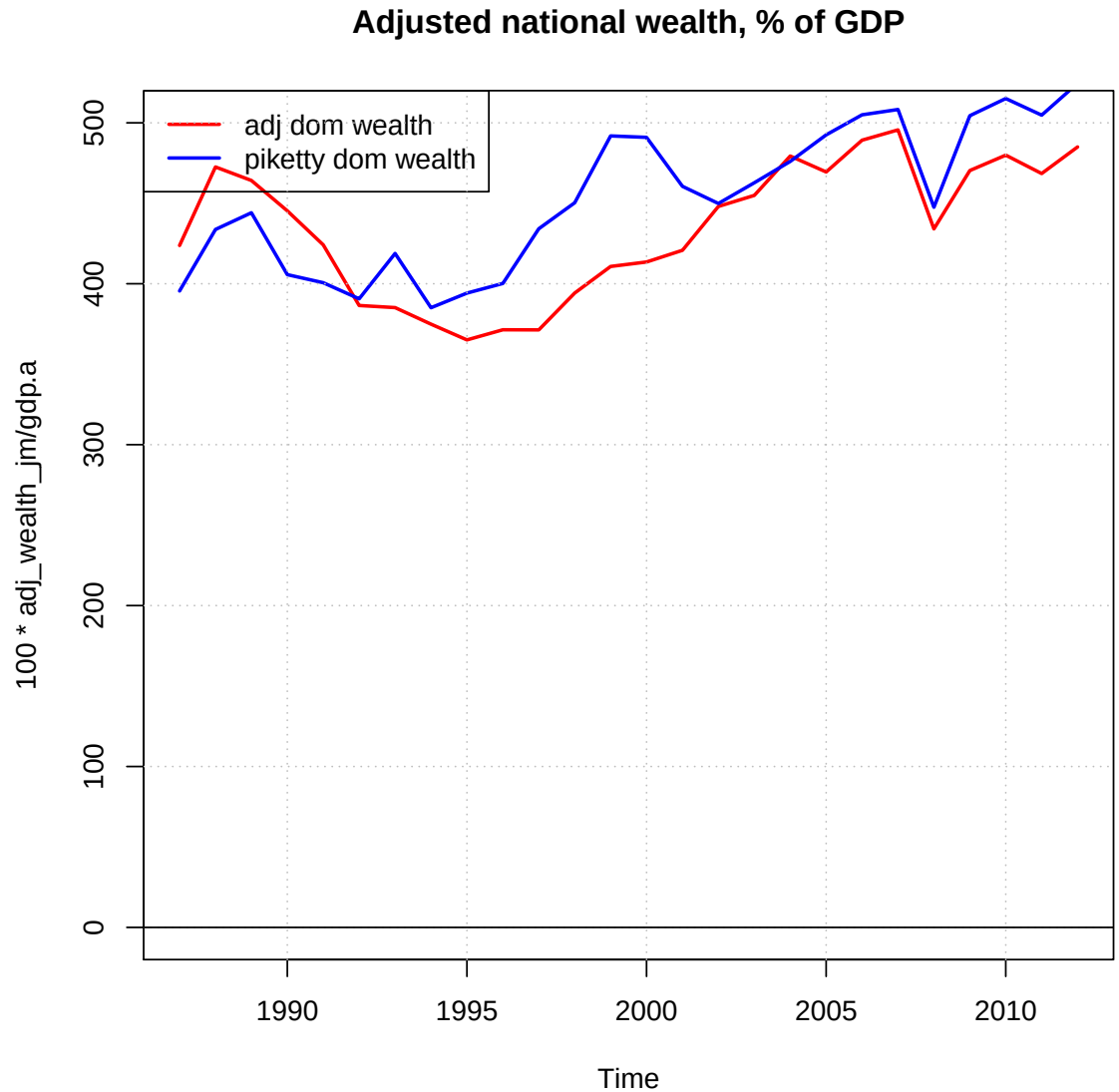


FIGURE: Piketty's K/Y and corrected K/Y – US

Consolidated balance sheet of UK corporate sector





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- Piketty cannot explanation falling wage share.