Hochschule für
Wirtschaft und Recht Berlin
Berlin School of Economics and Law

Distribution and Growth

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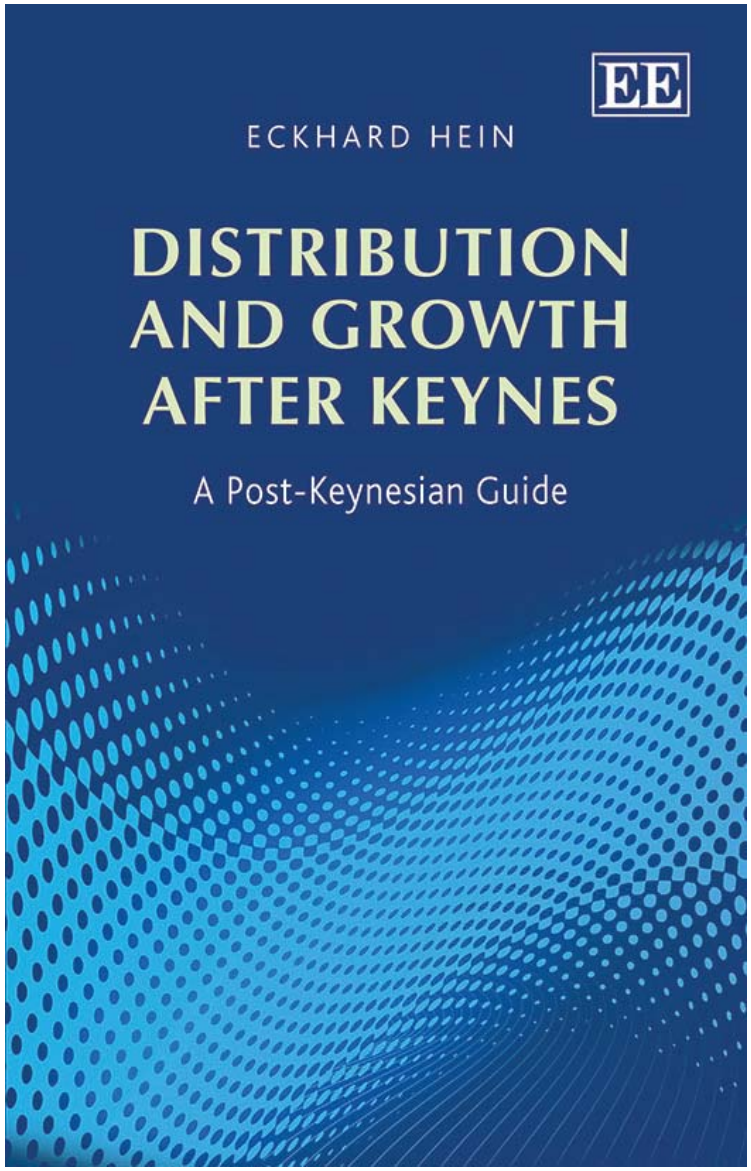


Here and today:
Selections from
Chapters 1, 6, 7, 10

Structure

- **The post-Keynesian (and the classical and Marxian) vs. the neoclassical approaches towards distribution and growth**
- **The Kaleckian distribution and growth models: theories and empirical results**
- **Financialisation, distribution and growth**
- **Current developments and debates**

Structure

- **The post-Keynesian (and the classical and Marxian) vs. the neoclassical approaches towards distribution and growth**
  (Hein 2014, Chapter 1)

- The Kaleckian distribution and growth models: theories and empirical results

- Financialisation, distribution and growth

- Current developments and debates

A1. Neoclassical theory (Solow, Swan)

First principles:

- Given production technology (function) and utility function
- Given initial endowments
- Maximising behaviour in competitive markets

Determine:

- Income distribution (technology + initial endowments)
- Growth at full employment (exogenous growth of labour force + exogenous productivity growth).

Capital stock growth is determined by saving and has no effect on equilibrium growth rate (‚natural growth rate‘) but only on the growth path

A2. **New neoclassical growth theory** (Romer, Lucas, …)

- Productivity growth and hence full employment growth path is endogenised (AK model, human capital, R&D, …)
- Technical progress is determined by technology and preferences
- Saving determines (broad) investment, which has a permanent effect on equilibrium growth rate (natural growth rate)

➔ Thriftiness is beneficial with respect to growth rate

Critique:

- New growth theory needs specific parameters to generate stable growth (Solow)
- What about money and effective demand?
- What about aggregate output, capital (and also human capital, …) and substitution determined by factor prices? ➔ ‚Cambridge controversies in the theory of capital‘

B. Classical, Marx‘s and post-Keynesian approaches

- No a-historical first principles, theories are meant to explain ‚stylised facts‘ (Kaldor)

- Distribution and capital accumulation/growth are interdependent

- Explicit theories of distribution (‚degree of freedom‘ in price theory to be closed by socio-institutional factors)

B1. Classical and orthodox Marxian approach

- Distribution is determined by socio-institutional factors: subsistence wage and/or class struggle
- With a given technology this determines the rate of profit
- Rate of profit determines the rate of capital accumulation and growth: $g = s_{\Pi} r$
  (Classical version of Say‘s Law: S ➔ I)
- Unemployment is a persistent feature
- Capital accumulation feeds back negatively on the rate of profit in the long run
  ➔ tendency of the rate of profit to fall
  ➔ deep crisis (Marx) or stationary state (Ricardo)

B2. Post-Keynesian approach

"The Keynesian models (including our own) are designed to project into the long period the central thesis of the *General Theory*, that firms are free, within wide limits, to accumulate as they please, and that the rate of saving of the economy as a whole accommodates itself to the rate of investment that they decree." (Robinson 1962, pp. 82-83)

- Capital accumulation is independent of saving, I ➔ S, no Say‘s law
- Harrod, Domar: Explore conditions for balanced growth, Harrod detects instability of ‚warranted rate of growth‘
- Kaldor, Pasinetti, Robinson: Capital accumulation (and hence growth) determines the rate of profit and thus income distribution in the long run: $r = g/s_{\Pi}$
- Kalecki, Steindl: Capital accumulation determines growth and the degree of utilisation of productive capacities, as well as the rate of profit; distribution is determined mainly by mark-up pricing in incompletely competitive markets.
- Endogenous growth models driven by effective demand, i.e. productivity growth is also demand determined

Model comparison

- closed one good economy without a government
- two classes: workers and capitalists
- workers receive wages and don’t save
- capitalists own MoP and receive profits which are partly consumed partly saved
- no depreciations
- no overhead labour

Rate of profit:

$$(1) \qquad r = \frac{\Pi}{pK} = \frac{\Pi}{pY}\frac{Y}{Y^p}\frac{Y^p}{K} = hu\frac{1}{v}$$

r: rate of profit, Π: profits, p: price, K: capital stock, Y: output, Y^p: potential output, h: profit share, u: rate of capacity utilisation, v: capital-potential output ration

Saving rate:

$$(2) \qquad \sigma = \frac{S}{pK} = \frac{s_\Pi \Pi}{pK} = s_\Pi r = s_\Pi hu\frac{1}{v}, \qquad 0 < s_\Pi \leq 1$$

σ: saving rate, S: saving, s_Π: propensity to save out of profits

Neoclassical closure

(3n) $u = u_n$

u_n: normal or full utilisation of productive capacities

(4n) $h = \bar{h}$

$\bar{h}$: given by technology (output elasticity of capital in CD function)

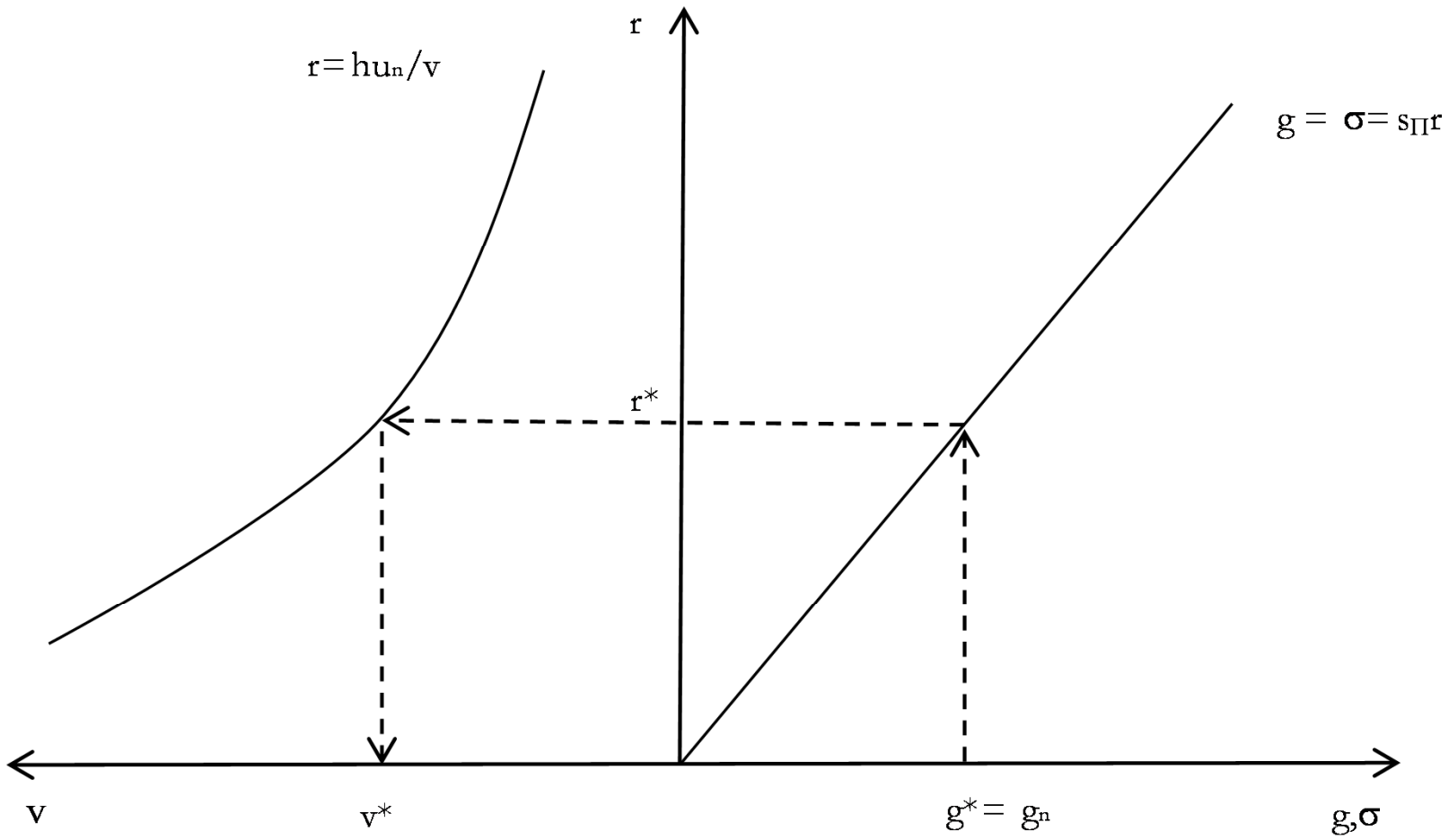
(5n) $g = g_n$

g_n: natural rate of growth

(6n) $$\sigma = \frac{S}{pK} \equiv g = \frac{pI}{pK}$$

endogenous variables: r*, v*

Figure 1: The neoclassical distribution and growth model



New growth theory closure

(3ng) $u = u_n$

u_n: normal or full utilisation of productive capacities

(4ng) $h = \bar{h}$

$\bar{h}$: given by technology

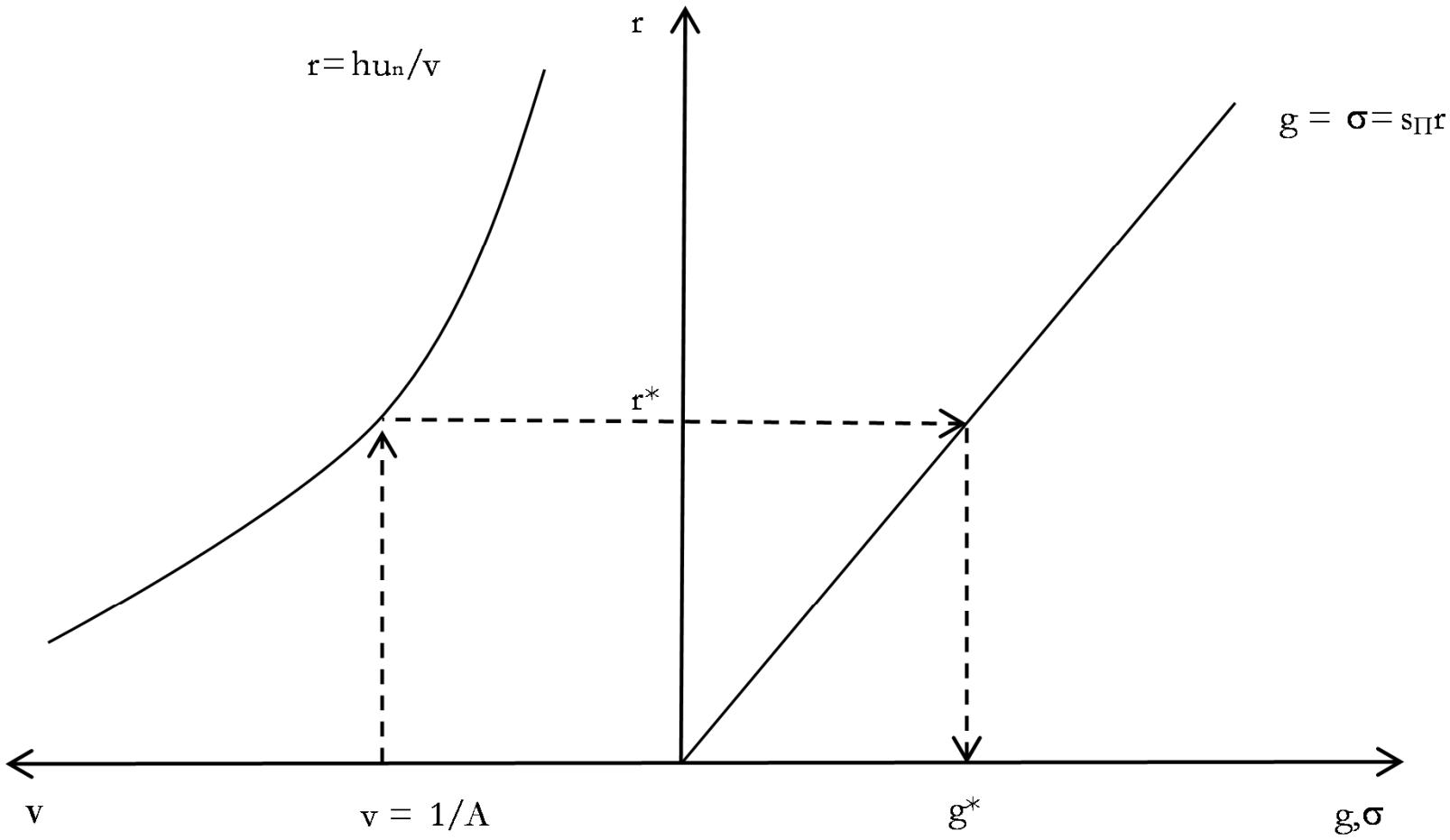
(5ng) $v = \frac{1}{A}$

A: constant productivity of capital (AK model: Y = AK)

(6ng) $\sigma = \frac{S}{pK} \equiv g = \frac{pI}{pK}$

endogenous variables: r*, g*

Figure 2: The new growth theory



Classical/Marxian closure

(3cm) $u = u_n$

(4cm) $h = \frac{pY - wL}{pY} = 1 - w^r a = 1 - w^r_s a$

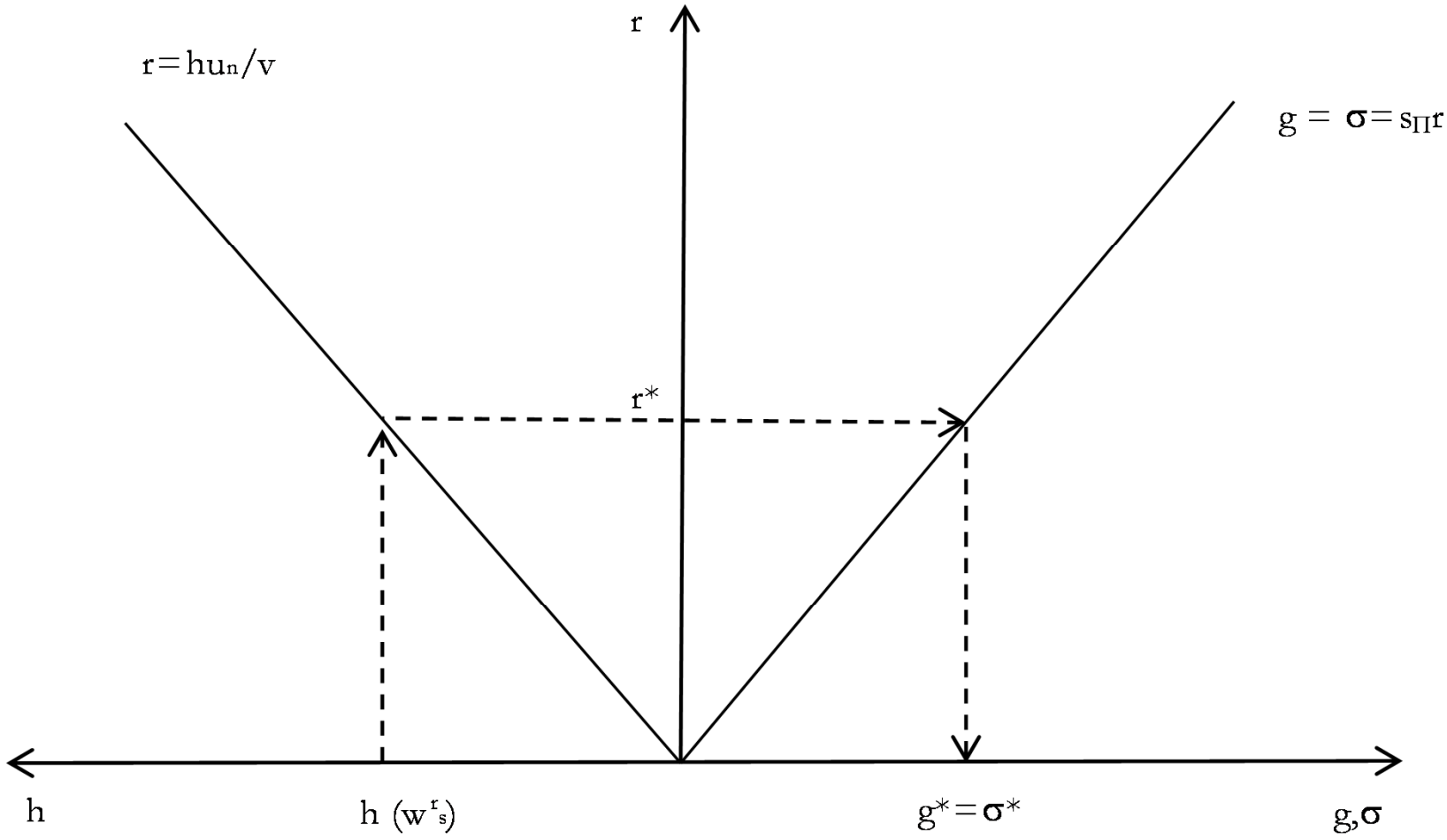
w: nominal wage rate, w^r: real wage,
w^r_s: conventional/subsistence real wage rate,
L: labour, a: labour-output ratio

(5cm) $v = \bar{v}$

(6cm) $\sigma = \frac{S}{pK} \equiv g = \frac{pI}{pK}$

Endogenous variables: r*, g*

Figure 3: The classical/Marxian distribution and growth model



Kaldor/Robinson closure

(3kr) $u = u_n$

(4kr) $v = \bar{v}$

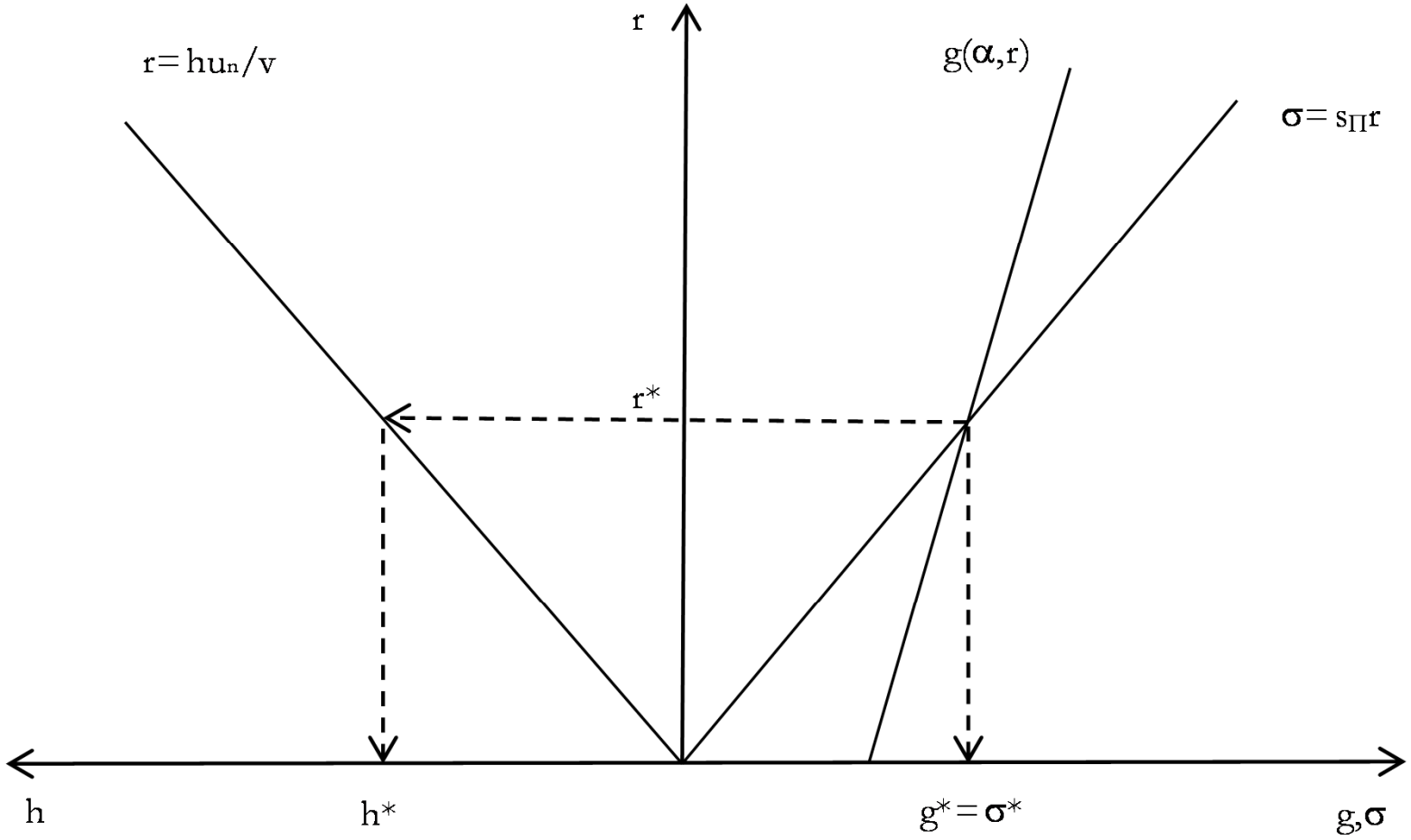
(5kr) $g = g(\alpha, r), \qquad \frac{\partial g}{\partial \alpha} > 0, \frac{\partial g}{\partial r} > 0$

α: animal spirits

(6kr) $g = \frac{pI}{pK} = \sigma = \frac{S}{pK}$

Endogenous variables: h*, r*, g*

Figure 4: The Kaldorian/Robinsonian post-Keynesian distribution and growth model



Kalecki/Steindl closure

(3ks) $h = h(m)$

m: mark-up

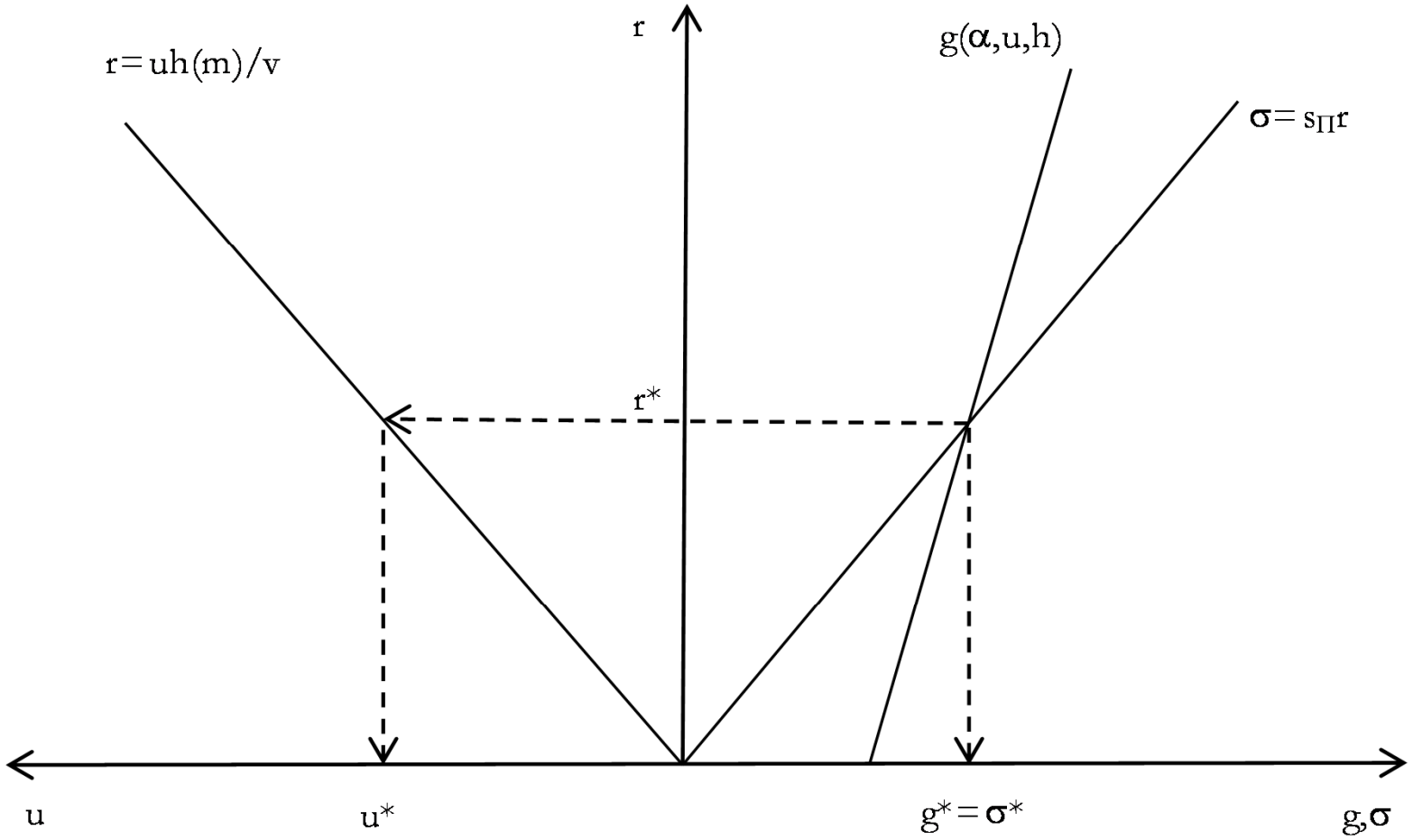
(4ks) $v = \bar{v}$

(5ks) $g = g(\alpha, h, u), \quad \frac{\partial g}{\partial \alpha} > 0, \frac{\partial g}{\partial h} > 0, \frac{\partial g}{\partial u} > 0$

(6ks) $g = \frac{pI}{pK} = \sigma = \frac{S}{pK}$

Endogenous variables: u*, r*, g*

Figure 5: The Kaleckian/Steindlian post-Keynesian distribution and growth model



Structure

- The post-Keynesian (and the classical and Marxian) vs. the neoclassical approaches towards distribution and growth
- **The Kaleckian distribution and growth models: theories and empirical results**
  (Hein 2014, Chapters 6-7)
- Financialisation, distribution and growth
- Current developments and debates

Kalecki (1954; 1971)

- Theory of effective demand based on Marx‘s Schemes of Reproduction

- Theory of pricing and distribution:
  - demand determined prices in primary sector
  - cost determined prices in industrial + service sector
  ➔ constant marginal and average variable costs
  ➔ mark-up pricing in oligopolistic markets
  ➔ underutilisation of productive capacities
  ➔ changes in demand trigger changes in output and not in prices

“In fact, ***the long-run trend is but a slowly changing component of a chain of short-period situations; it has no independent entity***, …” (Kalecki 1971, p. 165, my emphasis)

“Even on the *average* ***the degree of utilisation throughout the business cycle will be substantially below the maximum reached during the boom …The reserve of capital equipment and the reserve army of unemployed are typical features of capitalist economy at least throughout a considerable part of the cycle***.“ (Kalecki 1971, p. 137, my emphasis)

Steindl ([1952]1976)

- Tendency towards oligopoly, price rigidity, excess capacity
- Maldistribution of funds: incomplete reinvestment in oligopolies, lack of funds in competitive industries
- Weakening of aggregate demand, which is self-reinforcing
  ➔ stagnation in mature capitalism due to protection of ‚too high profit margins‘
  ➔ stagnation policy since late 1970s/early 1980s (Steindl 1979)
  ➔ financialisation weakens growth (Bhaduri/Steindl 1985, Steindl 1989)

The basic Kaleckian/Steindlian model

- long-run unemployment → no scarcity of labour
- income distribution determined by mark-up pricing
- capacity utilisation is usually below full utilisation in the long run → endogenous variable also in the long run

- Steindl ([1952]1976), Sylos-Labini (1969): firms hold excess capacity to supply fluctuating demand and to prevent competitors from market entry
- Lavoie (1992): excess capacity does not contradict minimisation of total unit costs → firms might use some plants at an optimal degree of utilisation and others are not used at all
- Nikiforos (2013): minimisation of unit costs via number of shifts → demand affects target rate of utilisation

Marxian/Harrodian critique of an endogenous normal rate of capacity utilisation

➔ Dumenil/Levy (1999), Shaikh (2009) and Skott (2010, 2012),

Kaleckian responses

➔ Hein/Lavoie/van Treeck (2011, 2012), Hein (2014, Chapter 11)

1. Long-run equilibrium with normal rate of utilisation is not very relevant (Chick/Caserta 1997)
2. Normal/optimal rate of utilisation cannot be precisely determined in a world of uncertainty but is rather a range (Dutt 1990a, 2010a)
3. Firms have multiple goals and accept variations in capacity utililsation and hence deviations from target or normal rate (Dallery/van Treeck 2010)
4. Firms' assessment of trend growth and normal rate is endogenous to actual experience (Lavoie 1995b, 1996b)
5. Normal rate as stable inflation rate of utilisation is endogenous to monetary policies (Hein 2006c, 2008)

6.3 The neo-Kaleckian or Rowthorn-Dutt model:

the ‚underconsumptionist' or ‚stagnationist' version

Rowthorn (1981), Dutt (1984, 1987)

(1) $$r = hu\frac{1}{v}$$

(4) $$h = 1 - \frac{1}{1+m}$$

(5) $$\sigma = s_{\Pi} hu\frac{1}{v}$$

(6) $$g = \frac{I}{K} = \alpha + \beta u, \qquad \alpha, \beta > 0$$

➔ capital accumulation is determined by animal spirits and capacity utilisation (model results do not change qualitatively if we add the **rate of profit** to the investment function!)

Goods market equlibrium:

(7) $g = \sigma$

Stability condition:

(8) $$\frac{\partial \sigma}{\partial u} - \frac{\partial g}{\partial u} > 0 \Rightarrow s_{\Pi} \frac{h}{v} - \beta > 0.$$

Equilibrium solution:

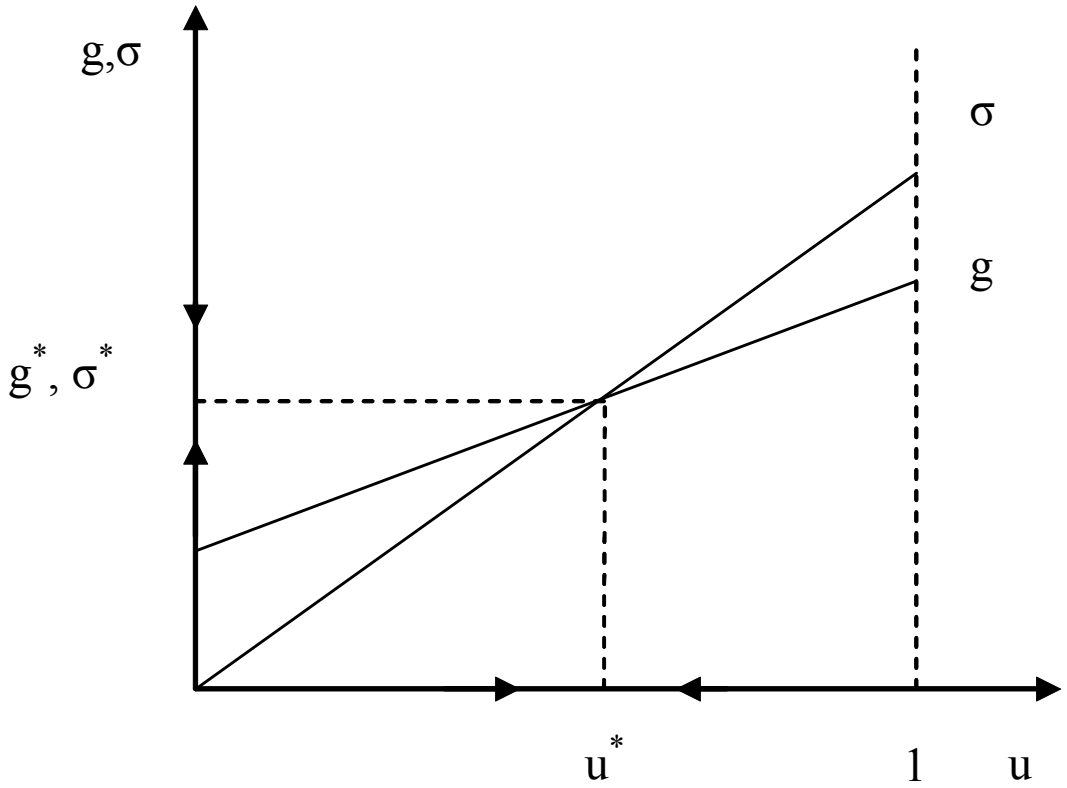
(9) $$u^* = \frac{\alpha}{s_{\Pi} \frac{h}{v} - \beta}$$

(10) $$g^* = \sigma^* = \frac{\alpha s_{\Pi} \frac{h}{v}}{s_{\Pi} \frac{h}{v} - \beta}$$

(11) $$r^* = \frac{\alpha \frac{h}{v}}{s_{\Pi} \frac{h}{v} - \beta}$$

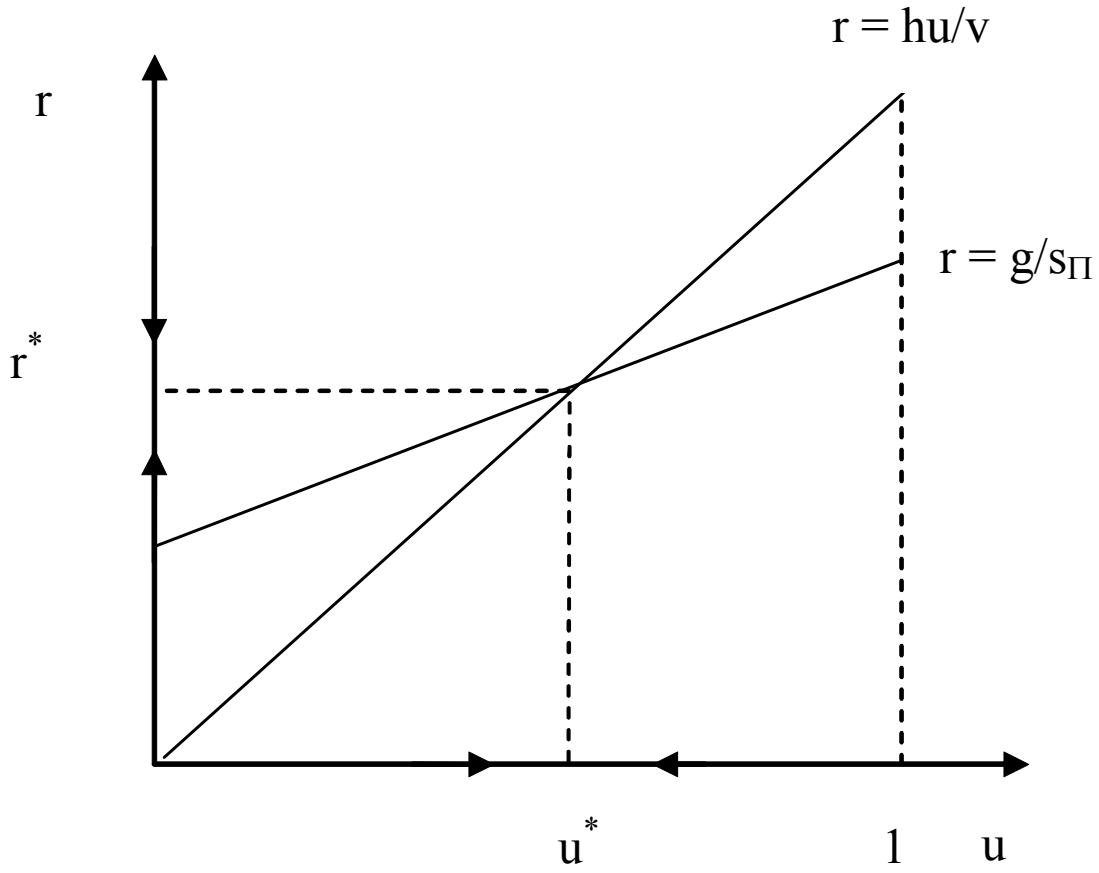
Figure 1: Equilibrium in the neo-Kaleckian distribution and growth model

a) Accumulation rate and capacity utilization



from equations (5) and (6)

b) Profit rate and capacity utilization



from equation (1) ➔ profits cost curve (Lavoie 1992)
from equations (1), (5) and (7) ➔ effective demand curve (Lavoie 1992)

Figure 2: Adjustment towards the stable equilibrium in the neo-Kaleckian distribution and growth model

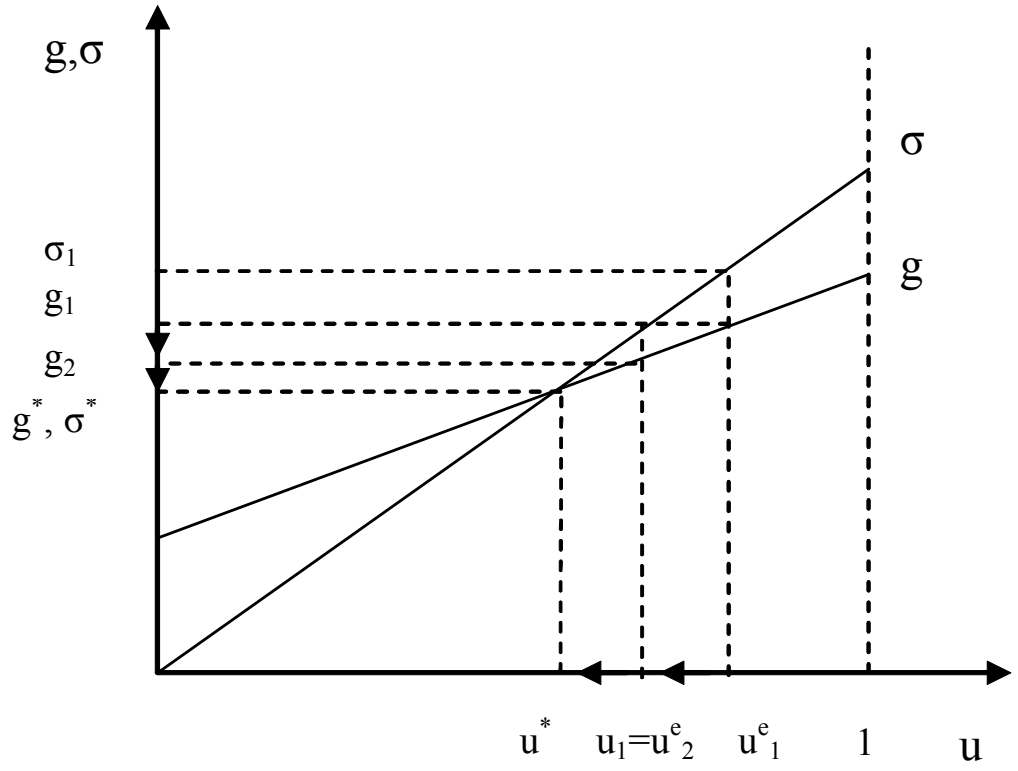
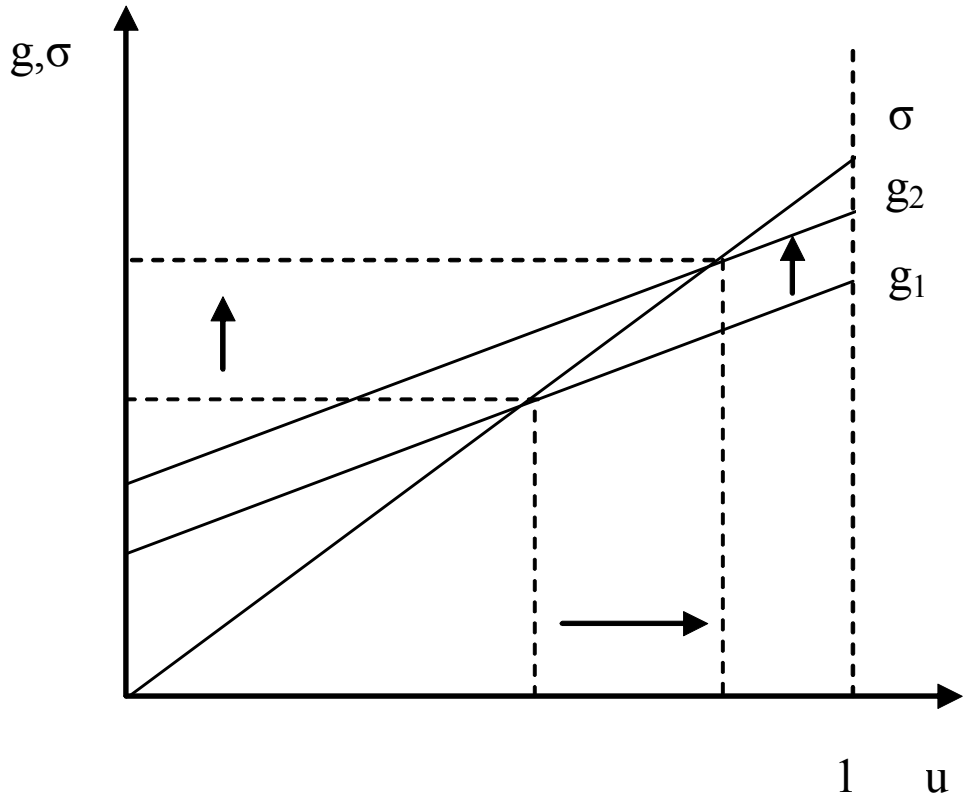


Figure 3: Increase in animal spirits in the neo-Kaleckian distribution and growth model
a) Accumulation rate and capacity utilization



b) Profit rate and capacity utilization

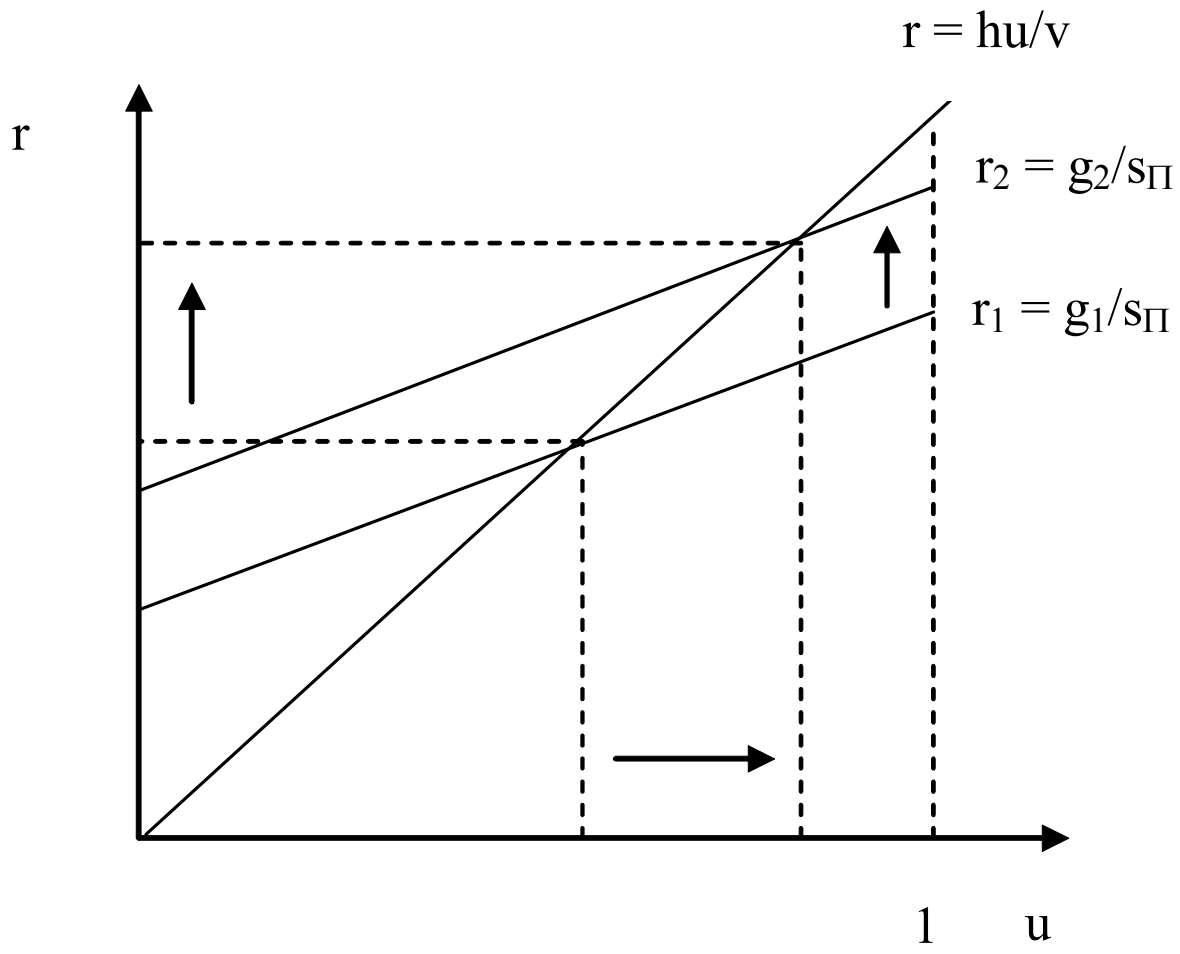
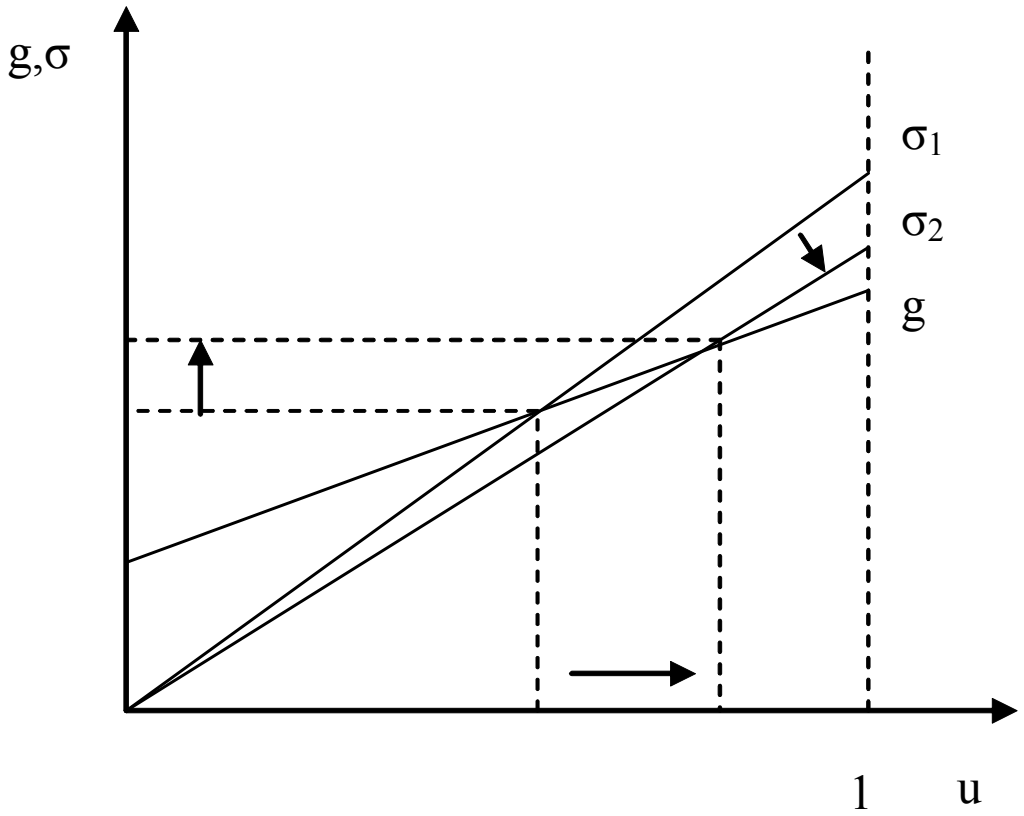


Figure 4: Reducing the propensity to save out of profits in the neo-Kaleckian distribution and growth model: the paradox of saving
a) Accumulation rate and capacity utilization



b) Profit rate and capacity utilization

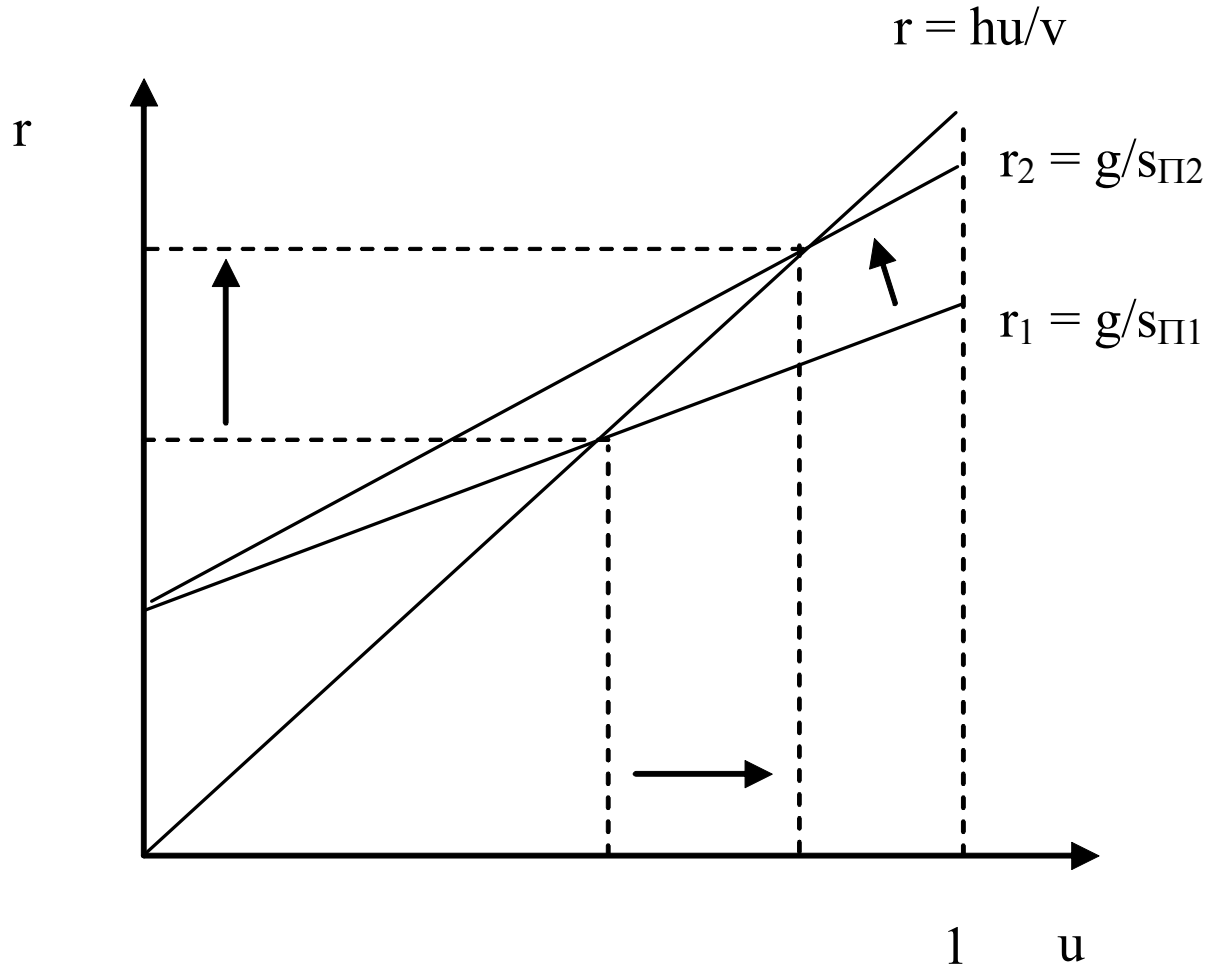
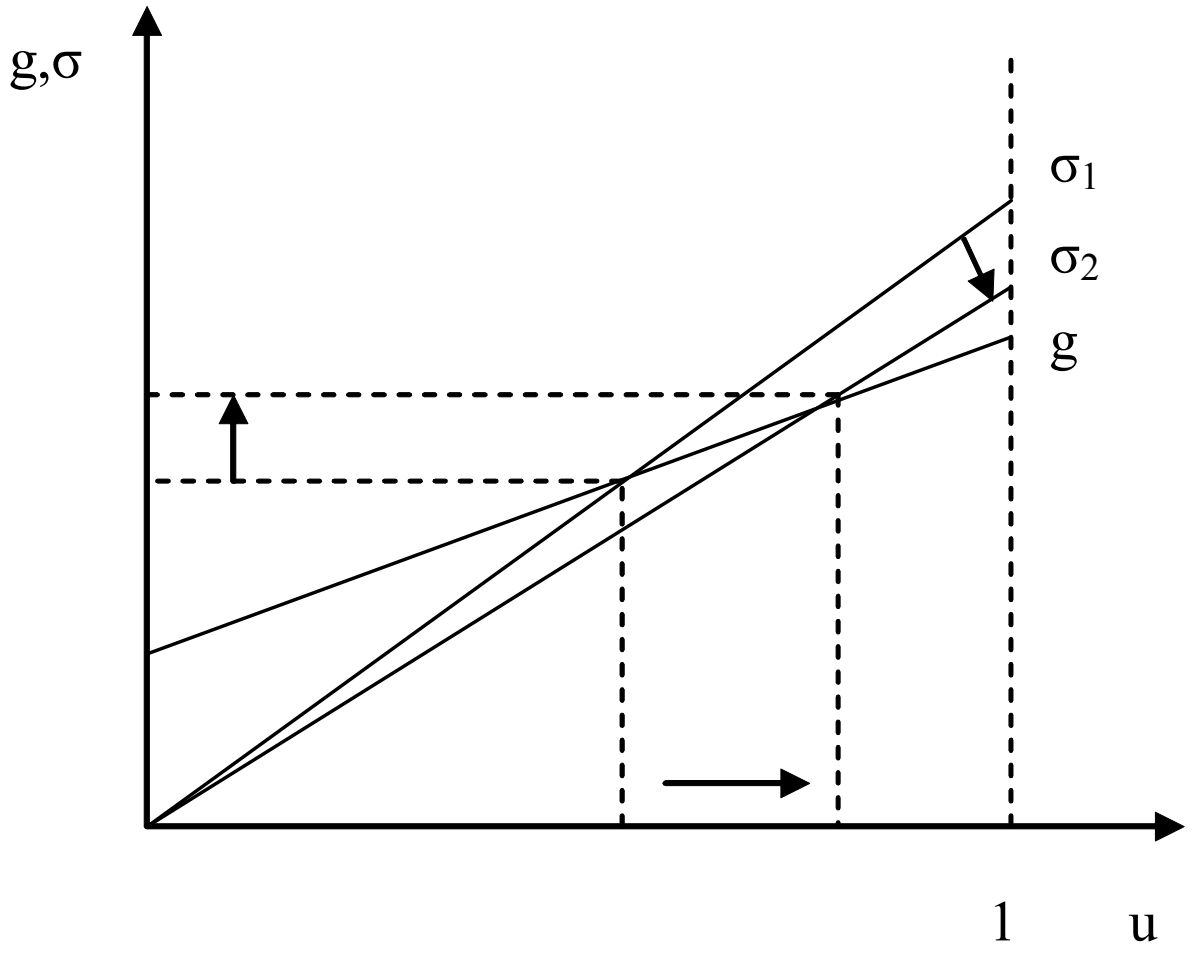
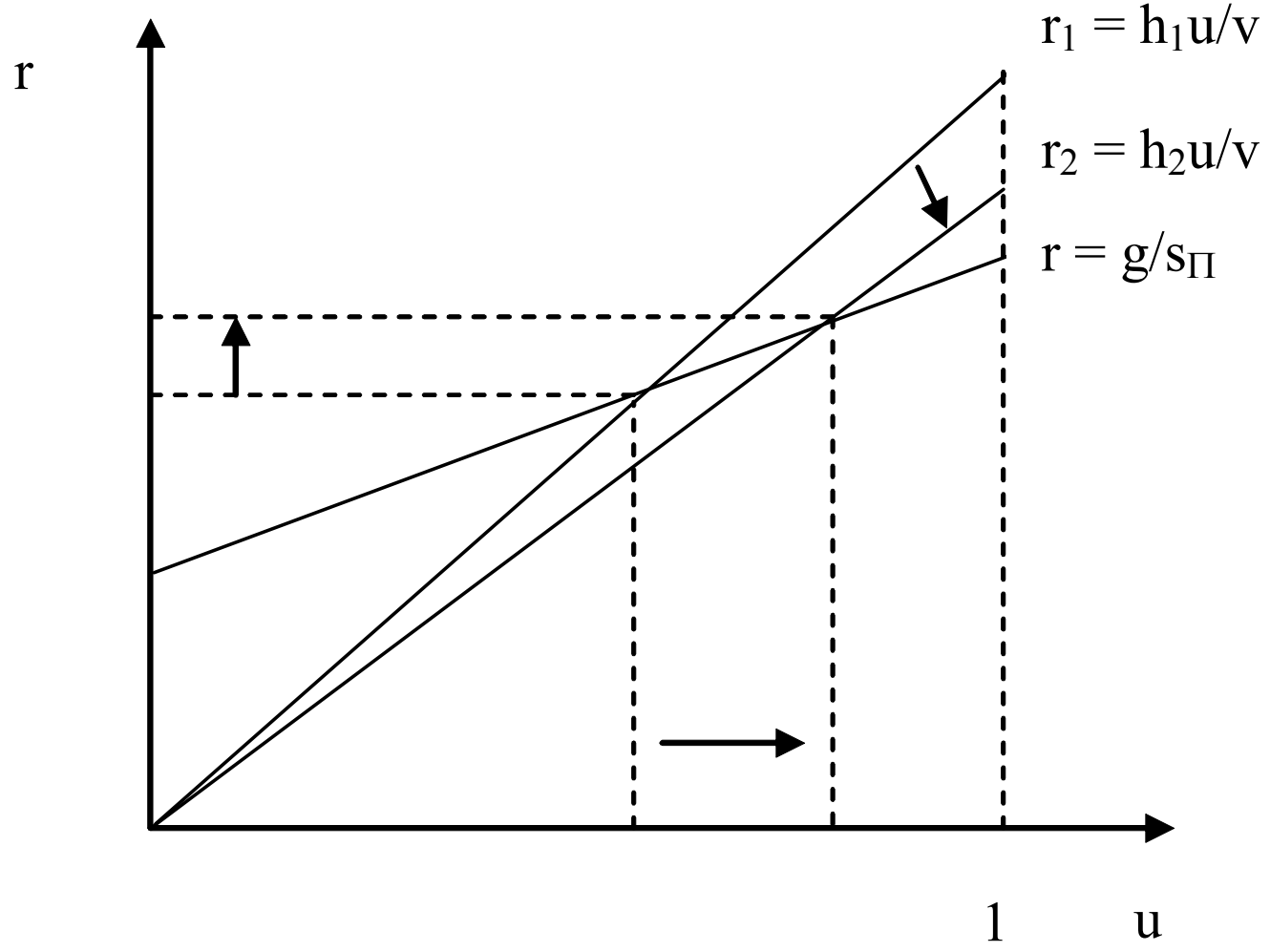


Figure 5: Reducing the profit share in the neo-Kaleckian distribution and growth model: the paradox of costs
a) Accumulation rate and capacity utilization



b) Profit rate and capacity utilization



6.4 The post- Kaleckian or Bhaduri/Marglin-Kurz model: different potential regimes

Bhaduri/Marglin (1990), Marglin/Bhaduri (1990, 1991), Kurz (1990, 1994)

„[A] higher profit share and a higher rate of capacity utilization can each be argued to induce higher profit expectations, the first because the unit return goes up, the second because the likelihood of selling extra units of output increases.“ (Marglin/Bhaduri 1990, p. 163)

(1) $$r = hu\frac{1}{v}$$

(4) $$h = 1 - \frac{1}{1+m}$$

(5) $$\sigma = s_{\Pi} hu\frac{1}{v}$$

(12) $$g = \frac{I}{K} = \alpha + \beta u + \tau h, \qquad \beta, \tau > 0$$

➔ investment decisions are determined by animal spirits, capacity utilisation and unit costs/unit profits/profit share

(7) $$g = \sigma$$

(8) $$\frac{\partial \sigma}{\partial u} - \frac{\partial g}{\partial u} > 0 \Rightarrow s_{\Pi}\frac{h}{v} - \beta > 0.$$

Figure 6: Increasing wage share/decreasing profit share in the post-Kaleckian model: wage-led demand and wage-led accumulation/growth

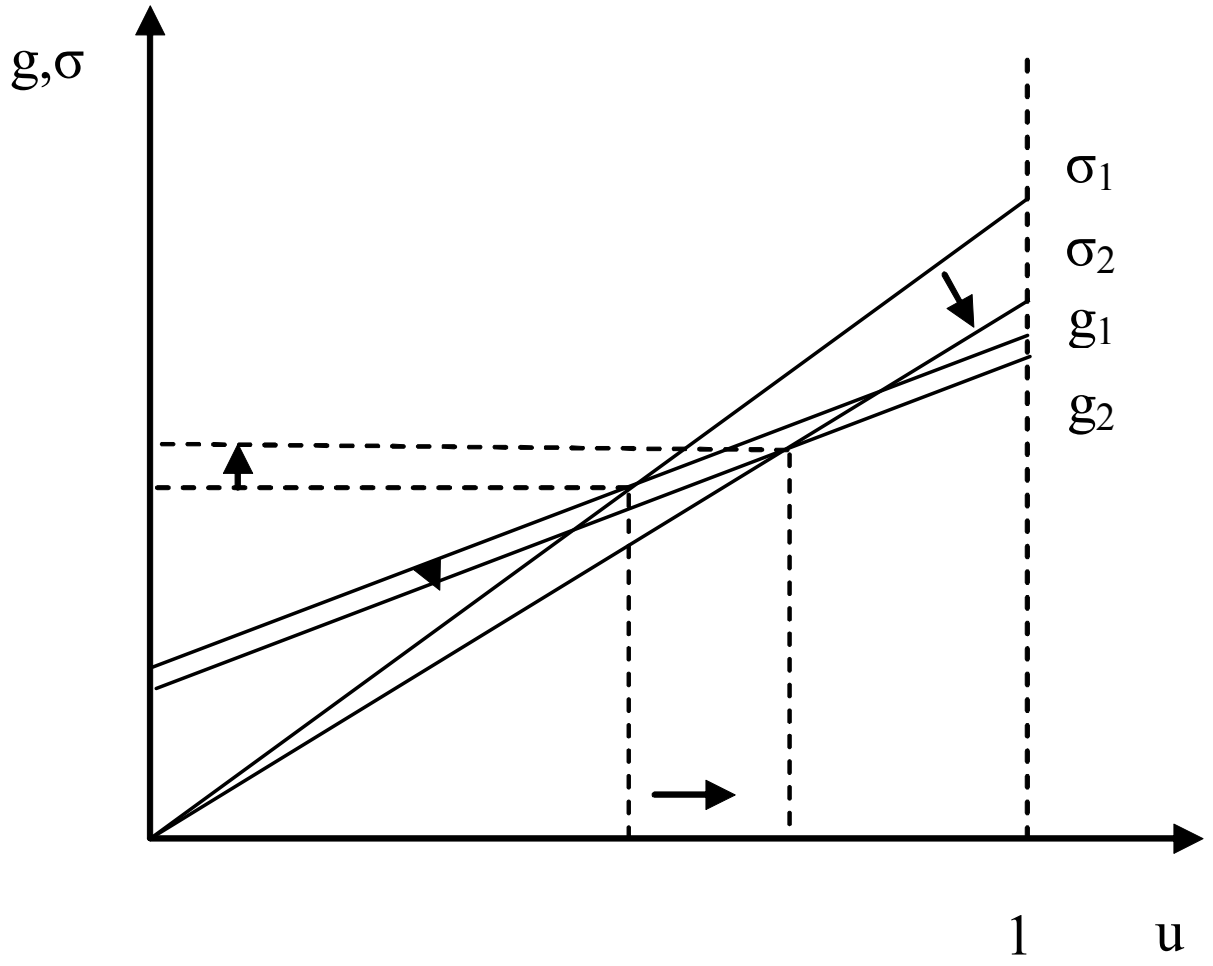


Figure 7: Increasing wage share/decreasing profit share in the post-Kaleckian model: wage-led demand and profit-led accumulation/growth

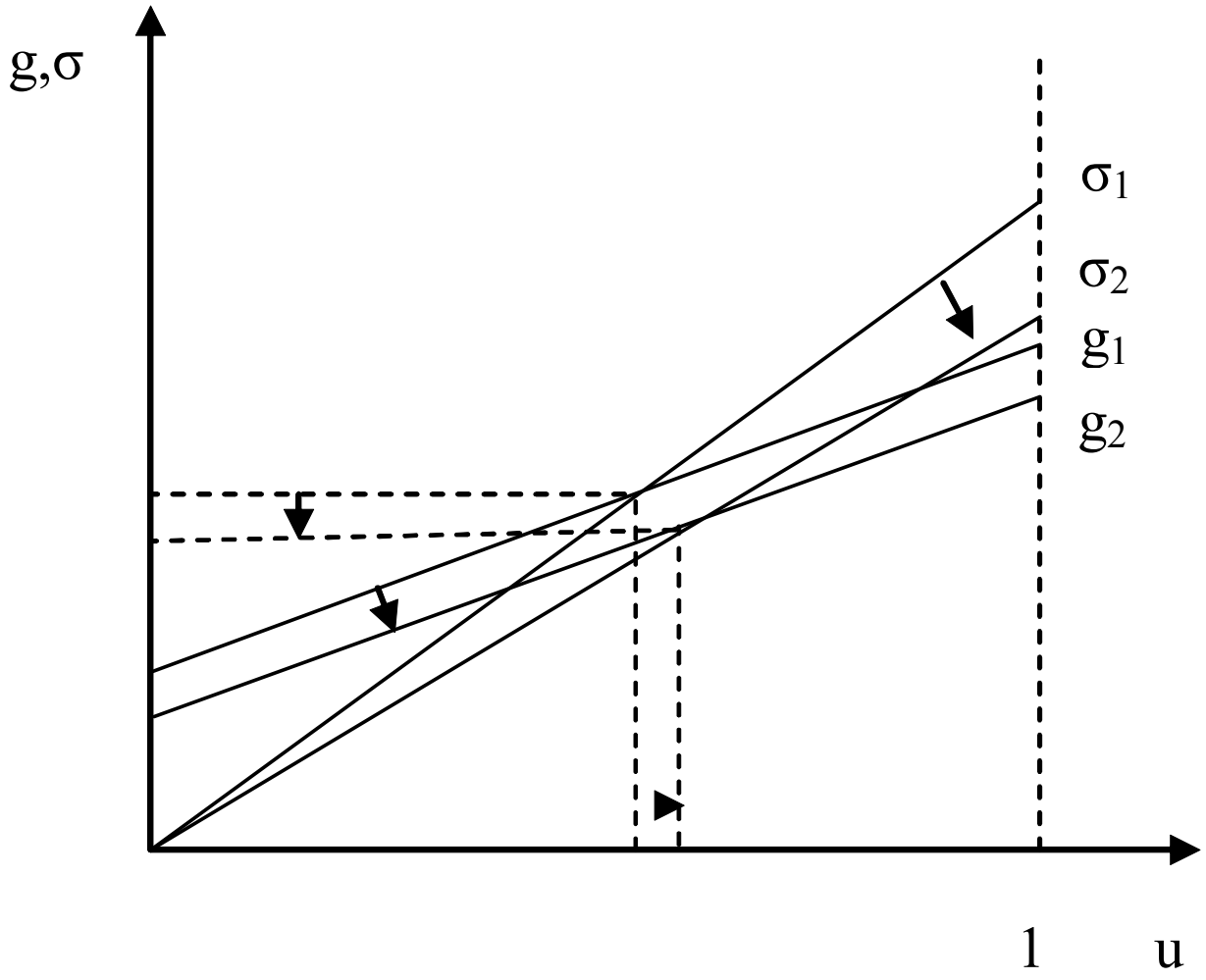


Figure 8: Increasing wage share/decreasing profit share in the post-Kaleckian model: profit-led demand and profit-led accumulation/growth

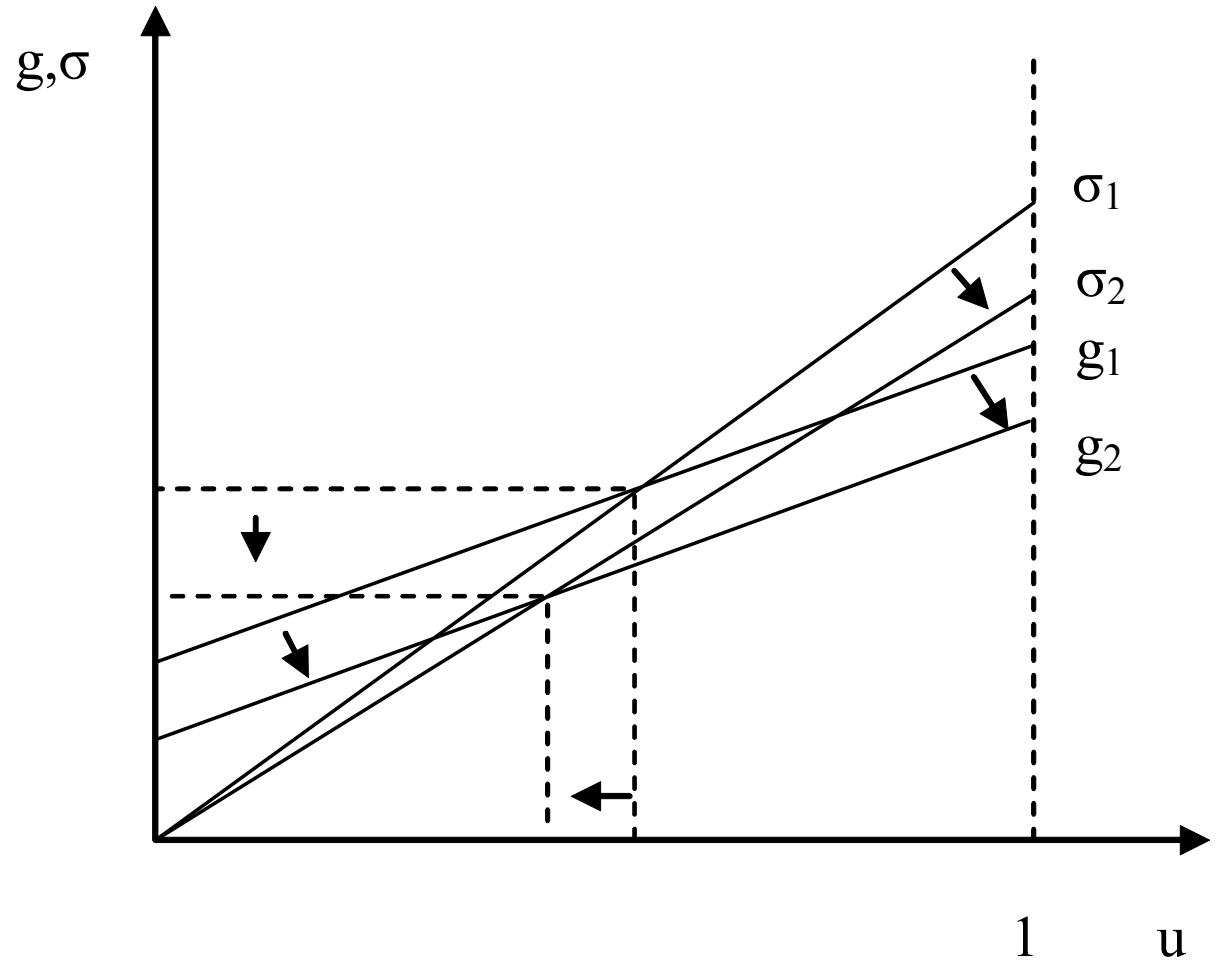


Table 1

Demand and accumulation/growth regimes in the post-Kaleckian model		
	$\frac{\partial u^*}{\partial h}$	$\frac{\partial g^*}{\partial h}$
Wage-led regime Wage-led (stagnationist) demand and wage-led accumulation/ growth: $\tau - s_\Pi \frac{u}{v} < \tau\left(s_\Pi \frac{h}{v\beta}\right) - s_\Pi \frac{u}{v} < 0$	–	–
Intermediate regime Wage-led (stagnationist) demand and profit-led accumulation/ growth: $\tau - s_\Pi \frac{u}{v} < 0 < \tau\left(s_\Pi \frac{h}{v\beta}\right) - s_\Pi \frac{u}{v}$	–	+
Profi-led regime Profit-led (exhilarationist) demand and profit-led accumulation/ growth: $0 < \tau - s_\Pi \frac{u}{v} < \tau\left(s_\Pi \frac{h}{v\beta}\right) - s_\Pi \frac{u}{v}$	+	+

(13b') $\frac{\partial u^*}{\partial h} > 0, \qquad \text{if :} \qquad \tau - s_\Pi \frac{u}{v} > 0,$

(14b') $\frac{\partial g^*}{\partial h} > 0, \qquad \text{if :} \qquad \tau\left(\frac{s_\Pi h}{v\beta}\right) - s_\Pi \frac{u}{v} > 0.$

„Particular *models* such as that of ‘cooperative capitalism’ enunciated by the left Keynesian social democrats, the Marxian model of ‘profit squeeze’ or even the conservative model relying on ‘supply-side’ stimulus through high profitability and a low real wage, fit into the more general Keynesian theoretical scheme. They become particular *variants* of the theoretical framework presented here.“ (Bhaduri/Marglin 1990, p. 388, emphasis in the original)

➔ demand and growth regimes may switch over time

➔ empirical research has to determine the prevailing demand and growth regime given by institutional characteristics etc. determining the main coefficients of the model.

7.3 Open economy issues in the post-Kaleckian model with saving out of wages

7.3.1 Prices, distribution and international competitiveness

(19) $$p = (1+m)(wa + p_f e\mu), \qquad m > 0 .$$

The relationship between unit material costs and unit labour costs (z) becomes:

(20) $$z = \frac{p_f e\mu}{wa} .$$

Therefore, the price equation can also be written as:

(21) $$p = (1+m)wa\left(1 + \frac{p_f e\mu}{wa}\right) = (1+m)wa(1+z) .$$

(22) $$h = \frac{\Pi}{\Pi + W} = \frac{(1+z)m}{1+(1+z)m} = \frac{1}{\frac{1}{(1+z)m} + 1} .$$

(23) $$e^r = \frac{ep_f}{p} .$$

(24) $$\hat{e}^r = \hat{e} + \hat{p}_f - \hat{p} .$$

(23a) $$\frac{\partial e^r}{\partial m} = \frac{-ep_f(wa + p_f e\mu)}{p^2} < 0.$$

(23b) $$\frac{\partial e^r}{\partial w} = \frac{-ep_f(1+m)a}{p^2} < 0.$$

(23c) $$\frac{\partial e^r}{\partial e} = \frac{p_f p - ep_f(1+m)p_f\mu}{p^2} = \frac{p - (1+m)\mu ep_f}{\frac{p^2}{p_f}} > 0.$$

(25) $$e^r = e^r(h), \qquad \frac{\partial e^r}{\partial h} > 0, \text{ if } dz > 0 \text{ and } dm = 0,$$

$$\frac{\partial e^r}{\partial h} < 0, \text{ if } dz = 0 \text{ and } dm > 0.$$

7.3.2 Distribution and growth

(26) $$S = pI + pX - ep_f M = I + NX\,.$$

(27) $$\sigma = g + b\,.$$

(28) $$\sigma = \frac{S_\Pi + S_W}{pK} = \frac{s_\Pi \Pi + s_W (Y - \Pi)}{pK} = \left[s_W + (s_\Pi - s_W)h\right]\frac{u}{v}, \qquad 0 \le s_W < s_\Pi \le 1.$$

(29) $$g = \alpha + \beta u + \tau h, \qquad \beta, \tau > 0\,.$$

(30) $$b = \psi e^r(h) - \phi u + \zeta u_f, \qquad \psi, \phi, \zeta > 0\,.$$

(31) $$\frac{\partial \sigma}{\partial u} - \frac{\partial g}{\partial u} - \frac{\partial b}{\partial u} > 0 \qquad \Rightarrow \qquad \left[s_W + (s_\Pi - s_W)h\right]\frac{1}{v} - \beta + \phi > 0.$$

$$(32)\qquad u^{*} = \frac{\alpha + \tau h + \psi e^{r}(h) + \zeta u_{f}}{\left[s_{W} + (s_{\Pi} - s_{W})h\right]\frac{1}{v} - \beta + \phi},$$

$$(33)\qquad g^{*} = \frac{(\alpha + \tau h)\left\{\left[s_{W} + (s_{\Pi} - s_{W})h\right]\frac{1}{v} + \phi\right\} + \beta\left[\psi e^{r}(h) + \zeta u_{f}\right]}{\left[s_{W} + (s_{\Pi} - s_{W})h\right]\frac{1}{v} - \beta + \phi},$$

$$(34)\qquad r^{*} = \frac{\frac{h}{v}\left[\alpha + \tau h + \psi e^{r}(h) + \zeta u_{f}\right]}{\left[s_{W} + (s_{\Pi} - s_{W})h\right]\frac{1}{v} - \beta + \phi},$$

$$(35)\qquad b^{*} = \frac{\left[\psi e^{r}(h) + \zeta u_{f}\right]\left\{\left[s_{W} + (s_{\Pi} - s_{W})h\right]\frac{1}{v} - \beta\right\} - \phi(\alpha + \tau h)}{\left[s_{W} + (s_{\Pi} - s_{W})h\right]\frac{1}{v} - \beta + \phi}.$$

(32c) $$\frac{\partial u^{*}}{\partial h} = \frac{\tau - (s_{\Pi} - s_{W})\frac{u}{v} + \psi \frac{\partial e^{r}}{\partial h}}{\left[s_{W} + (s_{\Pi} - s_{W})h\right]\frac{1}{v} - \beta + \phi},$$

(33c) $$\frac{\partial g^{*}}{\partial h} = \frac{\tau\left\{\left[s_{W} + (s_{\Pi} - s_{W})h\right]\frac{1}{v} + \phi\right\} - \beta(s_{\Pi} - s_{W})\frac{u}{v} + \beta\psi \frac{\partial e^{r}}{\partial h}}{\left[s_{W} + (s_{\Pi} - s_{W})h\right]\frac{1}{v} - \beta + \phi}.$$

(32c') $$\frac{\partial u^{*}}{\partial h} > 0, \qquad \text{if :} \qquad \tau - (s_{\Pi} - s_{W})\frac{u}{v} + \psi \frac{\partial e^{r}}{\partial h} > 0.$$

(33c') $$\frac{\partial g^{*}}{\partial h} > 0, \qquad \text{if :} \qquad \tau\left\{\frac{\left[s_{W} + (s_{\Pi} - s_{W})h\right]\frac{1}{v} + \phi}{\beta}\right\} - (s_{\Pi} - s_{W})\frac{u}{v} + \psi \frac{\partial e^{r}}{\partial h} > 0.$$

Table 2

Demand and accumulation/growth regimes in an open economy post-Kaleckian distribution and growth model with positive saving out of wages		
	$\frac{\partial u^*}{\partial h}$	$\frac{\partial g^*}{\partial h}$
Wage-led regime Wage-led (stagnationist) demand and wage-led accumulation/growth: $\tau-(s_\Pi-s_W)\frac{u}{v}+\psi\frac{\partial e^r}{\partial h}<\tau\left\{\frac{\left[s_W+(s_\Pi-s_W)h\right]\frac{1}{v}+\phi}{\beta}\right\}-(s_\Pi-s_W)\frac{u}{v}+\psi\frac{\partial e^r}{\partial h}<0$	–	–
Intermediate regime Wage-led (stagnationist) demand and profit-led accumulation/growth: $\tau-(s_\Pi-s_W)\frac{u}{v}+\psi\frac{\partial e^r}{\partial h}<0<\tau\left\{\frac{\left[s_W+(s_\Pi-s_W)h\right]\frac{1}{v}+\phi}{\beta}\right\}-(s_\Pi-s_W)\frac{u}{v}+\psi\frac{\partial e^r}{\partial h}$	–	+
Profi-led regime Profit-led (exhilarationist) demand and profit-led accumulation/growth: $0<\tau-(s_\Pi-s_W)\frac{u}{v}+\psi\frac{\partial e^r}{\partial h}<\tau\left\{\frac{\left[s_W+(s_\Pi-s_W)h\right]\frac{1}{v}+\phi}{\beta}\right\}-(s_\Pi-s_W)\frac{u}{v}+\psi\frac{\partial e^r}{\partial h}$	+	+

Implications for wage and exchange rate policies

- Aggressive wage policies will be successful in rasing the wage share, even with a constant mark-up.
- In a wage-led economy this will have expansionary effects on domestic demand. However, net exports are affected in the negative, so that the overall effects need not be positive.
- In a profit-led domestic economy, overall negative effects will emerge for sure.
- Nominal wage moderation or nominal depreciation will be expanionary in a domestic profit-led regime.
- But if the domestic regime is wage-led, the overall effects are uncertain: wage moderation or nominal depreciation will stimulate net exports, but the associated redistribution in favour of profits will have depressing effects on domestic demand in a wage-led economy. The overall effects may hence be negative.

➔ Generally: An overall wage-led regime becomes less likely in an open economy setting.

7.3.2 Empirical results

- Structural or single equation estimation approaches (Bowles/Boyer 1995, ….)
  - Advantage: Distribution effects on demand components can be identified
  - Disadvantage: Endogeneity? Feedback from accumulation to distribution?

- System or aggregative approach (VAR, SVAR) (Onaran/Stockhammer 2004, 2005, Barbosa-Filho/Taylor 2006, Nikiforos/Foley 2012)
  - Advantage: deals with simultaneity, feedbacks from growth on distribution
  - Disadvantage: channels remain vague, several studies focus on short-run, business cycle relationships (Blecker 2015)!

Single equation estimations

(36) $$Y^* = C(Y,h) + I(Y,h,Z_I) + NX^r(Y,h,Z_{NX}) + G^r .$$

Total differentiation of equation (36) yields:

(37) $$dY^* = \frac{\partial C}{\partial Y}dY + \frac{\partial C}{\partial h}dh + \frac{\partial I}{\partial Y}dI + \frac{\partial I}{\partial h}dh + \frac{\partial NX^r}{\partial Y}dY + \frac{\partial NX^r}{\partial h}dh .$$

Rearranging and collecting terms gives:

(38) $$\frac{dY^*}{dh} = \frac{\frac{\partial C}{\partial h} + \frac{\partial I}{\partial h} + \frac{\partial NX^r}{\partial h}}{1 - \frac{\partial C}{\partial Y} - \frac{\partial I}{\partial Y} - \frac{\partial NX^r}{\partial Y}} = \frac{1}{1-x}\left[\frac{\partial C}{\partial h} + \frac{\partial I}{\partial h} + \frac{\partial NX^r}{\partial h}\right],$$

with $x = \partial C/\partial Y + \partial I/\partial Y + \partial NX^r/\partial Y$.

If the feedbacks of changes in the level of aggregate demand and income on consumption, investment and net exports, and hence the multiplier [1/(1-x)], are ignored, equation (38) simplifies to:

(39) $$\frac{dY}{dh} = \frac{\partial C}{\partial h} + \frac{\partial I}{\partial h} + \frac{\partial NX^r}{\partial h}.$$

Dividing by Y gives the percentage change of aggregate demand caused by a one percentage point change in the profit share:

(40) $$\frac{\frac{dY}{Y}}{dh} = \frac{\frac{\partial C}{Y}}{\partial h} + \frac{\frac{\partial I}{Y}}{\partial h} + \frac{\frac{\partial NX^r}{Y}}{\partial h}.$$

$[(\partial C/Y)/\partial h]+[(\partial I/Y)/\partial h]>0$ ➔ domestic demand is profit led,

$[(\partial C/Y)/\partial h]+[(\partial I/Y)/\partial h]<0$ ➔ domestic demand is wage led.

$[(dY/Y)/dh]>0$, total demand is profit led,

$[(dY/Y)/dh]<0$ total demand is wage led.

Table 3

Demand regimes according to single equation estimation approaches of the Bhaduri/Marglin (1990) model																							
	Period	Austria		Germany		Nether-lands		France		Italy		Spain		Euro area		Switzer-land		UK		US		Japan	
		DD	TD	DD	TD	DD	TD	DD	TD	DD	TD	DD	TD	DD	TD	DD	TD	DD	TD	DD	TD	DD	TD
Bowles/ Boyer (1995)	1953/ 61 – 1987	...	...	W	P	...	...	W	P	...	...	...	...	...	...	...	...	W	W	W	W	W	P
Naastepad (2006)	1960 – 2000	...	...	...	...	W	W	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Naastepad/ Storm (2007)	1960 – 2000	...	...	W	W	W	W	W	W	W	W	W	W	...	...	...	...	W	W	P	P	P	P
Ederer/ Stockhammer (2007)	1960 – 2004	...	...	...	...	...	...	W	P	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stockhammer/ Ederer (2008)	1960 – 2005	W	P	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ederer (2008)	1960 – 2005	...	...	...	...	W	W	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hein/ Vogel (2008)	1960 – 2005	W	P	W	W	P	P	W	W	...	...	...	...	...	...	...	...	W	W	W	W	...	...
Hein/ Vogel (2009)	1960 – 2005	...	...	W	W	...	...	W	W	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stockhammer/ Onaran/ Ederer (2009)	1960 – 2005	...	...	...	...	...	...	...	...	...	...	...	...	W	W	...	...	...	...	...	...	...	...
Onaran/ Stockhammer/ Grafl (2011)	1962 – 2007	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W	W	...	...
Stockhammer/ Hein/ Grafl (2011)	1970 – 2005	...	...	W	W	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hartwig (2013)	1950 – 2010	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W	P	...	...	...	...	...	...
Onaran/ Galanis (2012)	1960s – 2007	...	...	W	W	...	...	W	W	W	W	...	...	W	W	...	...	W	W	W	W	W	W
		Argentina		Australia		Canada		China		India		Mexico		South Africa		South Korea		Turkey					
		DD	TD	DD	TD	DD	TD	DD	TD	DD	TD	DD	TD	DD	TD	DD	TD	DD	TD				
Onaran/ Galanis (2012)	Early 1970s/ 80s – 2007	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	W	W	W				

Notes: DD: domestic demand, TD: total demand, W: wage-led, P: profit-led

Hartwig (2014), panel, OECD countries, 1971-2011, DD: W, TD: W

Table 4

Effect of a one percentage point increase in the profit share on private excess demand and its components				
	$\frac{\partial C / Y}{\partial h}$	$\frac{\partial I / Y}{\partial h}$	$\frac{\partial NX^r / Y}{\partial h}$	$\frac{dY / Y}{dh}$
	A	**B**	**C**	**A + B + C = D**
Euro area-12	-0.439	0.299	0.057	-0.084
Germany	-0.501	0.376	0.096	-0.029
France	-0.305	0.088	0.198	-0.020
Italy	-0.356	0.130	0.126	-0.100
United Kingdom	-0.303	0.120	0.158	-0.025
United States	-0.426	0.000	0.037	-0.388
Japan	-0.353	0.284	0.055	-0.014
Canada	-0.326	0.182	0.266	0.122
Australia	-0.256	0.174	0.272	0.190
Turkey	-0.491	0.000	0.283	-0.208
Mexico	-0.438	0.153	0.381	0.096
Korea	-0.422	0.000	0.359	-0.063
Argentina	-0.153	0.015	0.192	0.054
China	-0.412	0.000	1.986	1.574
India	-0.291	0.000	0.310	0.018
South Africa	-0.145	0.129	0.506	0.490

Source: Onaran/Galanis (2012, Table 11)

Table 5

Summary of the multiplier effects at the national and global level			
	The effect of a 1 percentage-point increase in the profit share in only one country on private excess demand	The effect of a 1 percentage-point increase in the profit share in only one country on percentage change in equilibrium aggregate demand	The effect of a simultaneous percentage-point increase on percentage change in equilibrium aggregate demand
	D	**E**	**F**
Euro area-12	-0.084	-0.133	-0.245
United Kingdom	-0.025	-0.030	-0.214
United States	-0.388	-0.808	-0.921
Japan	-0.014	-0.034	-0.179
Canada	0.122	0.148	-0.269
Australia	0.190	0.268	0.172
Turkey	-0.208	-0.459	-0.717
Mexico	0.096	0.106	-0.111
Korea	-0.063	-0.115	-0.864
Argentina	0.054	0.075	-0.103
China	1.574	1.932	1.115
India	0.018	0.040	-0.027
South Africa	0.490	0.729	0.390

Source: Onaran/Galanis (2012, Table 13)

7.5 Conclusions

- Pursuing a strategy of profit-led growth via the net export channel by relying on a kind of ‘beggar thy neighbour’ policy, may be a successful way for small open economies (f.e. Austria, Netherlands) in isolation.
- However, it cannot work for medium-sized and large open economies because it will reduce aggregate demand in these economies, and it will also harm the countries‘ trading partners (see: Germany in the EMU!) and, thus finally, the world economy as a whole. This will feed back on net exports of profit-led economies.
- For medium-sized and large open economies, as Germany, economic policy strategies have to take into account wage-led nature of aggregate demand. Same is true for the world as a whole
- Effects of re-distribution on aggregated demand are small
  ➔ re-distribution policies should be embedded into expansionary monetary and fiscal policies (Global Keynesian New Deal)

Structure

- The post-Keynesian (and the classical and Marxian) vs. the neoclassical approaches towards distribution and growth
- The Kaleckian distribution and growth models: theories and empirical results
- **Financialisation, distribution and growth** (Hein 2014, Chapter 10)
- Current developments and debates

Macroeconomics of financialisation and crisis (Hein 2012):

1. Re-distribution of income in favour of **shareholders (rentiers) vs. firms, firms vs. workers, managers vs. workers** (distribution channel)
2. Rising shareholder power, dividend payments and share buybacks affect **objectives and constraints of firms and hence real investment** in the negative (preference channel and internal means of finance channel) ➔ risk: overindebtedness of firm sector, low productivity growth
3. Financial asset price booms, house price booms, and financial market liberalisation allow for **wealth-based and debt-financed consumption boom** ➔ compensating for the contractive effects of financialisation ➔ risk: financial fragility and over-indebtedness of private households
4. Deregulation and liberalisation of international capital markets and capital accounts, has created the potential to run and finance persistent current account deficits, and for counterpart **mercantilist export-led strategies** as alternative to generate demand for some countries ➔ risk: global imbalances and over-indebtedness of current account deficit countries

Table 1: Labour income share as percentage of GDP at current factor costs, average values over the trade cycle, early 1980s – 2008

	1. Early 1980s – early 1990s	2. Early 1990s – early 2000s	3. Early 2000s – 2008	Change (3. – 1.), percentage points
Austria	75.66	70.74	65.20	-10.46
Belgium	70.63	70.74	69.16	-1.47
Germany	67.11	66.04	63.34	-3.77
Netherlands	68.74	67.21	65.57	-3.17
France	71.44	66.88	65.91	-5.53
Greece[a)]	67.26	62.00	60.60	-6.66
Ireland	70.34	60.90	55.72	-14.61
Italy	68.74	67.21	65.57	-3.17
Portugal	65.73	70.60	71.10	5.37
Spain	68.32	66.13	62.41	-5.91
Sweden	71.65	67.04	69.16	-2.48
UK	72.79	71.99	70.67	-2.12
US	68.20	67.12	65.79	-2.41
Japan[a)]	72.38	70.47	65.75	-6.64

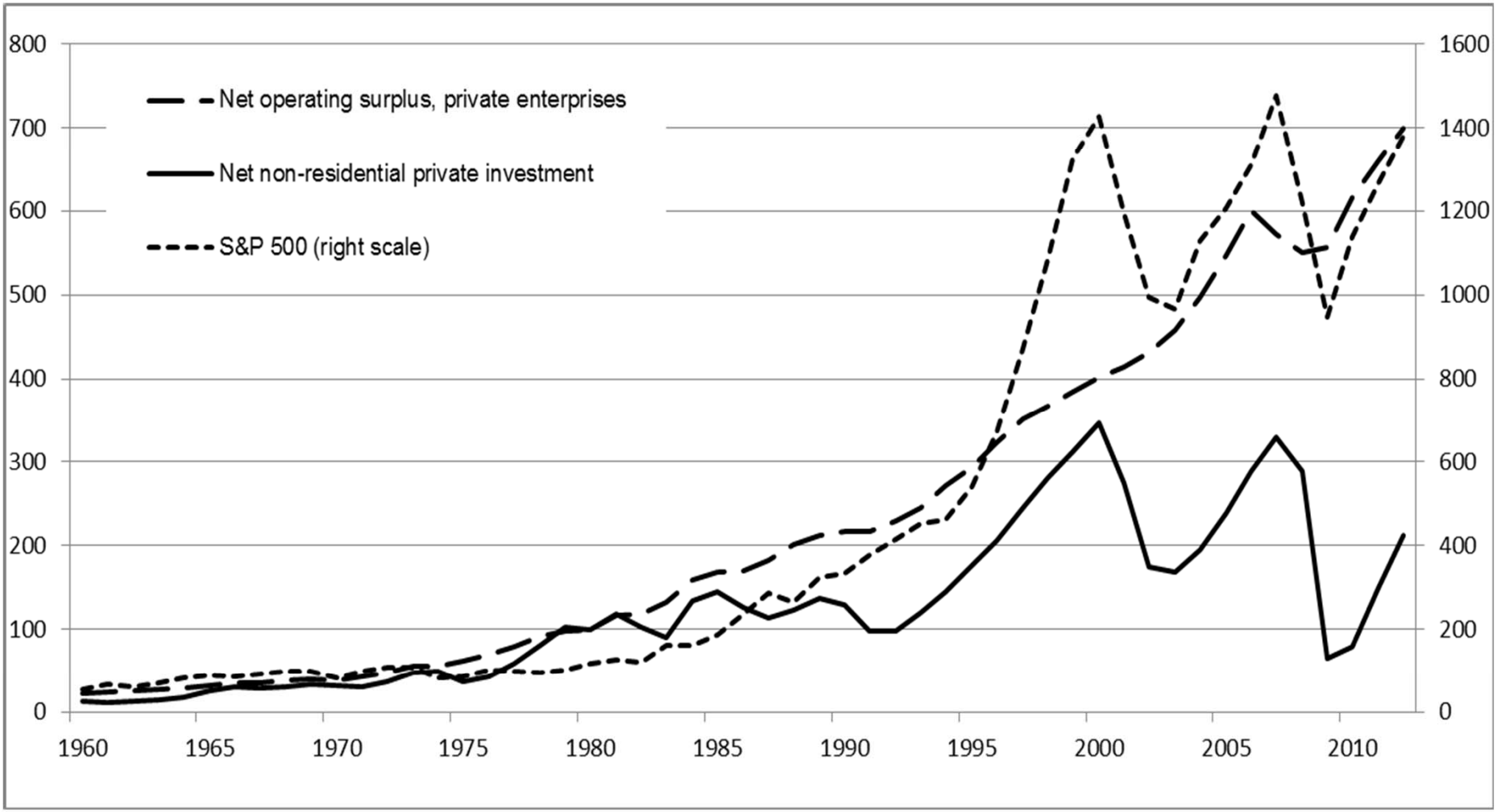
Notes: The labour income share is given by the compensation per employee divided by GDP at factor costs per person employed. The beginning of a trade cycle is given by a local minimum of annual real GDP growth in the respective country. Shaded grey means an increase relative to the value in the previous cycle or in the first cycle.

[a)] adjusted to fit in 3 cycle pattern

Source: European Commission (2010), author's calculations

Figure 1

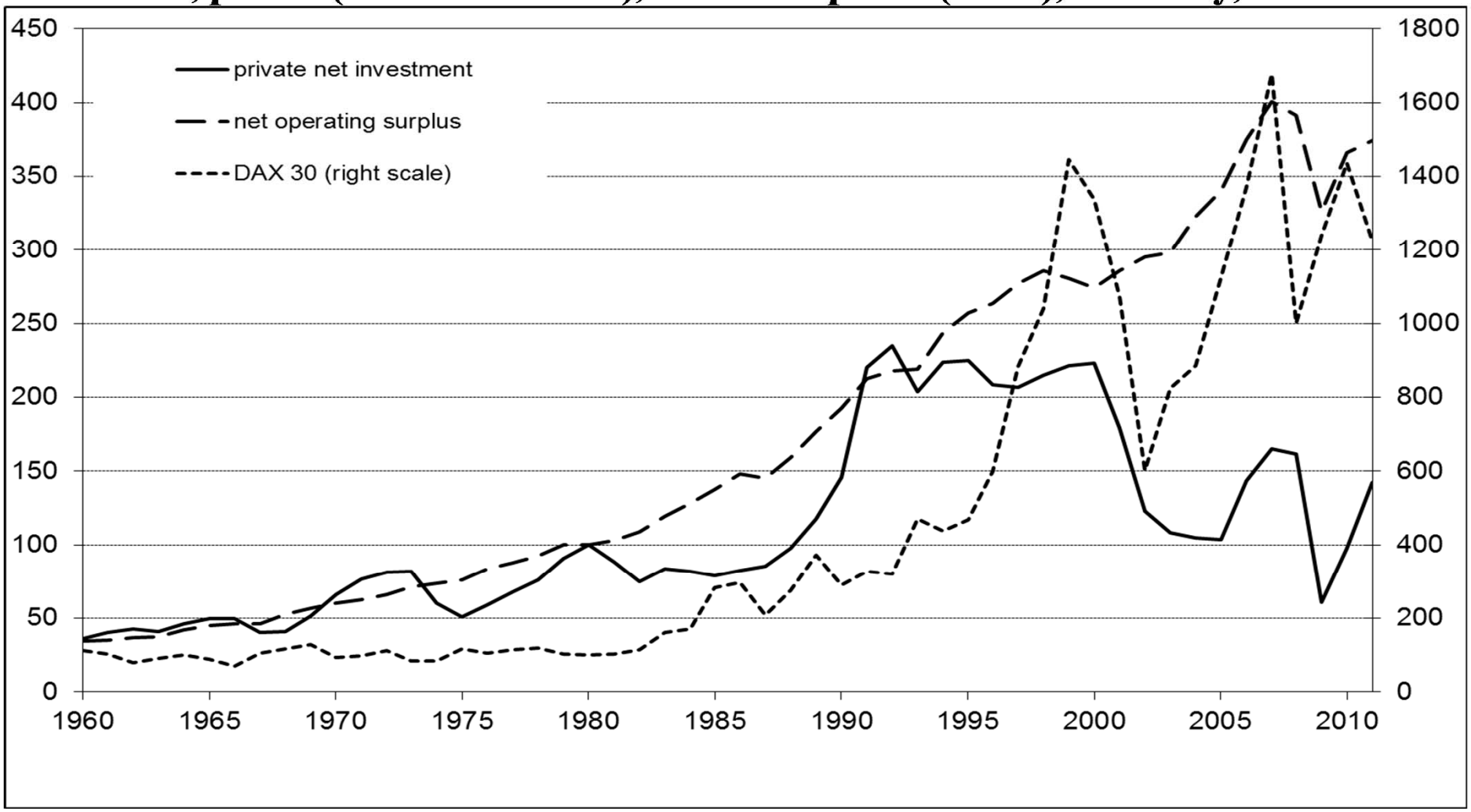
Investment, profits (index 1980 = 100), and share prices (index), USA, 1960-2012



Data sources: Bureau of Economic Analysis (2013), Federal Reserve Bank of St. Louis (2013), authors' calculations.

Source: Hein/Dodig (2014, p.3)

Figure 2
Investment, profits (index 1980 = 100), and share prices (index), Germany, 1960 – 2012



Data sources: European Commission (2012), Börse.de (2012), authors' calculations.
Source: Hein/Dodig (2014, p.3)

Gross profits net of taxes =

Gross investment

+ Capitalists' consumption

+ Government budget deficit

+ Export surplus

– Workers' saving

(Kalecki 1971, p. 82)

Macroeconomics of financialisation and crisis (Hein 2012):

1. Re-distribution of income in favour of **shareholders (rentiers) vs. firms, firms vs. workers, managers vs. workers** (distribution channel)
2. Rising shareholder power, dividend payments and share buybacks affect **objectives and constraints of firms and hence real investment** in the negative (preference channel and internal means of finance channel) ➔ risk: overindebtedness of firm sector, low productivity growth
3. Financial asset price booms, house price booms, and financial market liberalisation allow for **wealth-based and debt-financed consumption boom** ➔ compensating for the contractive effects of financialisation ➔ risk: financial fragility and over-indebtedness of private households
4. Deregulation and liberalisation of international capital markets and capital accounts, has created the potential to run and finance persistent current account deficits, and for counterpart **mercantilist export-led strategies** as alternative to generate demand for some countries ➔ risk: global imbalances and over-indebtedness of current account deficit countries

Barba/Pivetti (2009), Cynnamon/Fazzari (2008; 2013), Guttmann/Plihon (2010), Palley (2012a, Chapter 3), van Treeck/Sturn (2012; 2013) and Zezza (2008): case studies on the importance of wealth-based and debt-financed consumption focusing on the US.

➔ imitation and conspicuous consumption effects in the face of increasing inequality of household incomes ('keeping up with the Joneses') building on the relative income hypothesis (Duesenberry 1949),

➔ financial innovations, in particular, securitisation of credit card and mortgage debt.

"Household debt thus appears to be capable of providing the solution to the fundamental contradiction between the necessity of high and rising levels of consumption, for the growth of the system's actual output, and a framework of antagonistic conditions of distribution, which keeps within limits the real income of the vast majority of the society." (Barba/Pivetti 2009, p. 127)

Kim (2013): new credit boosts demand, but stock of debt is contractionary (US, 1982-2009)

4.3 A neo-Kaleckian model of financialisation, redistribution, household debt and growth

Table 8

Balance sheet matrix				
	Workers	Rentiers	Firms	Σ
Loans	$-B_W$	$+B_W$		0
Equities		$+E_R$	$-E_R$	0
Capital			pK	K
Σ	$-B_W$	$+B_W+E_R$	0	$pK = E_R$

Table 9

Transaction flow matrix					
	Workers	Rentiers	Firms' current	Firms' capital	Σ
Consumption	$-pC_W$	$-pC_R$	$+pC_W + pC_R$		0
Investment			$+pI$	$-pI$	0
Wages	$+W$		$-W$		0
Retained profits					0
Distributed profits (dividends)		$+\Pi_R$	$-\Pi_R$		0
Change in equity		$-dE_R$		$+dE_R$	0
Interest on loans	$-iB_W$	$+iB_W$			0
Change in loans	$+dB_W$	$-dB_W$			0
Σ	0	0	0	0	0

(21) $h = h(m)\,.$

(22) $\Pi = \Pi_R = hpY\,.$

(23) $\delta = \dfrac{\Pi_R}{E_R} = \dfrac{\Pi}{pK} = \dfrac{\Pi}{pY}\dfrac{Y}{Y^p}\dfrac{Y^p}{K} = hu\dfrac{1}{v} = r\,.$

(24) $pC_W = W + dB_W - iB_W = (1-h)Y + dB_W - iB_W\,.$

(25) $pC_R = c_R(hpY + iB_W), \qquad 0 < c_R < 1\,.$

(26) $dB_W = \pi S_R = \pi s_R(hpY + iB_W),$

(27) $dE_R = (1-\pi)S_R = (1-\pi)s_R(hpY + iB_W)\,.$

Introducing workers' debt into the neo-Kaleckian distribution and growth model, we start by normalizing equations (24)-(26) by the capital stock:

$$(28) \qquad \frac{pC_W}{pK} = (1-h)\frac{u}{v} + \hat{B}_W\lambda_W - i\lambda_W ,$$

$$(29) \qquad \frac{pC_R}{pK} = c_R\left(h\frac{u}{v} + i\lambda_W\right),$$

$$(30) \qquad \frac{dB_W}{pK} = \hat{B}_W\lambda_W = \pi s_R\left(h\frac{u}{v} + i\lambda_W\right).$$

The workers' debt-capital ratio ($\lambda_W = B_W / pK$) is treated as a constant in the short-run analysis but will be endogenously determined in the long run of the model.

(31) $$g = \frac{pI}{pK} = \alpha + \beta u, \qquad \alpha, \beta > 0\,,$$

(32) $$\sigma = \frac{S}{pK} = s_R\left(h\frac{u}{v} + i\lambda_W\right), \qquad 0 < s_R \leq 1\,,$$

(33) $$g = (1-\pi)\sigma\,,$$

(34) $$(1-\pi)s_R\frac{h}{v} - \beta > 0\,.$$

From equations (31) – (33) and (23):

(35) $$u^* = \frac{\alpha - (1-\pi)s_R i\lambda_W}{(1-\pi)s_R\dfrac{h}{v} - \beta}$$

(36) $$g^* = \frac{(1-\pi)s_R\left(\alpha\dfrac{h}{v} - \beta i\lambda_W\right)}{(1-\pi)s_R\dfrac{h}{v} - \beta}\,.$$

(37) $$r^* = \frac{\dfrac{h}{v}\left[\alpha - (1-\pi)s_R i\lambda_W\right]}{(1-\pi)s_R\dfrac{h}{v} - \beta}$$

Paradox of costs

$$(35b)\qquad \frac{\partial u^{*}}{\partial h} = \frac{-(1-\pi)s_R \dfrac{u}{v}}{(1-\pi)s_R \dfrac{h}{v} - \beta} < 0,$$

$$(36b)\qquad \frac{\partial g^{*}}{\partial h} = \frac{-\beta(1-\pi)s_R \dfrac{u}{v}}{(1-\pi)s_R \dfrac{h}{v} - \beta} < 0,$$

$$(37b)\qquad \frac{\partial r^{*}}{\partial h} = \frac{-\beta \dfrac{u}{v}}{(1-\pi)s_R \dfrac{h}{v} - \beta} < 0.$$

Increasing share of rentiers' saving lent to workers is expansionary in the short run

$$(35c)\qquad \frac{\partial u^*}{\partial \pi} = \frac{s_R\left(i\lambda_W + h\frac{u}{v}\right)}{(1-\pi)s_R\frac{h}{v} - \beta} > 0,$$

$$(36c)\qquad \frac{\partial g^*}{\partial \pi} = \frac{\beta s_R\left(i\lambda_W + h\frac{u}{v}\right)}{(1-\pi)s_R\frac{h}{v} - \beta} > 0,$$

$$(37c)\qquad \frac{\partial r^*}{\partial \pi} = \frac{\frac{h}{v}s_R\left(i\lambda_W + h\frac{u}{v}\right)}{(1-\pi)s_R\frac{h}{v} - \beta} > 0.$$

Long-run equilibrium and stability

(38) $$\hat{\lambda}_W = \hat{B}_W - \hat{K} = \hat{B}_W - g .$$

In long-run equilibrium $\hat{\lambda}_W = 0$ is required:

(39) $$\hat{B}_W = g .$$

From equations (30) and (35) it is obtained:

(40) $$\hat{B}_W = \frac{\pi s_R \left(\alpha \frac{h}{v} - \beta i \lambda_W \right)}{\lambda_W \left[(1-\pi) s_R \frac{h}{v} - \beta \right]} .$$

Inserting equation (36) and equation (40) into equation (39) yields two long-run equilibrium values for the workers' debt-capital ratio:

(41) $$\lambda_{W1}^{**} = \frac{\pi}{1-\pi}$$

and

(42) $$\lambda_{W2}^{**} = \frac{\alpha h}{\beta i v} .$$

Stability of the long-run equilibrium workers' debt-capital ratio requires again that $\partial\hat{\lambda}_W / \partial\lambda_W < 0$. Starting from equation (38), inserting equations (36) and (40) yields:

$$(43) \qquad \hat{\lambda}_W = \frac{s_R\left[\alpha\pi\frac{h}{v}\lambda_W^{-1} + \beta(1-\pi)i\lambda_W - \alpha(1-\pi)\frac{h}{v} - \beta\pi i\right]}{(1-\pi)s_R\frac{h}{v} - \beta}.$$

From this it is obtained:

$$(43a) \qquad \frac{\partial\hat{\lambda}_W}{\partial\lambda_W} = \frac{s_R\left[\beta(1-\pi)i - \alpha\pi\frac{h}{v}\lambda_W^{-2}\right]}{(1-\pi)s_R\frac{h}{v} - \beta}.$$

Stability:

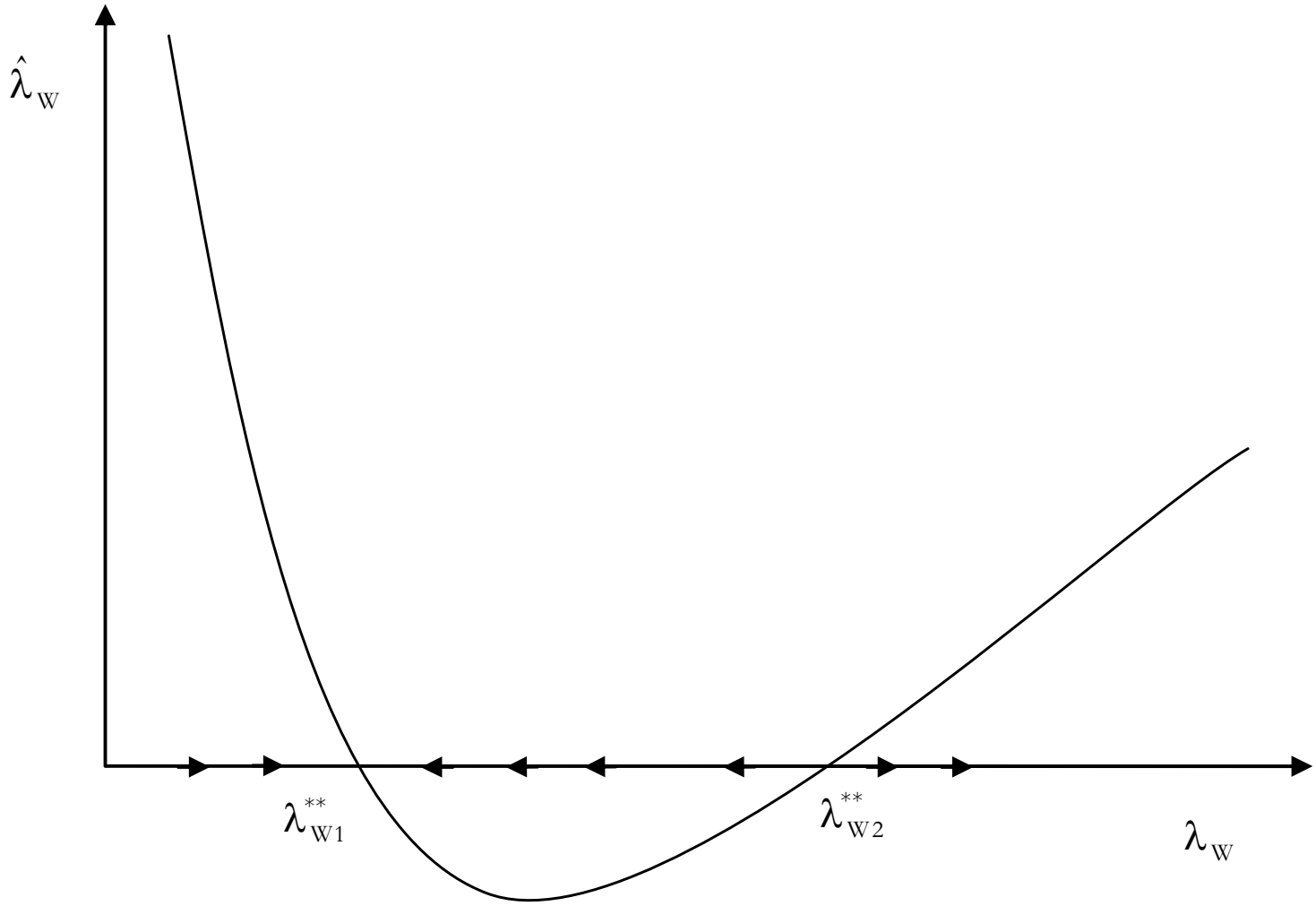
$$(43a') \qquad \frac{\partial\hat{\lambda}_W}{\partial\lambda_W} < 0 \quad \text{if}: \ \lambda_W < \sqrt{\frac{\pi}{(1-\pi)}\frac{\alpha h}{\beta i v}} \qquad \Rightarrow \qquad \lambda_W < \sqrt{\lambda_{W1}^{**}\lambda_{W2}^{**}}.$$

Instability:

$$(43a'') \qquad \frac{\partial\hat{\lambda}_W}{\partial\lambda_W} > 0 \quad \text{if}: \ \lambda_W > \sqrt{\frac{\pi}{(1-\pi)}\frac{\alpha h}{\beta i v}} \qquad \Rightarrow \qquad \lambda_W > \sqrt{\lambda_{W1}^{**}\lambda_{W2}^{**}}.$$

Figure 9

Long-run equilibrium values for workers' debt-capital ratio and their stability with positive stable goods market equilibrium at λ_{W1}^{**}



Effecct of a change in the proportion of rentiers' saving lent to workers depend on the rate of profit, which is endogenously determined via the endogenous rate of capacity utilization and which is equal to the dividend rate in our model, and on the exogenous rate of interest:

$$\text{(44c)} \qquad \frac{\partial u_1^{**}}{\partial \pi} = \frac{s_R (r - i)}{(1-\pi) s_R \frac{h}{v} - \beta} = \frac{s_R (\delta - i)}{(1-\pi) s_R \frac{h}{v} - \beta},$$

$$\text{(45c)} \qquad \frac{\partial g_1^{**}}{\partial \pi} = \frac{\beta s_R (r - i)}{(1-\pi) s_R \frac{h}{v} - \beta} = \frac{\beta s_R (\delta - i)}{(1-\pi) s_R \frac{h}{v} - \beta},$$

$$\text{(46c)} \qquad \frac{\partial r_1^{**}}{\partial \pi} = \frac{\frac{h}{v} s_R (r - i)}{(1-\pi) s_R \frac{h}{v} - \beta} = \frac{\frac{h}{v} s_R (\delta - i)}{(1-\pi) s_R \frac{h}{v} - \beta}.$$

Table 10

Short-run and long-run effects of changes in exogenous model variables, assuming $\alpha > \pi s_R i$						
	α	**h**	**π**	**i**	**s_R**	**λ_W**
Short run						
u^* (stable)	+	– (wage led)	+ (debt led)	–	–	–
g^* (stable)	+	– (wage led)	+ (debt led)	–	–	–
r^* (stable)	+	– (wage led)	+ (debt led)	–	–	–
Long run						
λ_{W1}^{**} (stable)	0	0	+	0	0	…
λ_{W2}^{**} (unstable)	+	+	0	–	0	…
u_1^{**} (stable)	+	– (wage led)	+ for $r = \delta > i$ (debt led) – for $r = \delta < i$ (debt burdened)	–	–	…
g_1^{**} (stable)	+	– (wage led)	+ for $r = \delta > i$ (debt led) – for $r = \delta < i$ (debt burdened)	–	–	…
r_1^{**} (stable)	+	– (wage led)	+ for $r = \delta > i$ (debt led) – for $r = \delta < i$ (debt burdened)	–	–	…

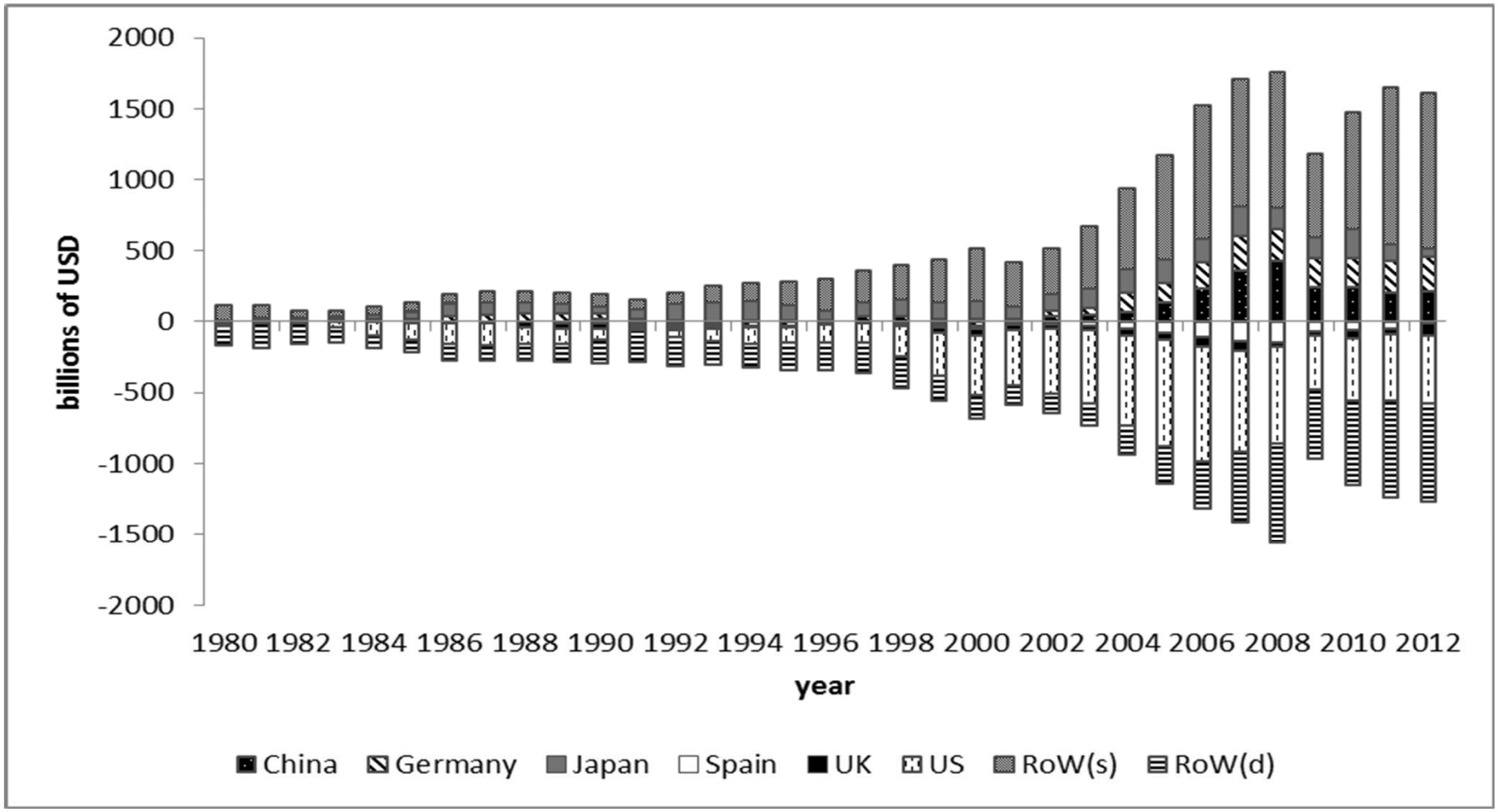
- Lending to workers can compensate for depressing effects of redistribution and lower animal spirits on aggregate demand in the short run
- With high animal spirits, and low rentiers‘ propensity to save, low share of saving lent to workers, low interest rate, stable regimes may emerge in the long run:
  if r > i, stable long-run debt-led regimes
  if r < i, stable long-run debt-burdened regime
- With low animal spirits, high rentiers‘ propensity to save, high share of saving lent to workers, high interest rate, unstable regimes with exploding workers‘ debt-capital ratios emerge

Macroeconomics of financialisation and crisis (Hein 2012):

1. Re-distribution of income in favour of **shareholders (rentiers) vs. firms, firms vs. workers, managers vs. workers** (distribution channel)
2. Rising shareholder power, dividend payments and share buybacks affect **objectives and constraints of firms and hence real investment** in the negative (preference channel and internal means of finance channel) ➔ risk: overindebtedness of firm sector, low productivity growth
3. Financial asset price booms, house price booms, and financial market liberalisation allow for **wealth-based and debt-financed consumption boom** ➔ compensating for the contractive effects of financialisation ➔ risk: financial fragility and over-indebtedness of private households
4. Deregulation and liberalisation of international capital markets and capital accounts, has created the potential to run and finance persistent current account deficits, and for counterpart **mercantilist export-led strategies** as alternative to generate demand for some countries ➔ risk: global imbalances and over-indebtedness of current account deficit countries

Figure 10

Current account balances, 1980-2012, in billions of US dollars



Source: IMF (2013), own calculations

5.2 A neo-Kaleckian model of financialisation, re-distribution, current account imbalances and growth

The basic model

Financialisation is assumed to have the following effects:

- first, a redistribution of income at the expense of the wage share in favour of the gross profit share, as outlined in Section 2;
- second, decreasing animal spirits of firms with respect to investment in capital stock (preference channel), as outlined in Section 3 – for the sake of simplicity we do not explicitly consider the effect of increasing dividend payments and share buybacks (internal means of finance channel) here;
- and third, rising demand in the foreign economy which is assumed to follow a debt-led consumption boom type of development, that is rising consumption demand based on increasing (workers') household debt, as discussed in Section 4.

(51) $$S = pI + pX - ep_f M = pI + NX \ ,$$

(52) $$\sigma = g + b \ .$$

(53) $$\sigma = \frac{S_{\Pi}}{pK} = \frac{s_{\Pi}\Pi}{pK} = s_{\Pi} h \frac{u}{v}, \qquad 0 < s_{\Pi} \leq 1.$$

(54) $$g = \alpha + \beta u, \qquad \alpha, \beta > 0 \ .$$

(55) $$b = \psi e^{r}(h) - \phi u + \zeta u_f, \qquad \psi, \phi, \zeta > 0 \ .$$

(56) $$\frac{\partial \sigma}{\partial u} - \frac{\partial g}{\partial u} - \frac{\partial b}{\partial u} > 0 \qquad \Rightarrow \qquad s_{\Pi} \frac{h}{v} - \beta + \phi > 0.$$

$$u^{*} = \frac{\alpha + \psi e^{r}(h) + \zeta u_{f}}{s_{\Pi}\frac{h}{v} - \beta + \phi}, \tag{57}$$

$$g^{*} = \frac{\alpha\left(s_{\Pi}\frac{h}{v} + \phi\right) + \beta\left[\psi e^{r}(h) + \zeta u_{f}\right]}{s_{\Pi}\frac{h}{v} - \beta + \phi}. \tag{58}$$

$$b^{*} = \frac{\left(s_{\Pi}\frac{h}{v} - \beta\right)\left[\psi e^{r}(h) + \zeta u_{f}\right] - \phi\alpha}{s_{\Pi}\frac{h}{v} - \beta + \phi}. \tag{59}$$

The effects of financialisation in an export-led mercantilist economy

1. Declining animal spirits of firms with respect to investment in capital stock: $\partial\alpha/\partial\Omega < 0$.

2. Redistribution at the expense of the wage share: $\partial h/\partial\Omega > 0$.

3. Acceleration of foreign demand due to a debt-led consumption boom type of development in the foreign economy: $\partial u_f/\partial\Omega > 0$.

$$\frac{\partial u^*}{\partial\Omega} = \frac{\frac{\partial\alpha}{\partial\Omega} + \frac{\partial h}{\partial\Omega}\left(\psi\frac{\partial e^r}{\partial h} - s_\Pi\frac{u}{v}\right) + \frac{\partial u_f}{\partial\Omega}\zeta}{s_\Pi\frac{h}{v} - \beta + \phi}, \tag{57b}$$

$$\frac{\partial g^*}{\partial\Omega} = \frac{\frac{\partial\alpha}{\partial\Omega}\left(s_\Pi\frac{h}{v} + \phi\right) + \beta\left[\frac{\partial h}{\partial\Omega}\left(\psi\frac{\partial e^r}{\partial h} - s_\Pi\frac{u}{v}\right) + \frac{\partial u_f}{\partial\Omega}\zeta\right]}{s_\Pi\frac{h}{v} - \beta + \phi}, \tag{58b}$$

$$\frac{\partial b^*}{\partial\Omega} = \frac{-\frac{\partial\alpha}{\partial\Omega}\phi + \frac{\partial h}{\partial\Omega}\left[\left(s_\Pi\frac{h}{v} - \beta\right)\psi\frac{\partial e^r}{\partial h} + s_\Pi\frac{u}{v}\phi\right] + \frac{\partial u_f}{\partial\Omega}\zeta\left(s_\Pi\frac{h}{v} - \beta\right)}{s_\Pi\frac{h}{v} - \beta + \phi}. \tag{59b}$$

A profits without investment regime driven by trade and current account surpluses requires: $\partial u^* / \partial \Omega > 0$, $\partial g^* / \partial \Omega < 0$, $\partial b^* / \partial \Omega > 0$. Assuming the stability condition for the goods market equilibrium to hold, we therefore have:

(57b') $$\frac{\partial u^*}{\partial \Omega} > 0, \text{if}: \quad \frac{\partial \alpha}{\partial \Omega} + \frac{\partial h}{\partial \Omega}\left(\psi \frac{\partial e^r}{\partial h} - s_\Pi \frac{u}{v}\right) + \frac{\partial u_f}{\partial \Omega}\zeta > 0,$$

(58b') $$\frac{\partial g^*}{\partial \Omega} < 0, \text{if}: \quad \frac{\partial \alpha}{\partial \Omega}\left(s_\Pi \frac{h}{v} + \phi\right) + \beta\left[\frac{\partial h}{\partial \Omega}\left(\psi \frac{\partial e^r}{\partial h} - s_\Pi \frac{u}{v}\right) + \frac{\partial u_f}{\partial \Omega}\zeta\right] < 0,$$

(59b') $$\frac{\partial b^*}{\partial \Omega} > 0, \text{if}: \quad -\frac{\partial \alpha}{\partial \Omega}\phi + \frac{\partial h}{\partial \Omega}\left[\left(s_\Pi \frac{h}{v} - \beta\right)\psi \frac{\partial e^r}{\partial h} + s_\Pi \frac{u}{v}\phi\right] + \frac{\partial u_f}{\partial \Omega}\zeta\left(s_\Pi \frac{h}{v} - \beta\right) > 0.$$

‚Profits without investment'/export-led mercantilist regime requires:

- Weak effects of financialisation on ‚animal spirits'
- Weak redistribution in favour of profits
- Dynamic effects of financialisation on foreign demand (debt-led consumption boom)
- High income elasticities of demand for exports and imports
- High price elasticities of demand for exports and imports

Dynamics of foreign assets and liabilities – the sustainability of a profits without investment regime driven by net exports

(60) $A_d = L_f$.

(61) $dA_d = dL_f$.

(62) $\hat{A}_d = \frac{dA_d}{A_d} = \hat{L}_f = \frac{dL_f}{L_f}$.

(63) $\frac{A_d}{Y_d^n}$ constant, if: $\hat{A}_d = \hat{Y}_d^n$,

(64) $\frac{L_f}{Y_f^n}$ constant, if: $\hat{L}_f = \hat{Y}_f^n$.

(65) $\frac{A_d}{Y_d^n}$ and $\frac{L_f}{Y_f^n}$ constant, if $\hat{A}_d = \hat{Y}_d^n = \hat{L}_f = \hat{Y}_f^n$.

(66) $\hat{A}_d = \frac{dA_d}{A_d} = \frac{\frac{dA_d}{Y_d^n}}{\frac{A_d}{Y_d^n}} \quad \Rightarrow \quad \frac{A_d}{Y_d^n} = \frac{\frac{dA_d}{Y_d^n}}{\hat{Y}_d^n}$,

(67) $\hat{L}_f = \frac{dL_f}{L_f} = \frac{\frac{dL_f}{Y_f^n}}{\frac{L_f}{Y_f^n}} \quad \Rightarrow \quad \frac{L_f}{Y_f^n} = \frac{\frac{dL_f}{Y_f^n}}{\hat{Y}_f^n}$.

1. $\hat{Y}_d^n < \hat{Y}_f^n$: either a constant $\frac{A_d}{Y_d^n}$ and falling $\frac{L_f}{Y_f^n}$;

or a rising $\frac{A_d}{Y_d^n}$ and a constant $\frac{L_f}{Y_f^n}$;

or rising $\frac{A_d}{Y_d^n}$ and falling $\frac{L_f}{Y_f^n}$.

➔ no over-indebtedness problem due to upwards instability of foreign debt of deficit country,

➔ but potential internal household debt problems in foreign economy questioning sustainability of growth

2. $\hat{Y}_d^n > \hat{Y}_f^n$: either a constant $\frac{A_d}{Y_d^n}$ and rising $\frac{L_f}{Y_f^n}$;

or a falling $\frac{A_d}{Y_d^n}$ and a constant $\frac{L_f}{Y_f^n}$;

or falling $\frac{A_d}{Y_d^n}$ and rising $\frac{L_f}{Y_f^n}$.

➔ over-indebtedness problem due to upwards instability of foreign debt of deficit country

6. Summary and conclusions

- Against the background of redistribution of income at the expense of the labour income share and depressed investment in capital stock, each a major feature of financialisation, short- and lon-run dynamic '**profits without investment' regimes** may emerge.
- However, each type of these regimes, the '**debt-led consumption boom**' type and the '**export-led mercantilist**' type contains internal contradictions, with respect to household debt in the first regime and with respect to foreign debt of the counterpart current account deficit countries in the second regime, which may finally undermine the sustainability of these regimes and lead to financial and economic crises.
- Furthermore, both regimes will suffer from weakened productivity growth – due to low capital stock growth and to pressure on the labour income share.

Alternatives:

ILO (2012), Lavoie/Stockhammer (2013a, 2013b) and Stockhammer/Onaran (2012, 2013):

➔ Wage-led growth strategy

Hein (2011, 2012a, Chapter 7), Hein/Mundt (2012) and Hein/Truger (2011, 2012/13), Palley (2012, Chapter 9, 2013, Chapter 12), UNCTAD (2009):

➔ Global Keynesian New Deal

Structure

- The post-Keynesian (and the classical and Marxian) vs. the neoclassical approaches towards distribution and growth
- The Kaleckian distribution and growth models: theories and empirical results
- Financialisation, distribution and growth
- **Current developments and debates**

Improving our understanding of finance-dominated capitalism

- Personal income or wage inequality and aggregate demand/growth:
  ➔ Carvalho/Rezai (2015), Lavoie (2009), Palley (2006, 2013, 2014), …
- Inequality, household debt and consumption:
  ➔ Kapeller/Schütz (2014a), Kim et al. (2014), Nishi (2012a), Ryoo/Kim (2014), …
- Household debt plus corporate debt, growth and stability:
  ➔ Godley/Lavoie (2007), Lavoie (2008), Skott/Ryoo (2008), van Treeck (2009), Isaac/Kim (2013), …
- Minskyan financial fragility issues:
  ➔ Charles (2008), Fujita/Sasaki (2011), Kapeller/Schütz (2014b), Lima/Meirelles (2007), Meirelles/Lima (2006), Nishi (2012b), Ryoo (2013), …

Interesting and necessary extensions:

- Endogenous productivity growth:
  ➔ Casetti (2003), Dutt (2006), Hein (2012, Chapter 4, 2012b, 2014, Chapter 8), Lavoie (1992), Naastepad (2006), Rowthorn (1981), Storm/Naastepad (2012), Taylor (1991), …
- Interest, credit, monetary and fiscal policies and demand/growth:
  ➔ Dutt (1990/91, 1992, 1995, 2013), Hein (2008, 2014), Hein/Stockhammer (2011), Laramie/Mair (2003), Lavoie (1993, 1995), Palley (2013), Setterfield (2009), Rochon/Setterfield (2012), Taylor (1985), …

More work to be done:

- Endogenous capital-potential output ratio instead of endogenous capacity utilisation?
  ➔ Cassetti (2006), Schoder (2014), ….
- Feedbacks of utilisation/growth on distribution and stability
  ➔ Assous/Dutt (2013), Bhaduri (2008), Blecker (2011), Dutt (2012), Hein/Stockhammer (2011), Lavoie (2009, 2010), Naastepad/Storm (2010), Nikoforos/Foley (2012), Sasaki (2015), Schütz (2012), Stockhammer (2004), Stockhammer/Michl (2014), …
- Non-linearities (profit share and g-σ equilibrium curves) and regime shifts
  ➔ Gordon (1995), Marglin/Bhaduri (1990, 1991), Nikiforos (2014), Nikiforos/Foley (2012), Palley (2014), …
- Exogenous non-capacity building demand as driver of growth?
  ➔ Allain (2014), Cesaratto (2013), Lavoie (2014), Serrano (1995), …
- Ecological contraints
  ➔ Berg et al. (2015), Fontana/Sawyer (2013, 2014), Rezai et al. (2013), …