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Institut für Makroökonomie und Konjunkturforschung

Macroeconomic Policy Mix, Employment and Inflation in a Post-Keynesian Alternative to the New Consensus Model

Summer School

“Keynesian Economics and European Economic Policies”

Berlin

27 July – 3 August 2008

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Hans Böckler Stiftung
Fakten für eine faire Arbeitswelt.

1. Introduction/Structure

NCM (Clarida/Gali/Gertler 1999, Meyer 2001):

- long-run equilibrium (NAIRU) is determined by labour market institutions
- monetary policy applying the interest rate tool stabilises output and employment in the short run towards the NAIRU, and inflation in the long run towards target rate
- fiscal policy is downgraded

PK critique:

➔ argues that NAIRU cannot be considered to be a strong attractor (Sawyer 2001, 2002, Stockhammer 2004a, Hein 2006a)

➔ questions ability of monetary policy to adjust unemployment to the NAIRU - limitations for the instrument and asymmetric effects (Arestis/Sawyer 2004a,b, 2005, 2006, Fontana/Palacio-Vera 2007, Hein 2004, 2006a, Palacio-Vera 2005)

➔ questions exogeneity of the NAIRU with respect to actual unemployment determined by effective demand; endogeneity through

- labour market hysteresis (Blanchard/Summers 1987, 1988, Ball 1999),
- capital stock and productivity effects of investment (Arestis/Sawyer 2004a, 2005, Rowthorn 1995, 1999, Sawyer 2001, 2002)
- adaptive wage and profit aspirations (Setterfield/Lovejoy 2006, Stockhammer 2008)
- cost effects of monetary policies (Hein 2006a)

➔ PKs question NCM macroeconomic policy assignment (monetary, fiscal and wage policies)

1. Introduction/Structure

PK amendments of the NCM:

Inflation generation process

- assume the short-run inflation barrier (NAIRU) away: long-run non-vertical Phillips curve (Atesoglu/Smithin 2006, Setterfield 2004, 2006a,b)
- or: accept short-run inflation barrier, endogenise the NAIRU in the medium or long run (Lavoie 2004, 2006, Hein 2006a, Stockhammer 2008)

Income generation process

- accept interest rate inverse IS-curve from NCM (Atesoglu/Smithin 2006, Lavoie 2004, 2006, Rochon/Setterfield 2007-8a, Settefield 2004, 2006a)
- or: more elaborated approaches to effective demand including real debt and distribution effects, but still incomplete (Hein 2006a, Rochon/Setterfield 2007-8b, Setterfield 2006b, Stockhammer 2008)

Policy conclusions:

- 'marginal' corrections of the NCM: central bank inflation targeting is compatible with PK (activist approach) (Fontana/Palacio-Vera 2006, 2007, Kriesler/Lavoie 2005a, Palley 2006, Setterfield 2006a)
- or: alternative PK policy recommendation, in particular for monetary policy (parking it) (Lavoie 1996a, Rochon/Setterfield 2007-8a,b, Smithin 2004, Setterfield 2006b). Nominal stabilisation by means of wage/incomes policy (Arestis 1996, Hein 2004, 2006a, Kriesler/Lavoie 2005a), real stabilisation by means of fiscal policies (Arestis/Sawyer 2003, 2004a,c)

1. Introduction/Structure

Contribution: “Full” PK alternative to NCM

- ➔ distribution conflict between rentiers, firms and workers;
- ➔ short-run inflation barrier;
- ➔ distribution conflict also affects income shares;
- ➔ income generation process includes real debt and interest cost effects;
- ➔ analysis of short-run stability;
- ➔ discussion of medium to long-run endogeneity channels;
- ➔ complete PK macroeconomic policy-mix.

1. Introduction/Structure

2. A basic Post-Keynesian model

Production, finance and rentiers‘ income

(1) $$r = \frac{\Pi}{pK} = \frac{\Pi}{Y}\frac{Y}{Y^v}\frac{Y^v}{K} = hz\frac{1}{v}$$ profit rate

(2) $$\Pi = \Pi_F + R$$ profits

(3) $$i^e = i_n - \hat{p}^e$$ expected real interest rate

(4) $$i = i_n - \left(\hat{p}^e + \hat{p}^u\right) = i^e - \hat{p}^u$$ ex post real interest rate

(5) $$R^e = i_n B = \left(i^e + \hat{p}^e\right)B = i^e B + \hat{p}^e B$$ expected rentiers‘ income

(6) $$R = \left(i_n - \hat{p}^u\right)B = \left(i^e + \hat{p}^e - \hat{p}^u\right)B$$ ex post rentiers‘ income

(7) $$\lambda = \frac{B}{pK}$$ debt-capital-ratio

2. A basic Post-Keynesian model

Inflation generating process

(8) $h_F^T = h_0, \quad 0 < h_0 \leq 1$ firms‘ target profit share

(9) $h = h_0 - h_2 \hat{p}^u, \quad 0 < h_0 \leq 1, 0 \leq h_2$ ex post profit share

(10) $(1-h)_W^T = W_0 + W_1 e, \quad 0 < W_0 \leq 1, 0 \leq W_1$ workers‘ target wage share

(11) $e = xz, \quad 0 < x \leq 1$ employment and capacity utilisation rate

(12) $(1-h) = W_0 + W_1 e - W_2 \hat{p}^u, \quad 0 < W_0 \leq 1, 0 \leq W_1, W_2$

ex post wage share

2. A basic Post-Keynesian model

(13) $$\hat{p}_t^u = \Delta\hat{p}_t = \hat{p}_t - \hat{p}_{t-1} = \frac{W_0 + W_1 e + h_0 - 1}{W_2 + h_2}$$

short-run Phillips curve

(13a) $$\hat{p}_t = \hat{p}_{t-1} + \frac{W_0 + W_1 e + h_0 - 1}{W_2 + h_2}$$

(14) $$e^N = \frac{1 - W_0 - h_0}{W_1}$$

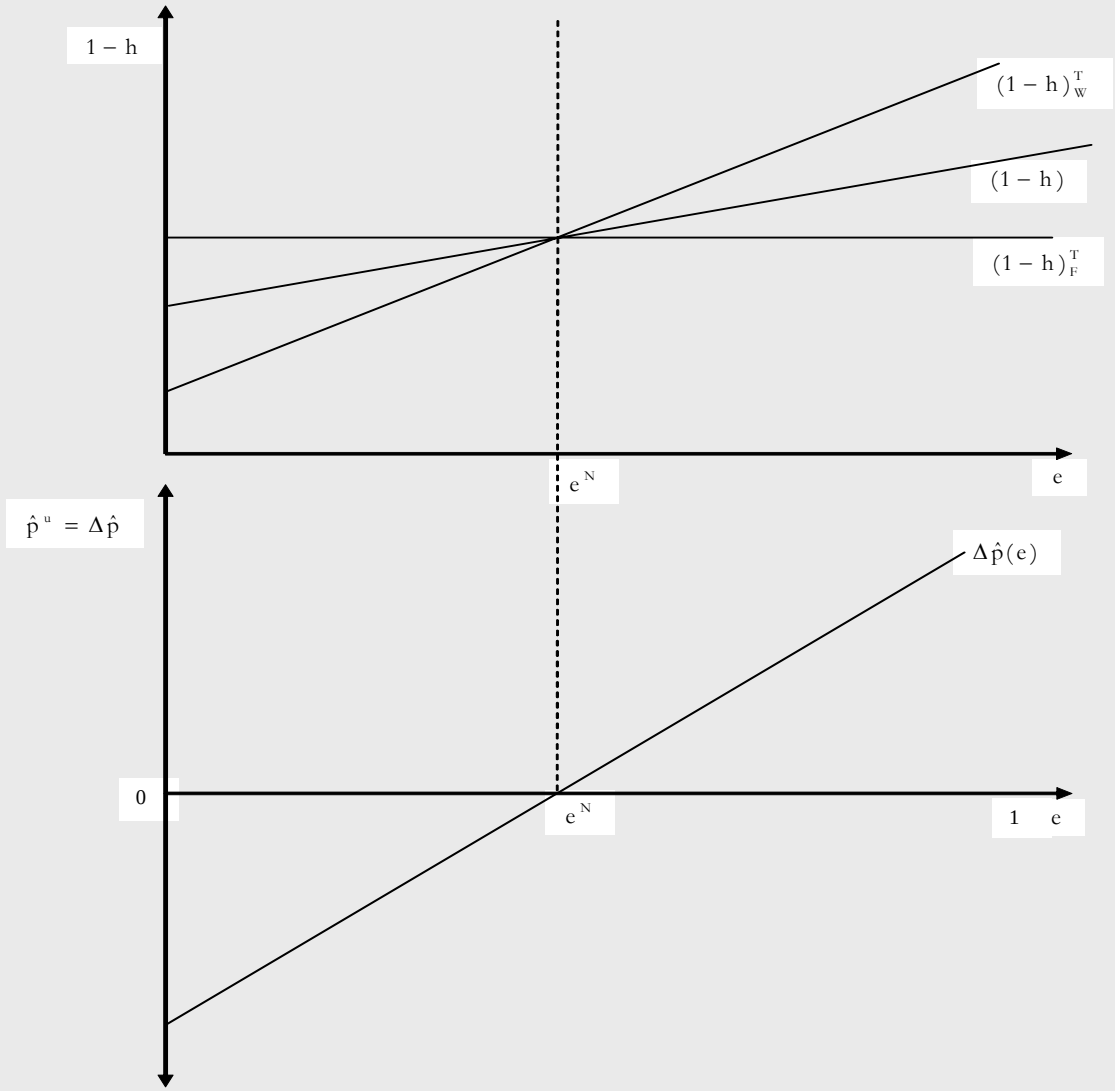
stable inflation rate of employment

(15) $$z^N = \frac{e^N}{x} = \frac{1 - W_0 - h_0}{x W_1}$$

stable inflation rate of capacity utilisation

2. A basic Post-Keynesian model

Figure 1: Conflicting claims, inflation and distribution



2. A basic Post-Keynesian model

Income generating process

(16) $$\sigma = \frac{S}{K} = \frac{\Pi - i_n B + S_R}{pK} = h\frac{z}{v} - i_n\lambda(1 - s_R), \qquad 0 < s_R \leq 1$$ saving rate

(17) $$g = \frac{I}{pK} = g_0 + g_1 z + g_2\left[h\frac{z}{v} - i_n\lambda\right], \qquad g_0, g_1, g_2 > 0, g_2 < 1$$ rate of capital accumuation

(18) $$d = \frac{D}{pK} = \bar{d}$$ government deficit spending

(19) $$g + d = \sigma$$ goods market equilibrium

(20) $$\frac{\partial\sigma}{\partial z} - \frac{\partial g}{\partial z} - \frac{\partial d}{\partial z} > 0 \Rightarrow (1 - g_2)\frac{h}{v} - g_1 > 0$$ stability condition

2. A basic Post-Keynesian model

'Ex ante' goods market equilibrium rate of capacity utilisation:

$$(21) \qquad z^e = \frac{i_n \lambda (1 - s_R - g_2) + g_0 + d}{\frac{h}{v}(1 - g_2) - g_1}$$

'Ex ante' goods market equilibrium rate of employment:

$$(22) \qquad e^e = \frac{x\left[i_n \lambda (1 - s_R - g_2) + g_0 + d\right]}{\frac{h}{v}(1 - g_2) - g_1}$$

3. Is the NAIRU a strong attractor in the short run?

‚Ex post' goods market equilibrium rate of employment:

(23) $$e = \frac{x\left[\left(i_n - \hat{p}^u\right)\lambda\left(1 - s_R - g_2\right) + g_0 + d\right]}{\frac{1}{v}\left(h_0 - h_2\hat{p}^u\right)\left(1 - g_2\right) - g_1}$$

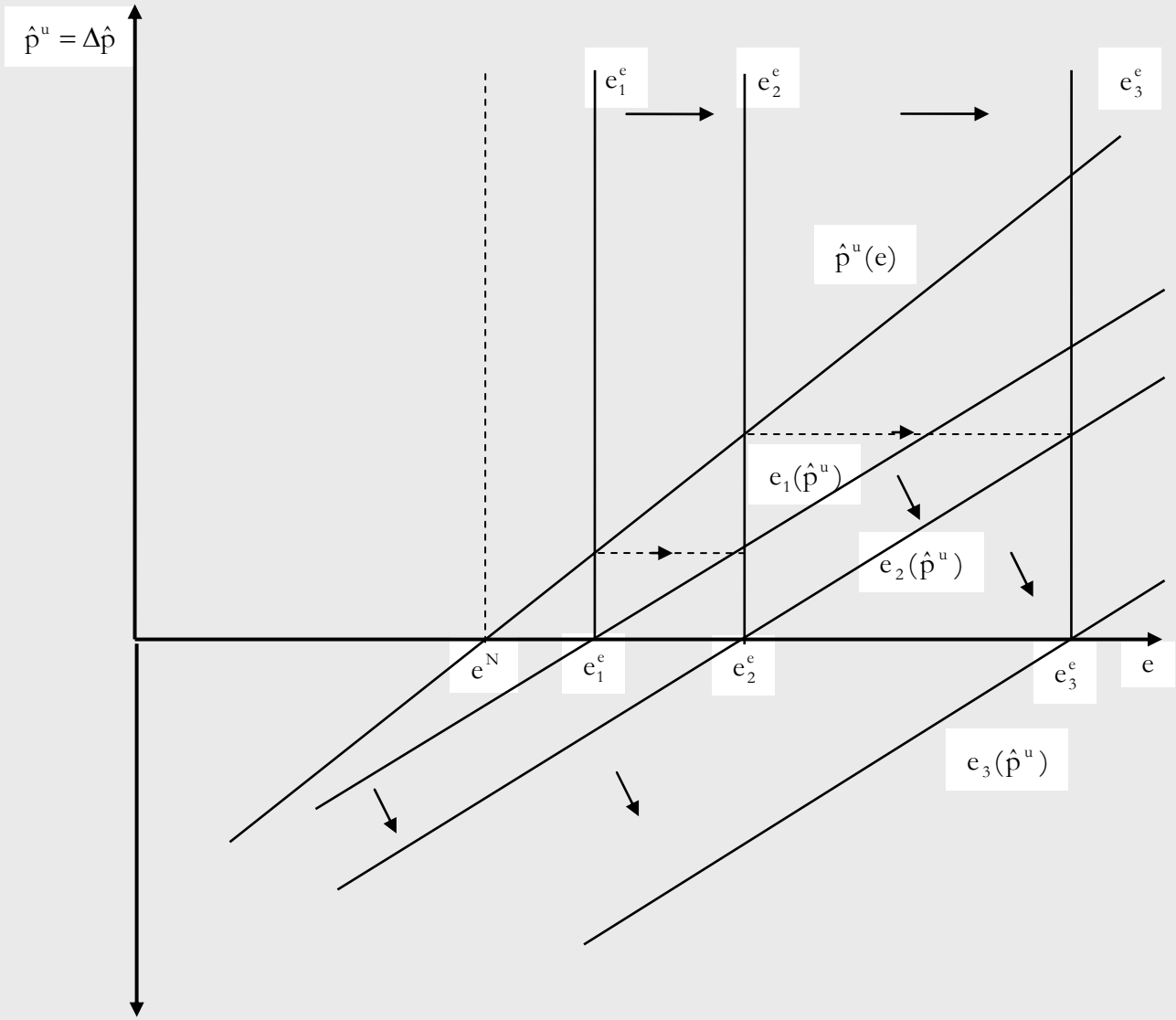
The NAIRU as a strong attractor without central bank interventions?

(23a) $$\frac{\partial e}{\partial \hat{p}^u} = \frac{\frac{h_2}{v}\left(1 - g_2\right)e - x\lambda\left(1 - s_R - g_2\right)}{\frac{1}{v}\left(h_0 - h_2\hat{p}^u\right)\left(1 - g_2\right) - g_1}$$

(23a') $$\frac{\partial e}{\partial \hat{p}^u} < 0, \text{ if } : 1 - s_R > \frac{h_2}{v}\frac{e}{x\lambda}\left(1 - g_2\right) + g_2$$

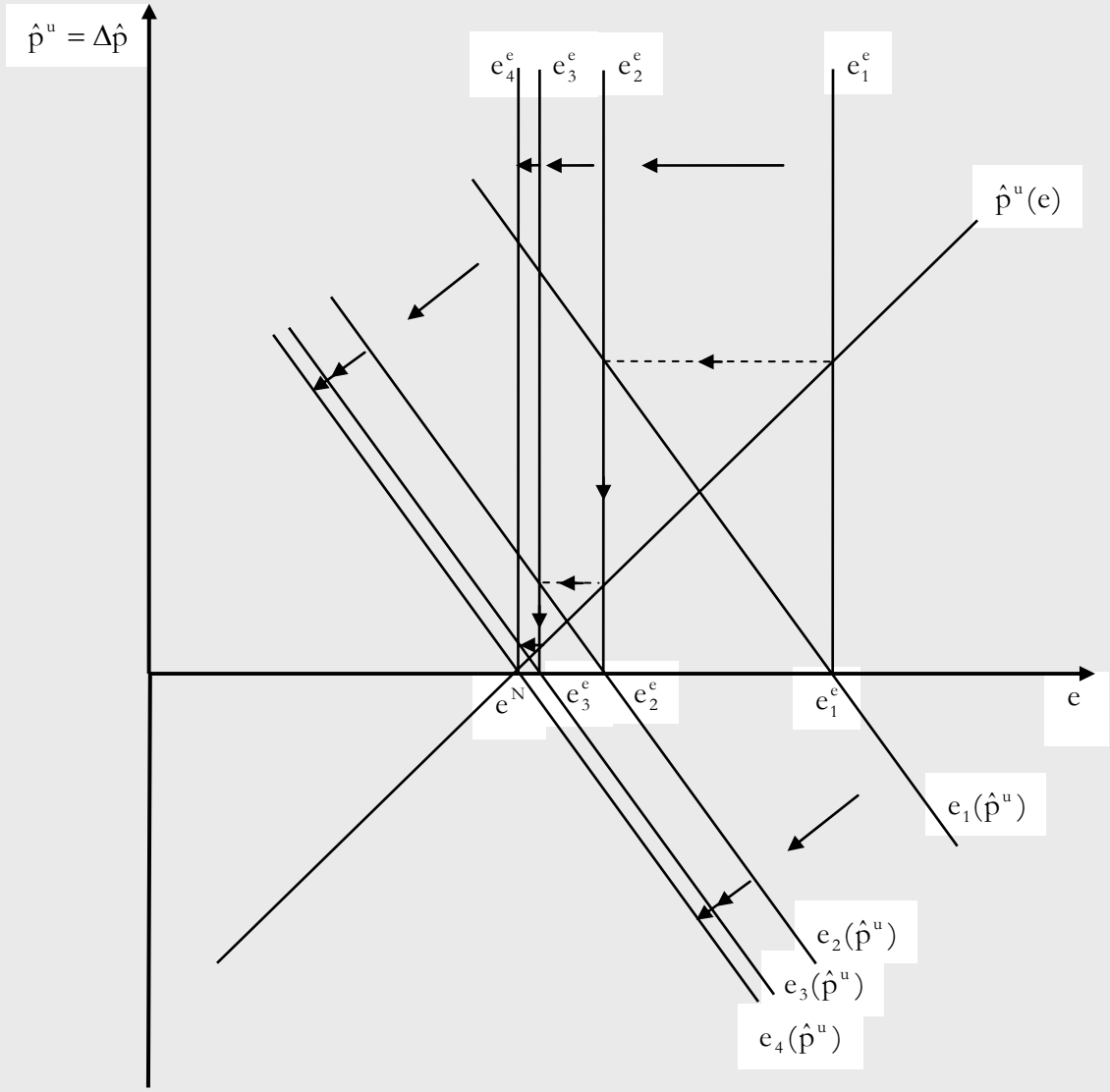
(23a'') $$\frac{\partial e}{\partial \hat{p}^u} > 0, \text{ if } : \frac{h_2}{v}\frac{e}{x\lambda}\left(1 - g_2\right) + g_2 > 1 - s_R$$

Figure 2: The NAIRU as a non-attractor: monotonic divergence



3. Is the NAIRU a strong attractor in the short run?

Figure 4: The NAIRU as an attractor



3. Is the NAIRU a strong attractor in the short run?

The NAIRU as a strong attractor without central bank interventions:

(24)
$$\frac{\frac{1}{v}\left(h_0 - h_2\hat{p}^u\right)\left(1-g_2\right)-g_1}{\frac{h_2}{v}\left(1-g_2\right)e - x\lambda\left(1-s_R-g_2\right)} < -\frac{W_1}{W_2+h_2}$$

- very low propensity to save out of rentiers‘ income
- very low elasticity of investment with respect to internal funds
- weak redistribution effects of unexpected inflation on labour income and effective demand
- flat short-run Phillips curve

3. Is the NAIRU a strong attractor in the short run?

An inflation targeting central bank and the NAIRU as an attractor?

(25) $$i_n = i_0^e + \hat{p}^e + \hat{p}^u + i_1\left(\hat{p} - \hat{p}^T\right) = i_0^e + \hat{p}^e + \hat{p}^u + i_1\left(\hat{p} - \hat{p}^e\right) = i_0^e + \hat{p}^e + \left(1 + i_1\right)\hat{p}^u,$$
$$0 \le i_0^e, 0 < i_1,$$

(23b) $$\frac{\partial e^{cb}}{\partial i_n} = \frac{x\lambda\left(1 - s_R - g_2\right)}{\frac{1}{v}\left(h_0 - h_2\hat{p}^u\right)\left(1 - g_2\right) - g_1}$$

(23b') $$\frac{\partial e^{cb}}{\partial i_n} > 0, \text{ if } : 1 - s_R > g_2$$

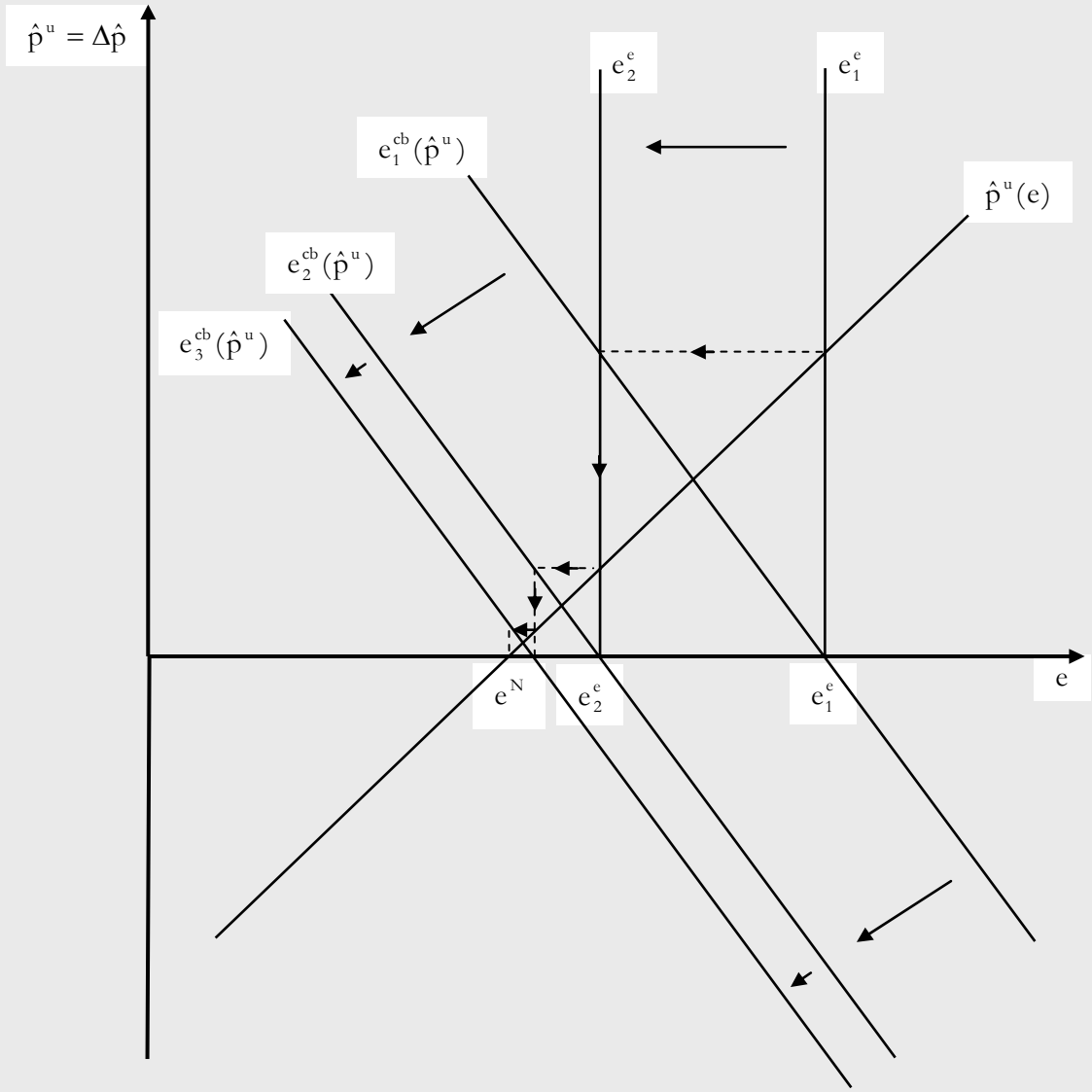
‚Puzzling case': cb inflation targeting is de-stabilising

(23b'') $$\frac{\partial e^{cb}}{\partial i_n} < 0, \text{ if } : g_2 > 1 - s_R$$

‚Normal case': cb inflation targeting may be stabilising

3. Is the NAIRU a strong attractor in the short run?

Figure 5: An inflation targeting central bank



3. Is the NAIRU a strong attractor in the short run?

Inflation targeting central bank may adjust actual unemployment to the NAIRU and stabilise inflation in the ‚normal case':

- no problem with accelerating inflation, but central banks have to be careful in order to avoid over- and undershooting, flat Phillips curve is conducive to inflation and employment stabilisation

- problem with decelerating inflation: central banks may not be able to reduce the real rate of interest due to lower bound of the nominal rate

4. Medium-run endogeneity of the NAIRU

Persistent changes in the 'ex ante' real rate of interest

(34) $$h_F^T = h_0 + h_1 i^e, \qquad 0 < h_0 \leq 1, \qquad 0 \leq h_1$$

(35) $$e^N = \frac{1 - W_0 - h_0 - h_1 i^e}{W_1}$$

(35a) $$\frac{\partial e^N}{\partial i^e} = -\frac{h_1}{W_1} < 0$$

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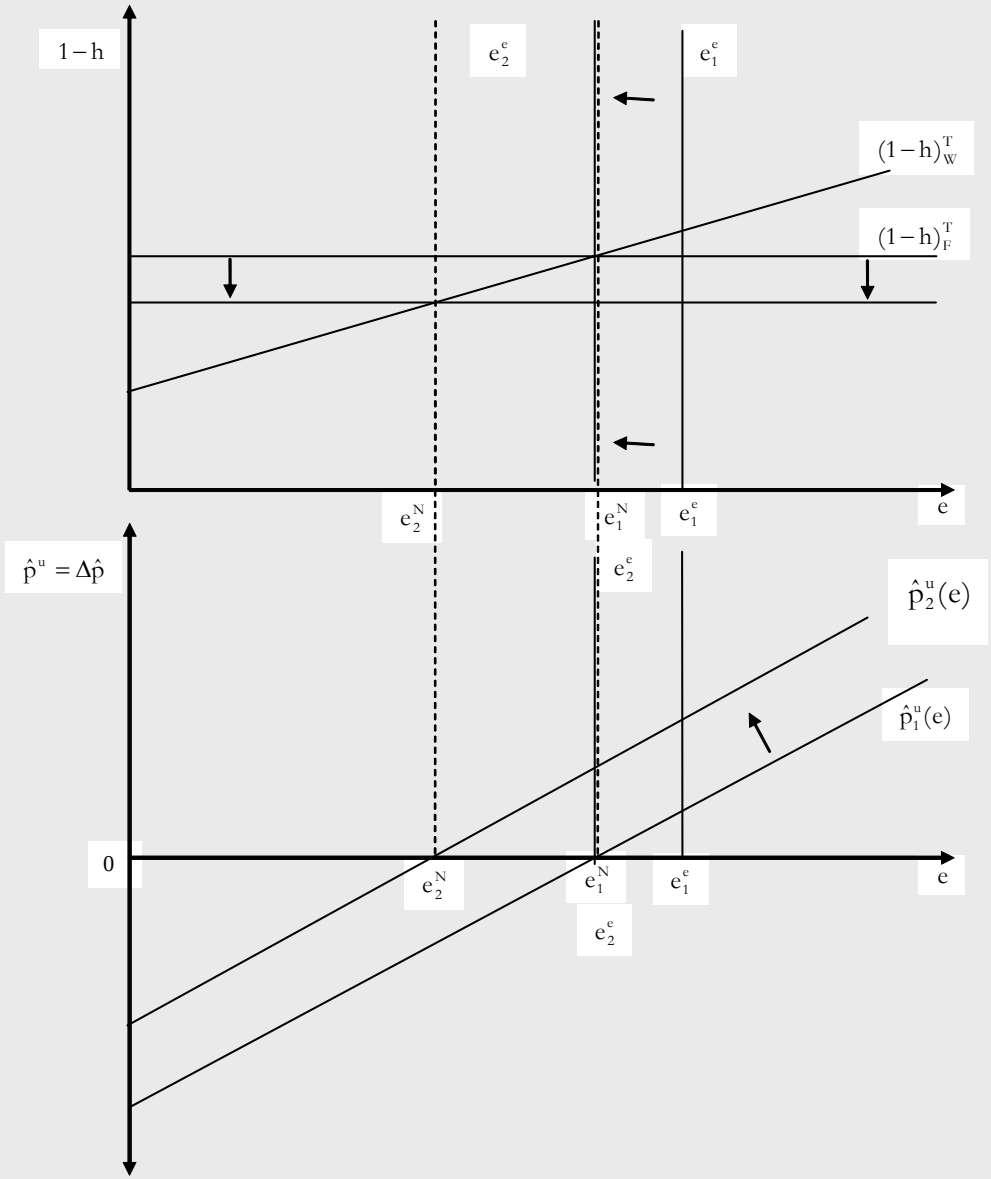
Figure 9: Persistent change in the ‘ex ante’ rate of interest and the NAIRU



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5. An alternative Post-Keynesian macroeconomic policy assignment

Monetary policy ➔ distribution, low real interest rate (i.e. Pasinetti rule)

(36) $$i_n = i_0^e + \hat{p}^e + \hat{p}^u$$

i_0^e : medium-run productivity growth

Abstain from fine tuning employment or inflation

5. An alternative Post-Keynesian macroeconomic policy assignment

Wage policy: nominal stabilisation, distribution stabilisation

(37) $$\hat{w} = \hat{w}_0 + \hat{p}^T$$

Alternatives:
- make workers and firms accept deviation of distribution from their respective targets (‚realistic case': incomes policy by fear),
- or make targets consistent by means of wage bargaining coordination (optimal case': social consensus and coordination):

(38) $$(1-h)_W^T = W_0 + W_1 e \quad \text{if:} \quad e < e_1^N, \text{ or } e_2^N < e$$

$$(1-h)_W^T = (1-h)_F^T = h_0 \quad \text{if:} \quad e_1^N < e < e_2^N$$

(39) $$\hat{p}_t^u = \frac{W_0 + W_1 e + h_0 - 1}{W_2 + h_2} \quad \text{if:} \quad e < e_1^N, \text{ or } e_2^N < e$$

$$\hat{p}_t^u = 0 \quad \text{if:} \quad e_1^N < e < e_2^N$$

5. An alternative Post-Keynesian macroeconomic policy assignment

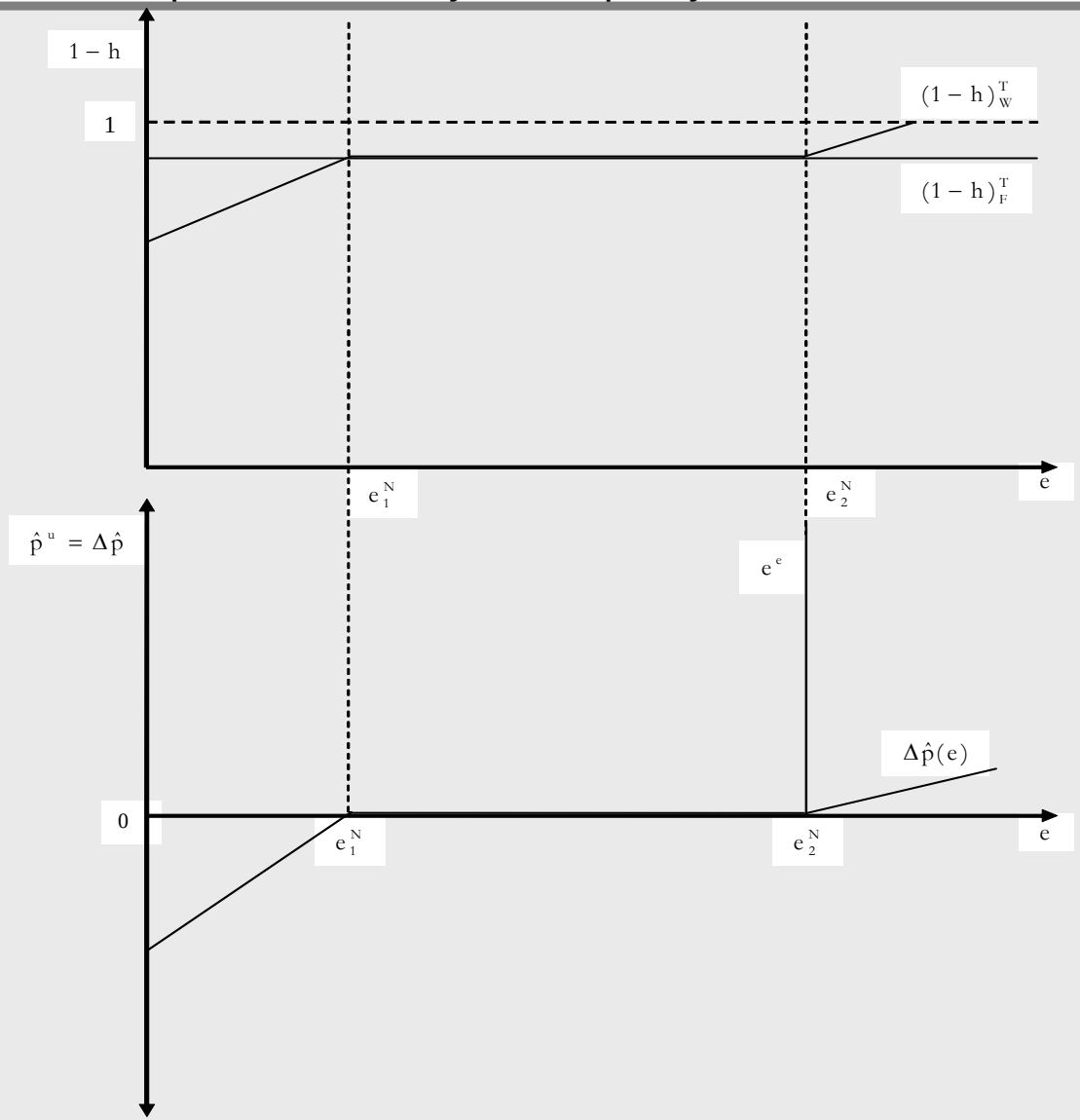
Fiscal policies: real stabilisation ➔
adjust employment to target rate

(40) $$d = d_0 + d_1\left(e^T - e\right), \qquad 0 < d_1$$

d_0 : permanent government deficit or surplus
d_1 : cyclical reaction

5. An alternative Post-Keynesian macroeconomic policy assignment

Figure 11: An ‘optimal’ Post-Keynesian policy mix



6. Conclusions

NCM assignment

Wage bargaining/labour market/social benefit system:

➔ NAIRU

Monetary policy:

➔ actual unemployment in the short run, inflation in the long run

Fiscal policy:

➔ support monetary policy in achieving price stability, balance the budget

Policy credo:

"Prevent unemployment in the short run by means of appropriate monetary policies and reduce the NAIRU by means of 'structural reforms' in the labour market. Do nothing with fiscal policy other than ensure balanced budgets in the medium run."

6. Conclusions

PK assignment

Monetary policy:

➔ **Distribution, low real interest rates (i.e. 'Pasinetti rule')**

Due to limitations in applying the interest rate tool, short run asymmetries and long run cost effects of changes in the interest rate, central banks should abstain from fine tuning.

Wage policies:

➔ **Nominal stabilisation and stabilise functional income distribution**

Nominal wage growth in line with productivity growth plus inflation target makes long run Phillips curve horizontal and, cet. par., keeps income shares constant.

Fiscal policy:

➔ **Real stabilisation in the short and the long run**

Fiscal policy demand management does not face limitations and asymmetries of monetary policies and has long-run effects on NAIRU. Coordination with monetary policies is required in order to prevent adverse distribution effects of rising interest rates, i.e. central banks have to stick to their targets!

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THE END

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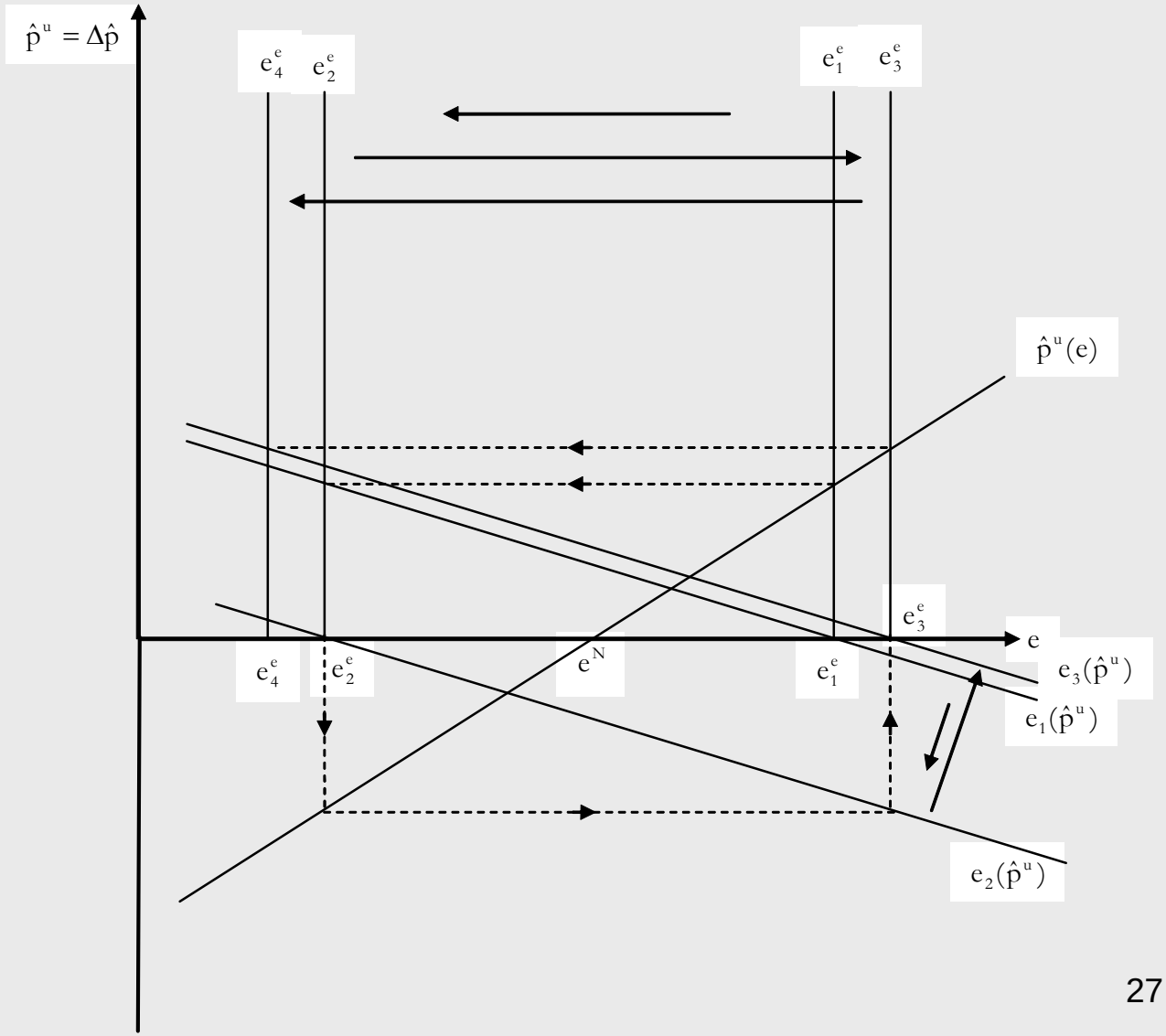
3. Is the NAIRU a strong attractor in the short run?

Figure 3: The NAIRU as a non-attractor: oscillating divergence



4. Medium-run endogeneity of the NAIRU

Persistence mechanisms in the labour market

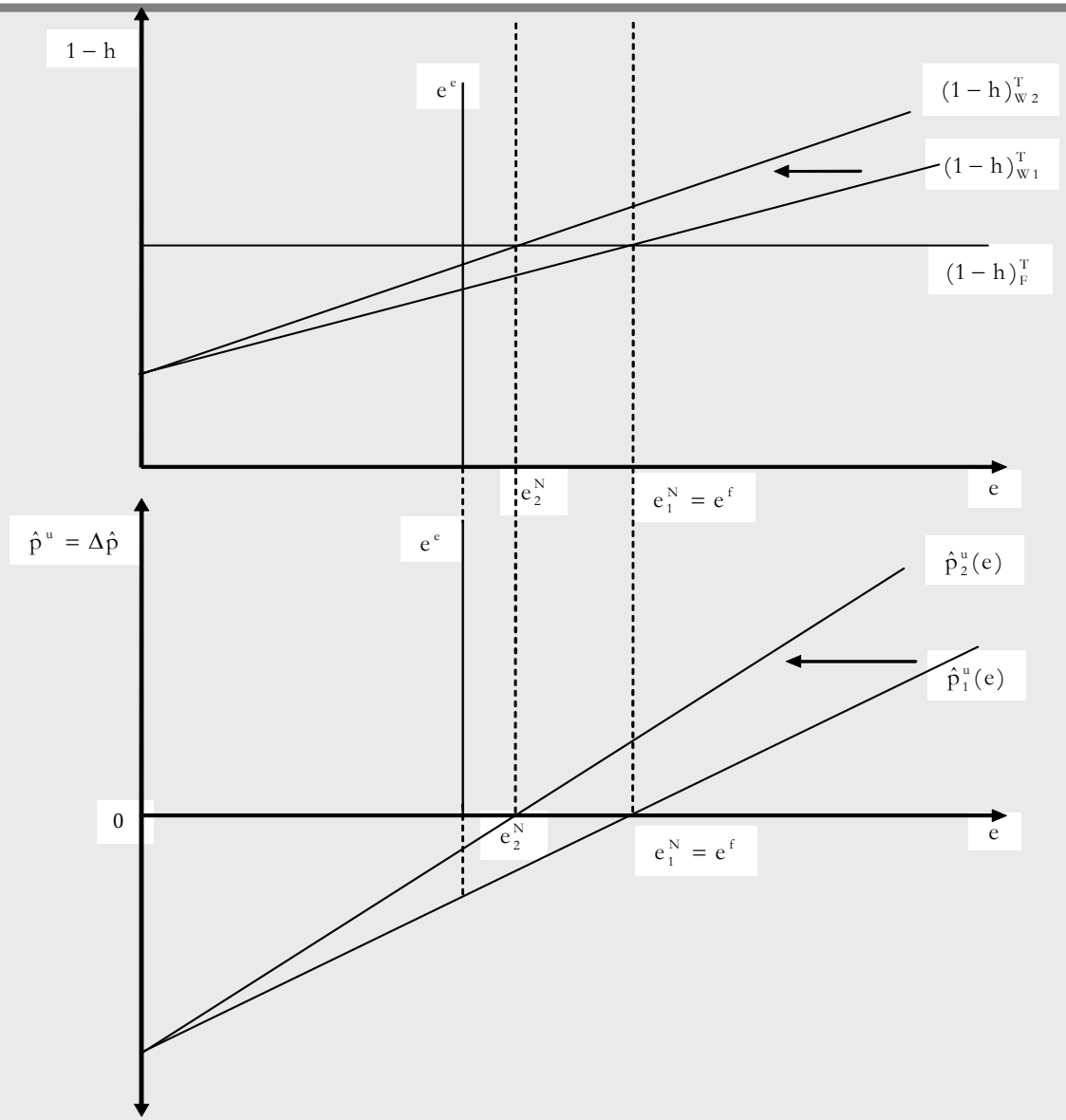
(26) $$(1-h)_W^T = W_0 + W_1\left[e + \alpha\left(e^f - e\right)\right], \qquad 0 \le \alpha$$

(27) $$e^N = \frac{1 - W_0 - W_1\alpha\left(e^f - e\right) - h_0}{W_1}$$

(27a) $$\frac{\partial e^N}{\partial\left(e^f - e\right)} = -\alpha < 0$$

4. Medium-run endogeneity of the NAIRU

Figure 6: Labour market persistence mechanisms and the NAIRU



4. Medium-run endogeneity of the NAIRU

Wage aspirations based on conventional behaviour

(28) $$(1-h)_W^T = W_0 + \beta\left[(1-h)-(1-h)_W^T\right] + W_1 e = \frac{W_0 + \beta(1-h) + W_1 e}{1+\beta},$$

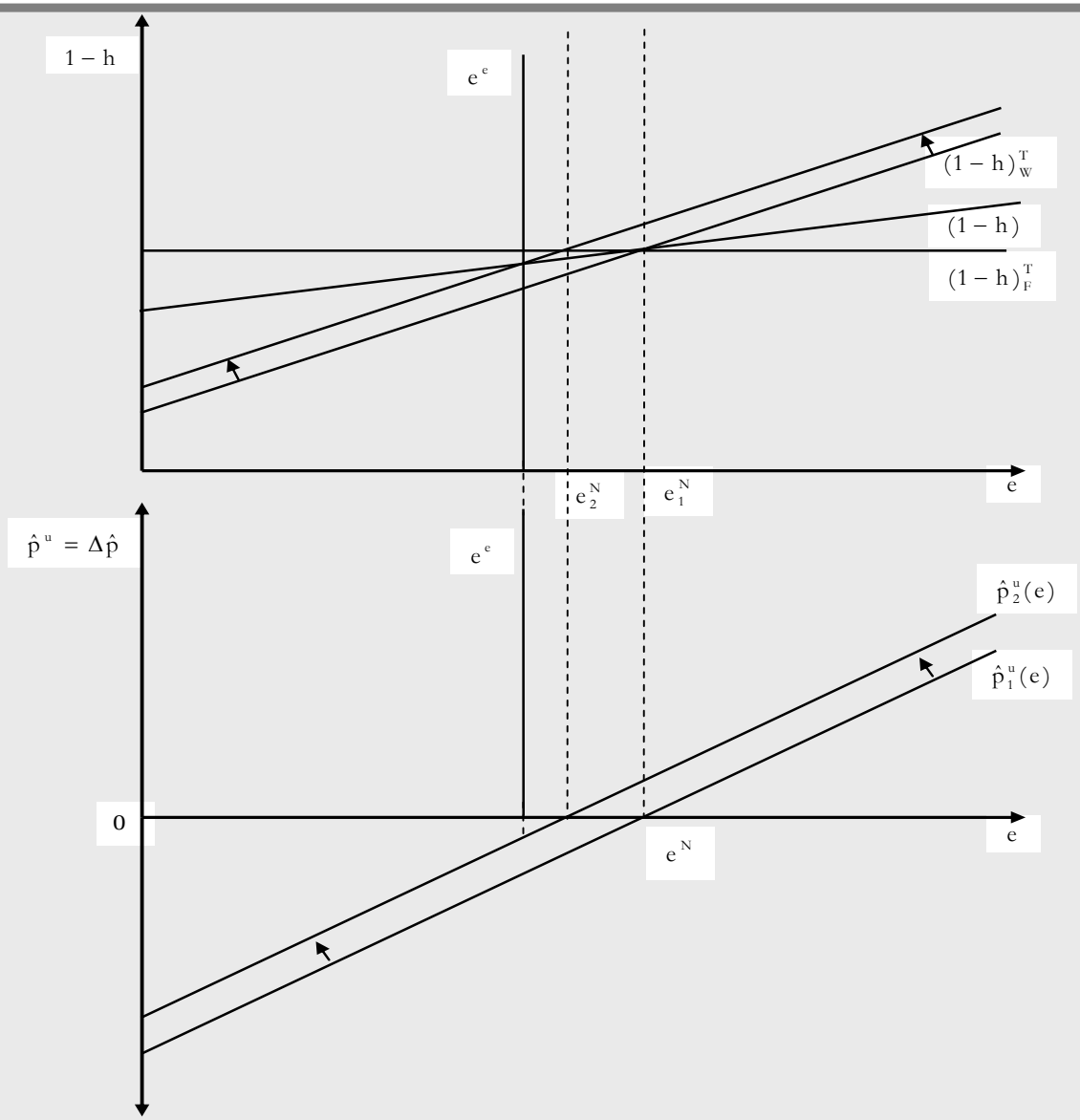
$$0 < W_0 \leq 1, \qquad 0 \leq W_1, \beta$$

(29) $$e^N = \frac{(1-h_0)(1+\beta) - W_0 - \beta(1-h)}{W_1}$$

(29a) $$\frac{\partial e^N}{\partial(1-h)} = -\frac{\beta}{W_1} < 0$$

4. Medium-run endogeneity of the NAIRU

Figure 7: Endogenous wage and profit aspirations and the NAIRU



4. Medium-run endogeneity of the NAIRU

The effect of investment in the capital stock

(10) $$e = xz, \qquad 0 < x \leq 1$$

(30) $$x = x_0 + x_1 g, \quad 0 < x_0 \leq 1, \qquad 0 \leq x_1$$

(32) $$h_F^T = h_0 + h_3 z, \qquad 0 \leq h_1, h_3$$

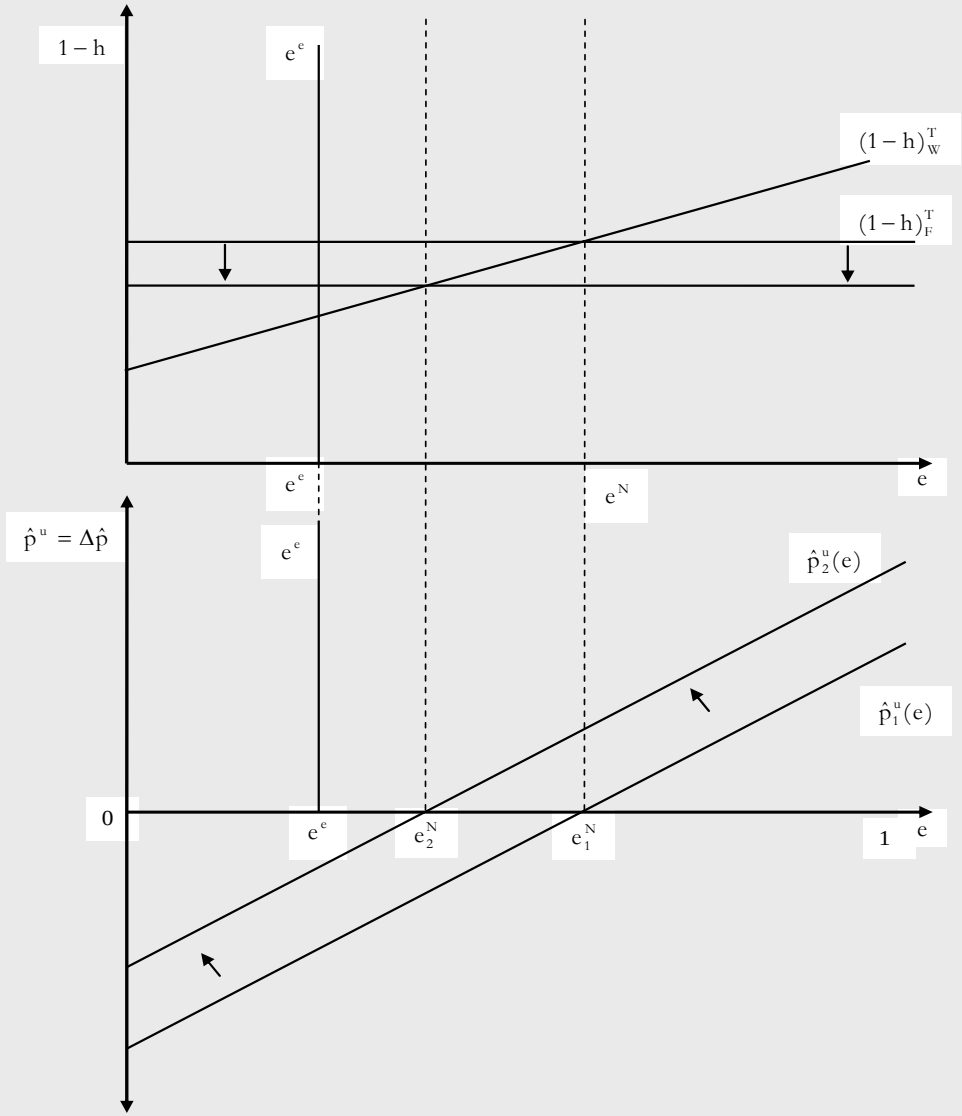
.

(33) $$e^N = \frac{1 - W_0 - h_0}{W_1 + - \frac{h_3}{x_0 + x_1 g}}$$

(33a) $$\frac{\partial e^N}{\partial g} = \frac{(1 - W_0 - h_0) x_1 h_3}{\left(W_1 + \frac{h_3}{x_0 + x_1 g}\right)^2} > 0$$

4. Medium-run endogeneity of the NAIRU

Figure 8: Low investment, slow capital stock growth and the NAIRU



5. An alternative Post-Keynesian macroeconomic policy assignment

Figure 10: A ‘realistic’ Post-Keynesian policy mix