Wage norms, capital accumulation and unemployment. A post Keynesian view

FMM conference 2013

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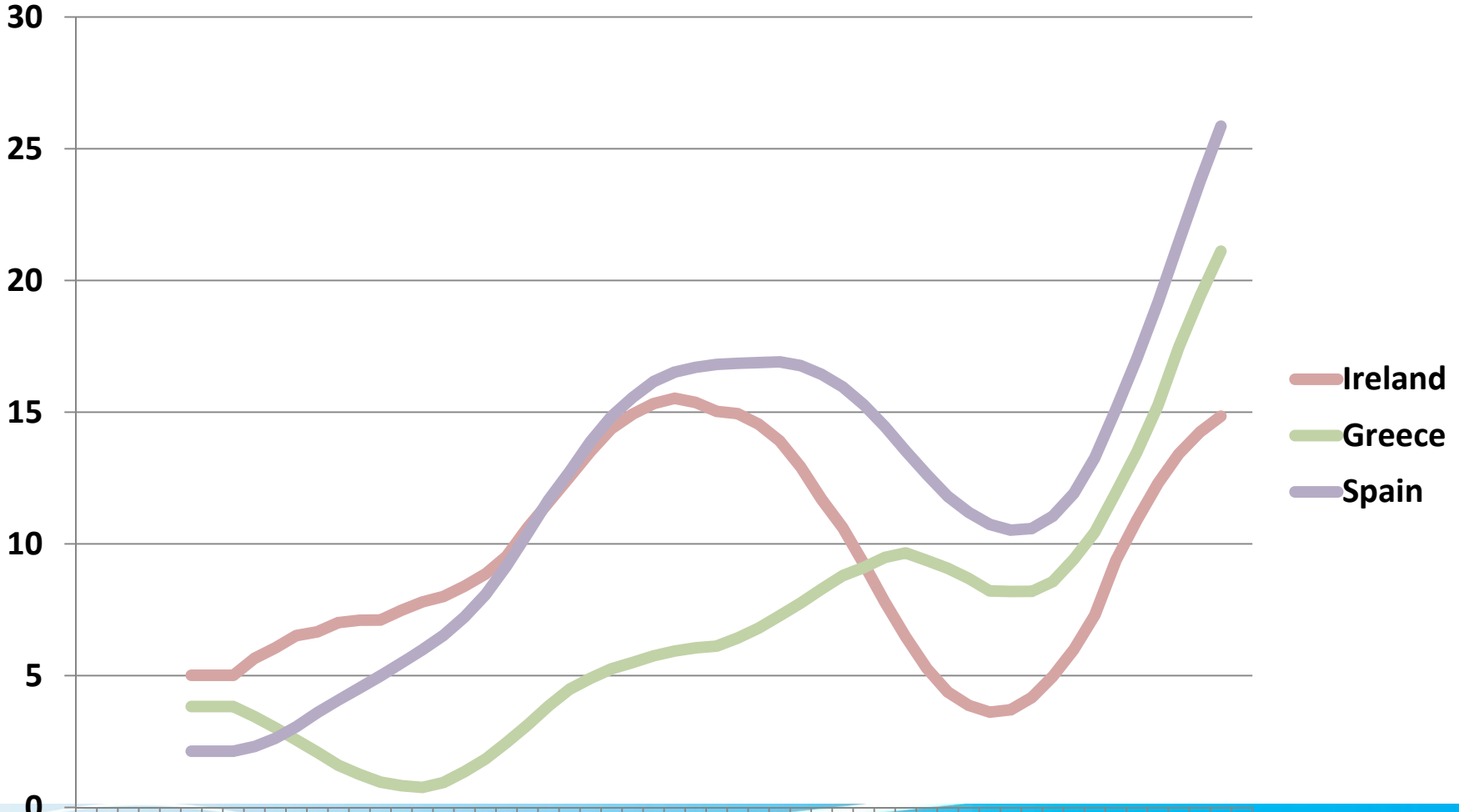
AMECO's NAWRU (Oct 2013)



The labour “market”

- The labour market is not a market like other markets.
- It’s about social conflicts: between capital and labour.
  - Therefore about institutions
- It’s about human beings
  - Wages are not only about quantities hired, but also about self-esteem (and effort) of workers.
  - Thus: fairness, norms and institutions matter.
- Its size leads to important feedback mechanisms: almost everyone works for a wage, therefore changes in wages have important feedback on aggregate demand.

Consequences / outline

- 1. NAIRU framework
  - On labour market it's not supply and demand that intersect, but a conflicting income claims and goods market demand.
- 2. There is no reason to assume that the (effective) labour demand is downward sloping.
  - Wages are source of consumption expenditures
  - Wage cuts may give rise to debt deflation
- 3. Hysteresis & social wage norms
  - Importance of norms and fairness considerations implies that history matters and gives rise to hysteresis phenomena.
  - Actual, and as a consequence, equilibrium unemployment ("NAIRU") depend on current and past demand.
- 4. Capital accumulation is a key determinant of actual unemployment. Evidence from a panel investigation
- 5. Globalisation, financialisation, welfare state retrenchments as main determinants of the wage share
- 6. Policy implications

The NAIRU model

Basics: Wage bargaining and the NAIRU framework

- Instead of an atomistic labour market there labour unions that baragain about wages and firms that set prices
  - Collective bargaining: bargaining position of unions will depend on unemployent
  - Efficiency wages: at higher employment levels, higher wages are necessary to ellicit the same labor effort
  - Search models
- Actual employment is determined by demand on the goods market
- Note: what happens if we are off-equilibrium?
  - Change in inflation
  - Does that affect emplyoment? Not by iself! It depends on how the goods market reacts.

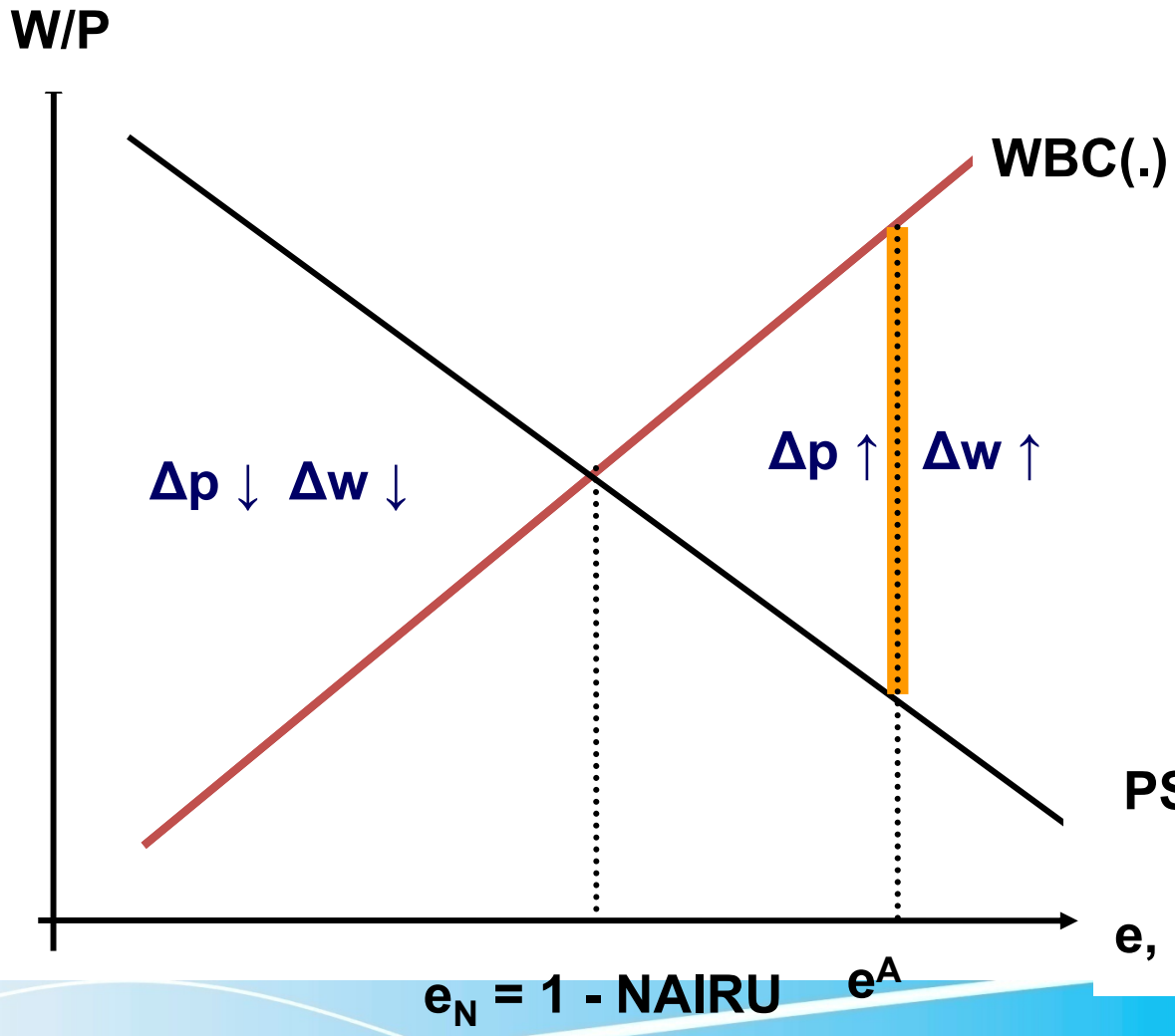
A NAIRU model

- Wage claims (WBC): $(1-\pi)^W = w_0 + w_1 u$
- Profit claims (PS): $\pi^R = \pi_0 + \pi_1 y$
- $u = f(y, u_{t-1})$

π = profit share

- if $e \neq e_N \rightarrow \Delta p$
- … and Δw

Actual emplyoment ($e^A \leftarrow Y^{IS}$) if $e \neq e_N \rightarrow \Delta p, \Delta w$



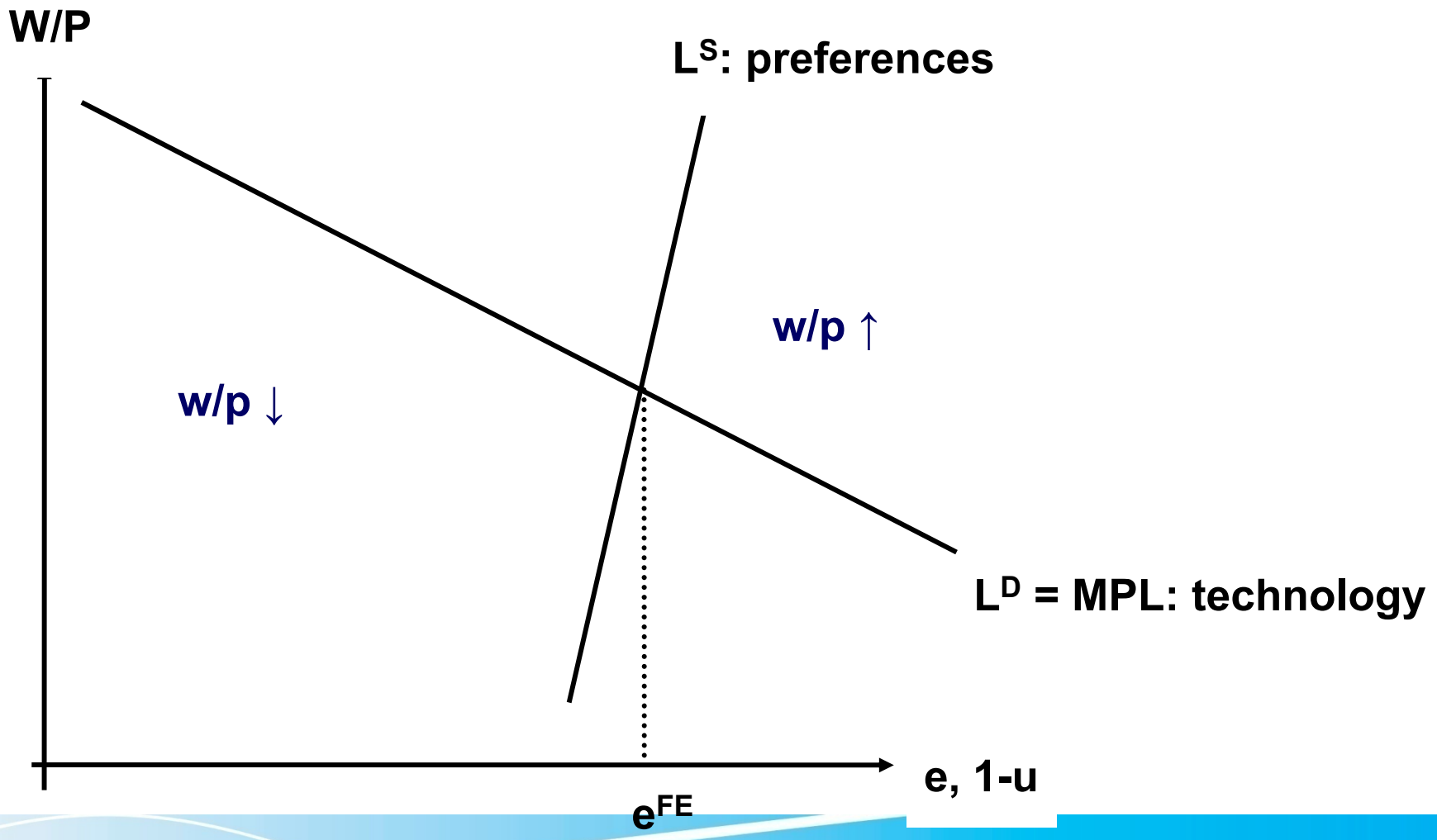
Note1 : an increase in unemployment benefits, will shift the WBC, whereas it would cut off the LS curve

Note2: what happens if we‘re off-equilibrium?

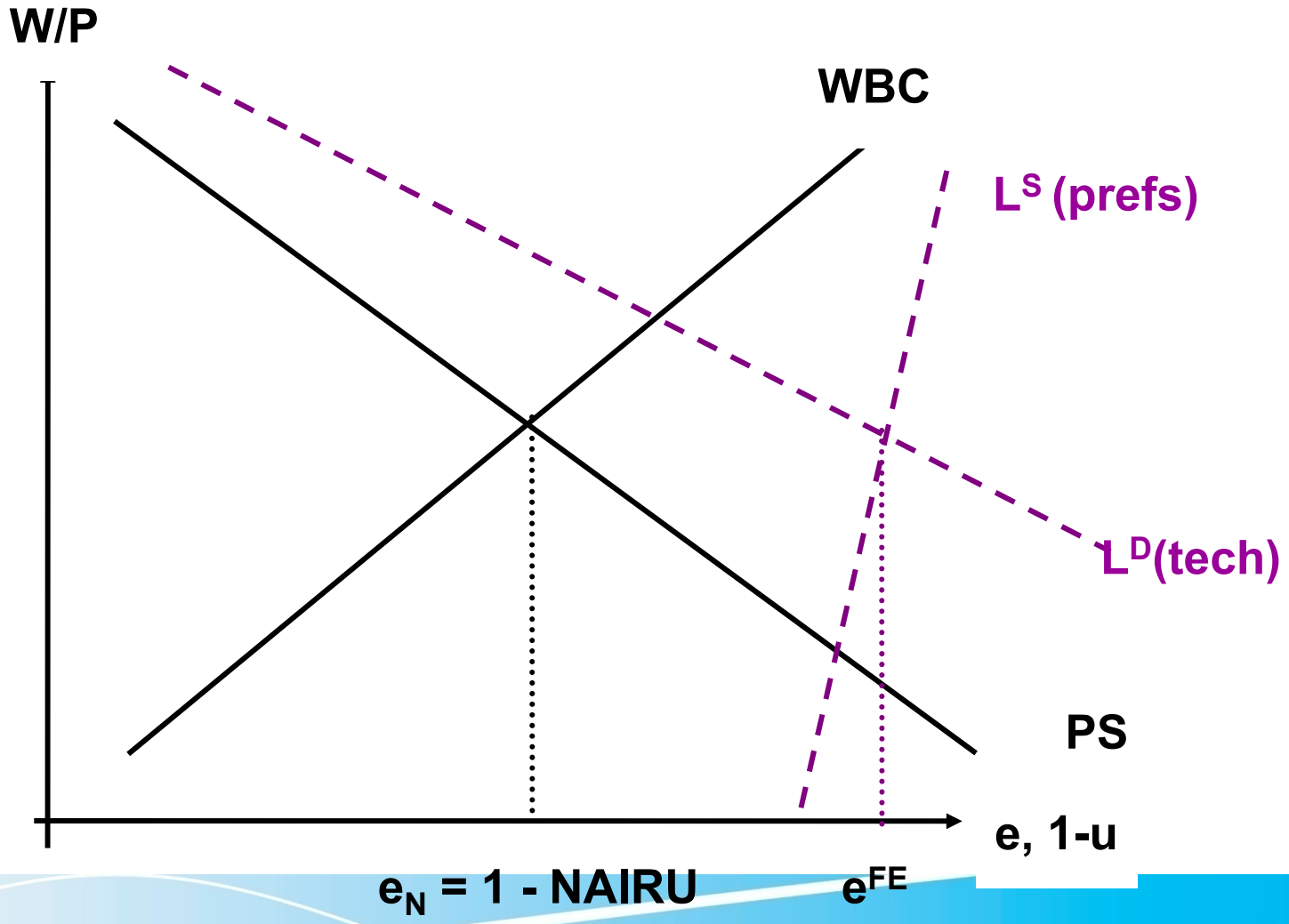
Change in inflation (not employment!)

Adjustment depends on how the goods market reacts!

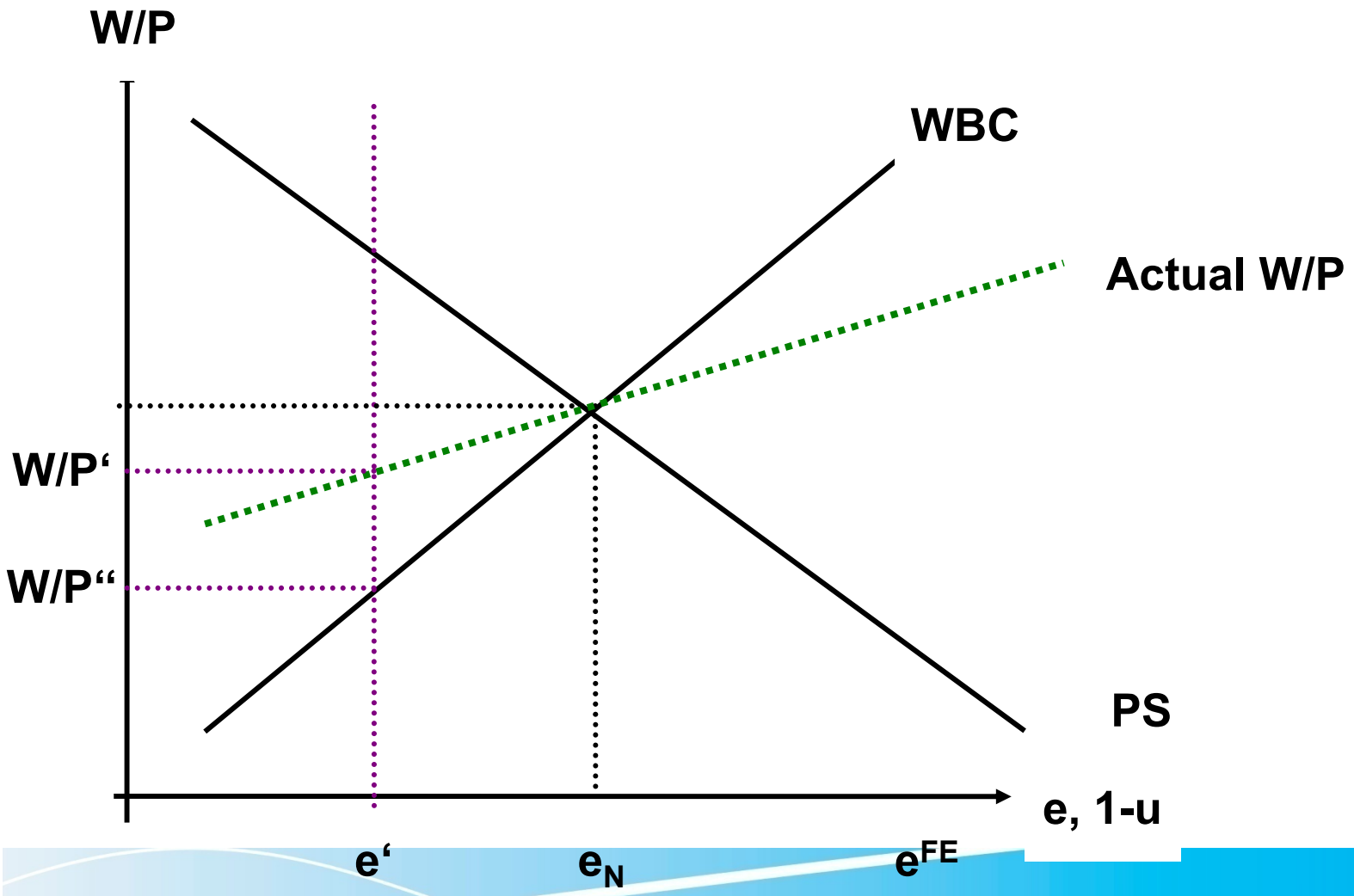
Standard („Walrasian“) labour market



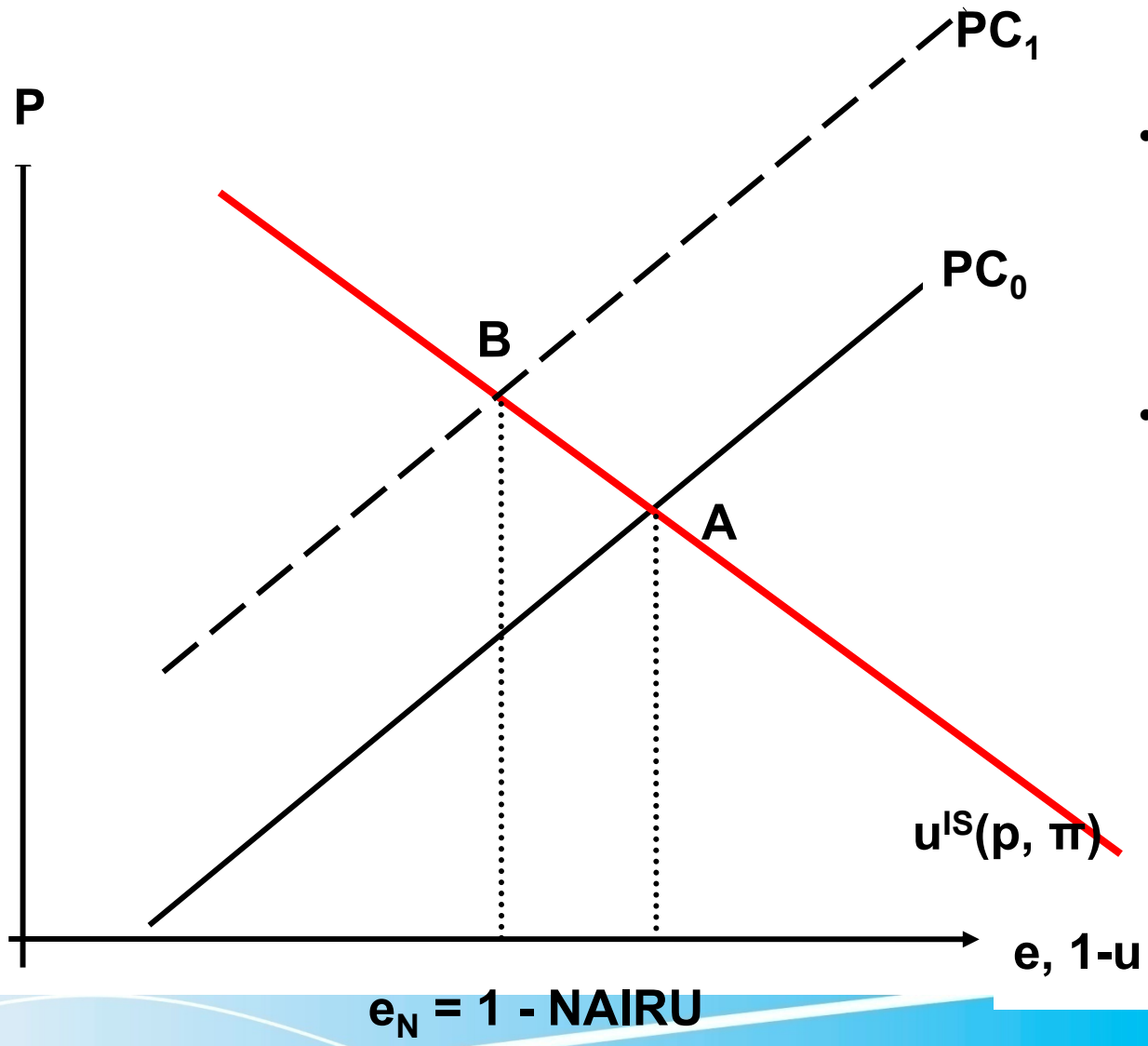
notional labor demand in NAIRU and Walrasian model



Assume a demand shock



IS-curve: $u^{IS}=u(p,\pi)$



- U^{IS} denotes the employment level given the equilibrium in the goods market
- If the IS curve is downward sloping, we'll get back *towards* the NAIRU

NAIRU model closures

- What demand function is assumed? $u^{IS}=u(p,\pi)$
  - How does inflation (Δp) affect demand?
  - How do changes in real wages ($\Delta\pi$) affect demand?
- What does u_N depend on?
  - Is it exogenous or endogenous?
  - NAIRU: $\hat{u}_N = \lambda(u-u_N)$. $\lambda=0$?
- => different NAIRU theories

NAIRU *theory* vs NAIRU *story*

- NAIRU *theory*: theory of the relation between inflation and unemployment
  - NAIRU equilibrium can be stable or unstable
  - NAIRU can be exogeneous or endogenous
- NAIRU *story*: the „mainstream“ NAIRU explanation of European unemployment
  - Actual unemployment is determined by the NAIRU
  - The NAIRU is determined exogenously by labor market institutions (LMI)
  - The rise of unemployment in Europe is due to changes in LMI („overgenerous welfare states)

=> labour market reform (unemployment benefits, minimum wages)

New Keynesian (NK), post-Keynesian (PK) and Marxist (Mx) closures

	Demand closure		*NAIRU closure*
	y_1 (=dY/dp)	y_2 (=dY/dWS)	
NK	Negative (b/e of CB?)		exogenous or quasi-exogenous
PK	positive (without CB)	Positive (wage-led D)	endogenous
Mx		Negative (profit-led D)	(endogenous)

A Post Keynesian NAIRU

- At any point in time there is a NAIRU (= a short-term Phillips curve)
- … but it is neither exogenous
- … nor is it strong attractor
  - Because ‚perverse' effects of distribution and of inflation
- NAIRU: as much an outcome as a determinant of macroeconomic performance.

Is the effective labour demand curve downward sloping?

Is the effective LD-curve downward sloping?

- Standard argument is a microeconomic one: MPL
- Effective LD. Standard arguments
  - Real balance („Keynes“) effect. Assumes given M^S
  - NCM: Monetary policy reaction function
- What demand function is assumed? $u^{IS}=u(p,\pi)$
  - How does Δp affect demand?
  - How does CB react to Δp? (And how does demand react to interest changes)
  - How does $\Delta\pi$ affect demand?
- Note: there are also micro economic arguments why LD may not be downward sloping (Card and Kruger 1995).

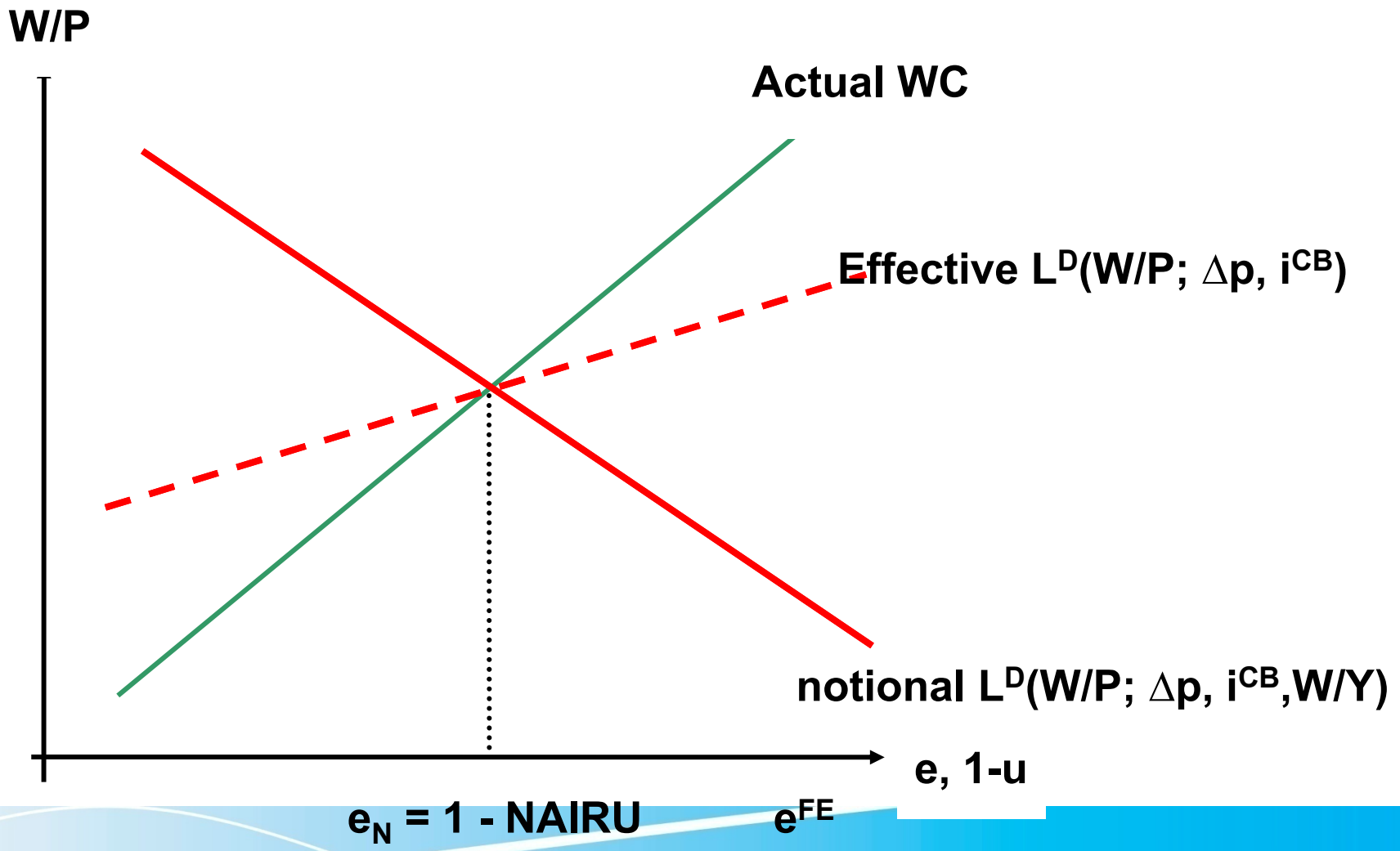
Net Effects: ∆Y/∆WS (Stockhammer et al 2009; Stockhammer & Ederer 2009)

	Effects on private excess demand	
	EU 12 (openness 15%)	*Austria (openn. 50%)*
Consumption	**0.37**	0.36
Investment	**-0.07**	-0.15
Domestic sector	***0.30***	*0.21*
Net exports	**-0.09**	-0.39
Total effect	**0.21**	**-0.18**

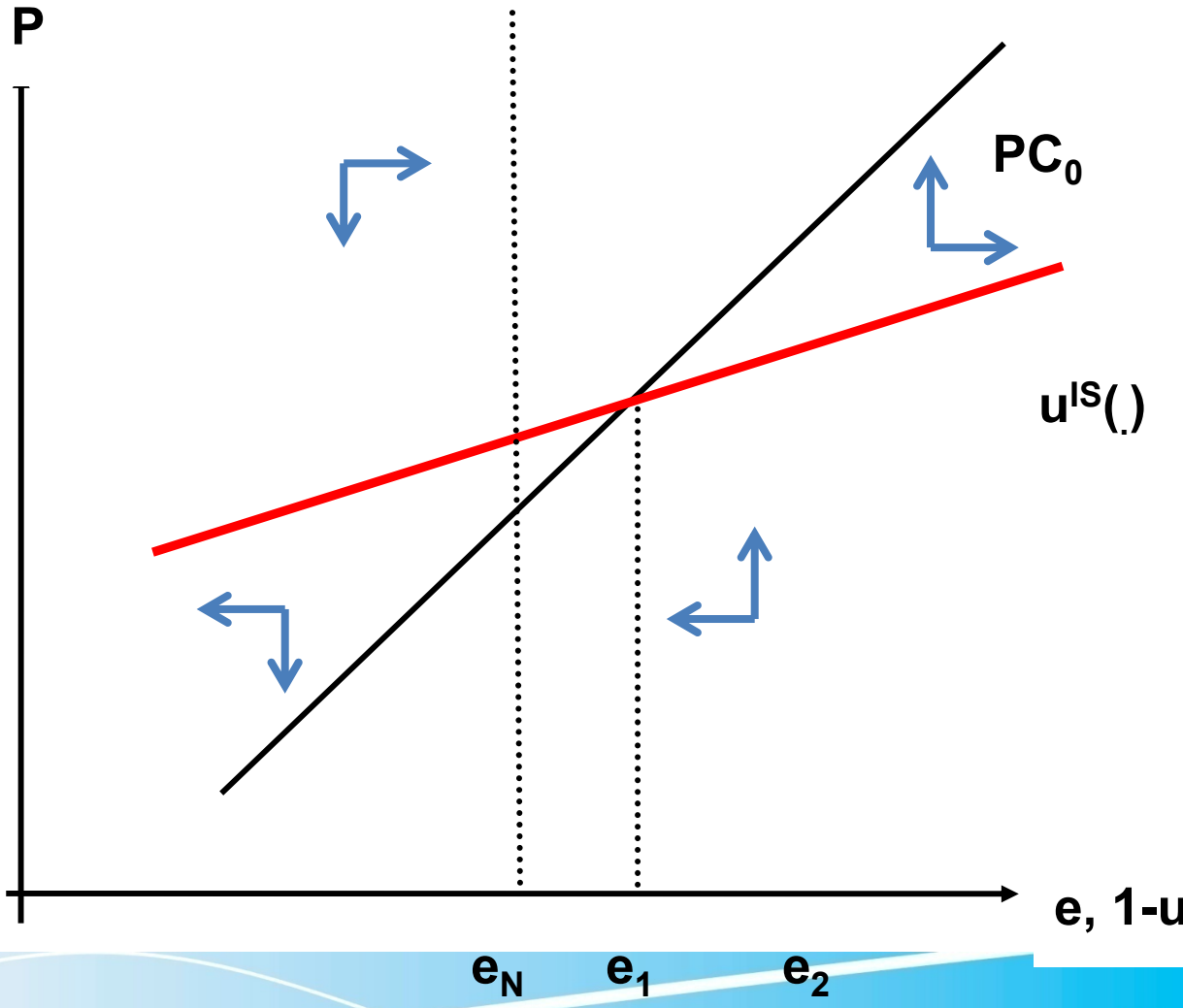
Is LD downward sloping?

- It all depends …
- Rich empirical literature demonstrating that domestic (excess) demand is wage-led (Bowles & Boyer 1995, Stockhammer & Onaran 2004, Naastepad & Storm 2006, Hein & Vogel 2008, Stockhammer et al 2009, Stockhammer & Stehrer 2010, Onaran & Galanis 2012)
- How high or low inflation is …
- How strong debt effects are likely to be …
- How effective monetary policy is …
- But we cannot assume that it is = we cannot assume that the labour market is self-stabilizing

notional labor demand in NAIRU and Walrasian model



NAIRU model with upward-sloping IS-curve



- A priori the slope of the curve can be positive or negative
- Negative: (standard) real balance effect
- Positive: real debt effect

Perverse short-run adjustment

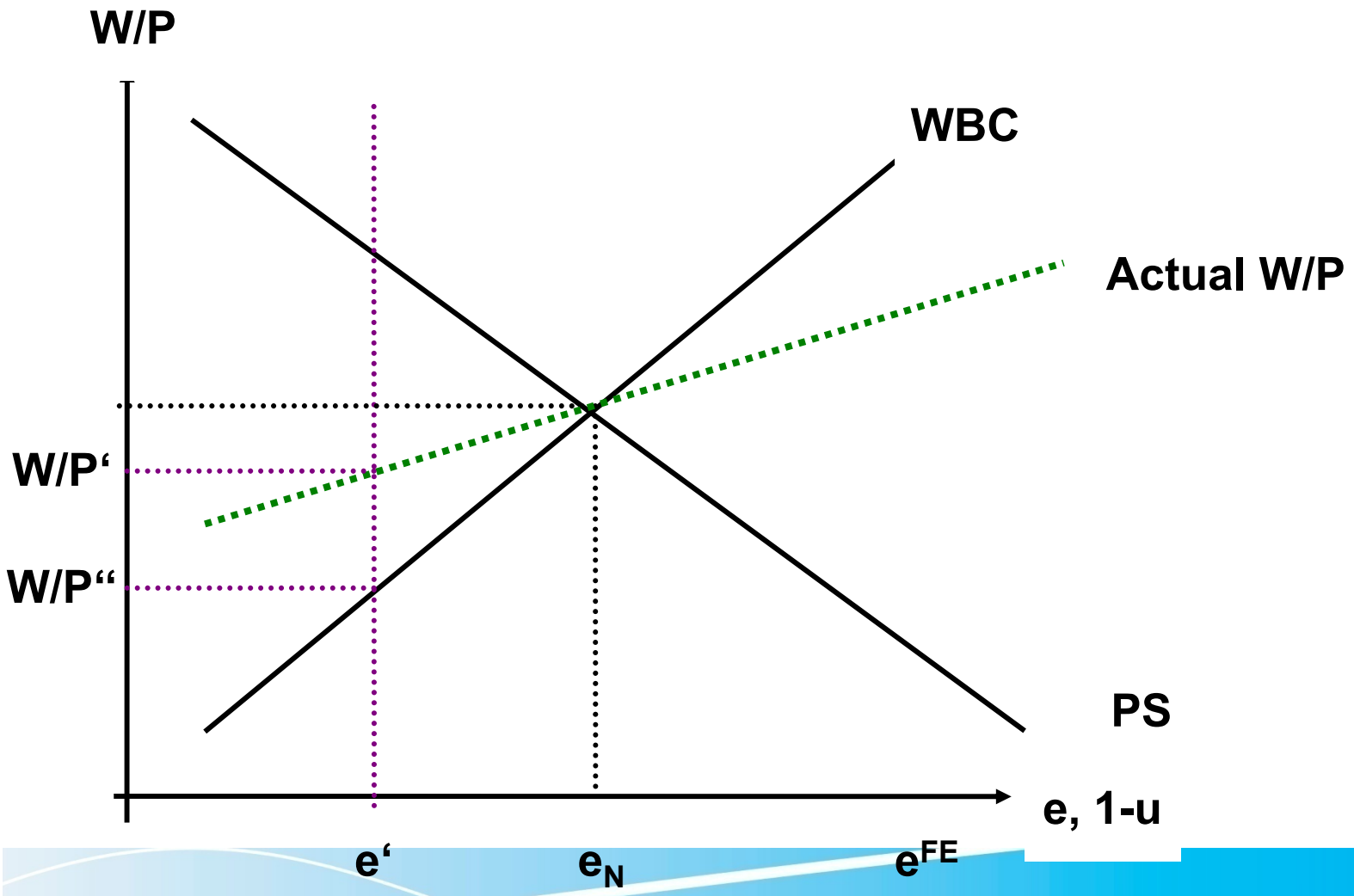
- If demand is wage led
- If inflation has expansionary effect
- If inflation is close to zero and the CB can’t lower the interest rate (ZLB)
- … then the NAIRU model does give no adjustment towards the NAIRU

Conventional wage norms and unemployment hysteresis

Conventional wage

- Akerlof's AEA presidential address demonstrates the importance of social norms: Keynesian consumption function, money wage illusion, real wage rigidity …
- here: importance for social norms for unemployment hysteresis
- Wage aspirations of workers not grounded in disutility of work, but in conventions (social norms)
- 'Conventional wage': workers have reference wage (past wage or wage of fellow workers)
- Any wage level, if it persists long enough will be accepted as 'normal'

Assume a demand shock



- Endogenous wage aspirations: workers (and the unemployed) regard wage of other workers as „normal“ and/or get used to current wage level

$$\hat{w}_0 = v.[(1-\pi) - (1-\pi)^W]$$

$$\Rightarrow u_N = f(u_{t-1})$$

- NK unemployment persistence: weak wage effects of long-term unemployed,
- Conventional wage: WBC shifts towards actual $(W/P_A, e_A)$ because reference wages („normal wage“) converges to actual wage (Skott 2005)

NK unemployment persistence

Figure 3: Standard unemployment persistence

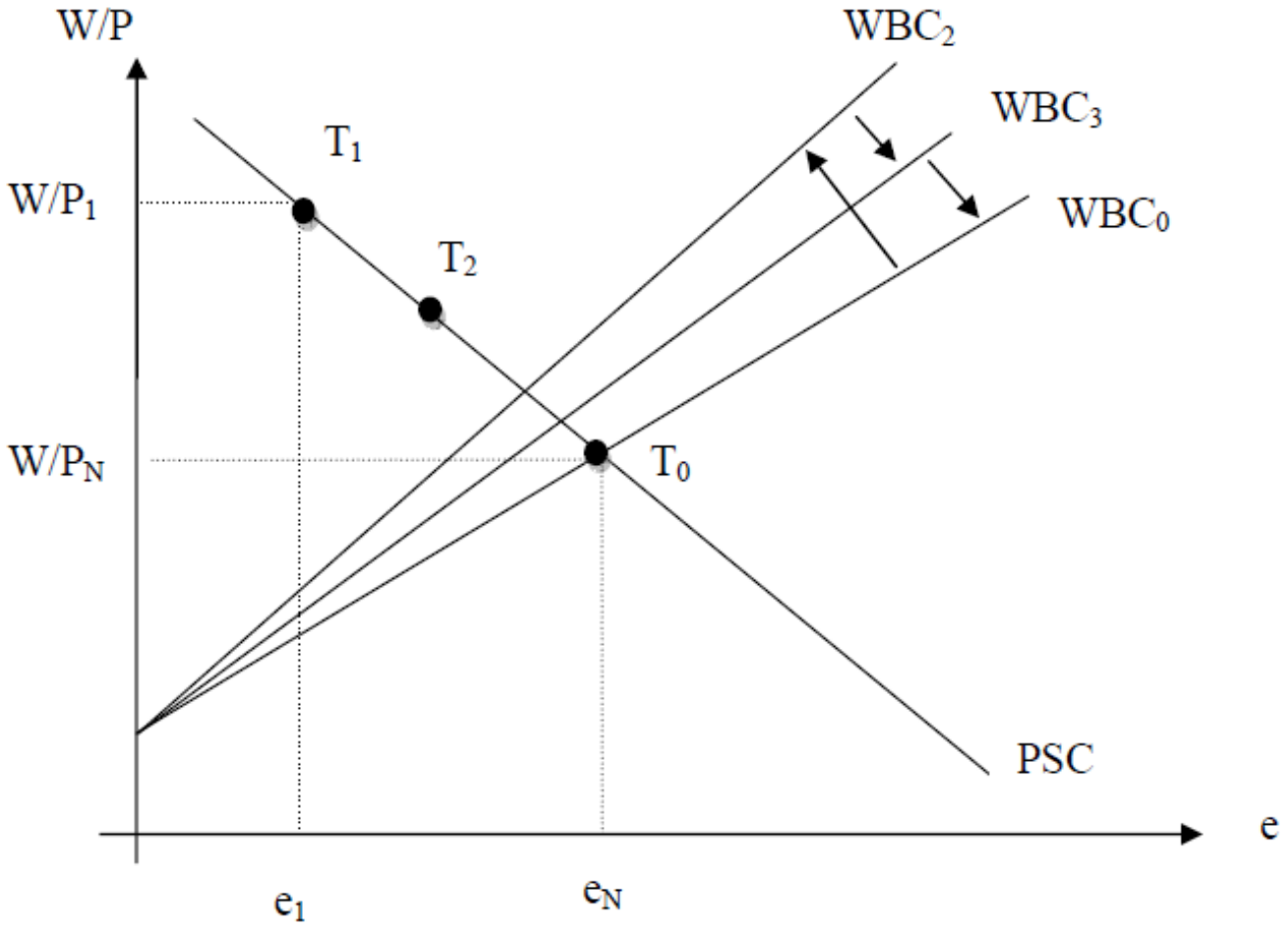
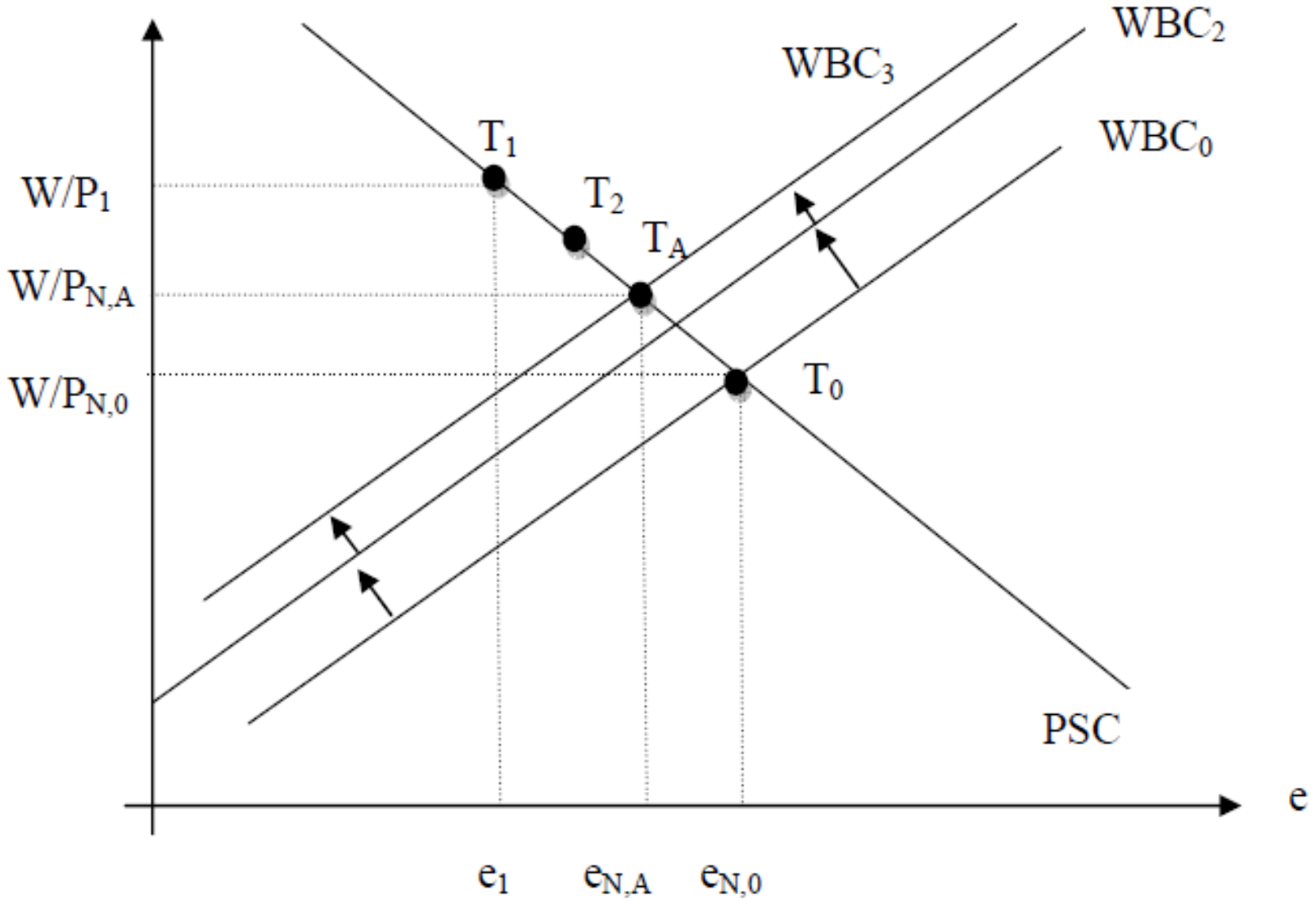


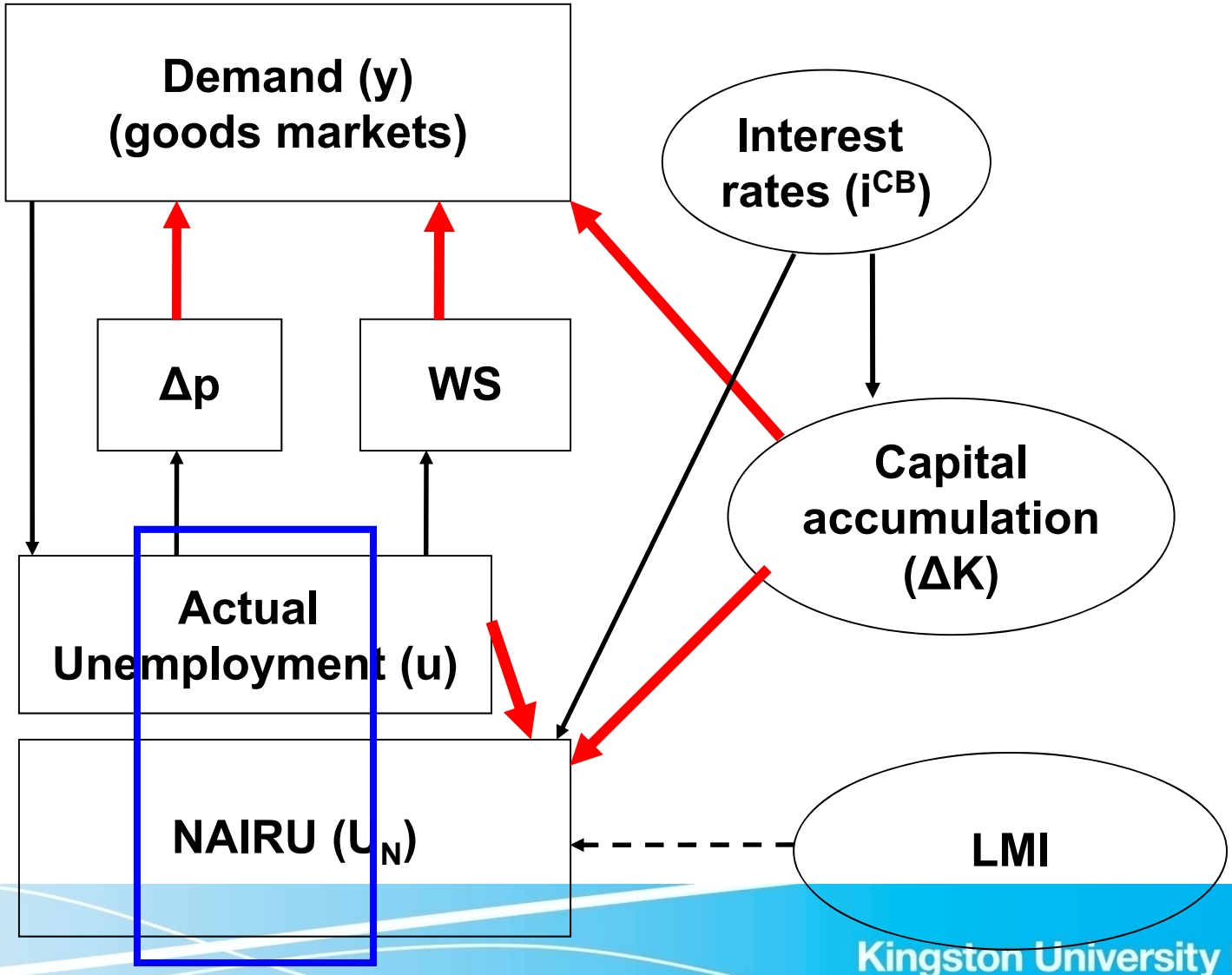
Figure 4: NAIRU endogeneity due to social wage norms



Endogenous NAIRU in PK models

- Keynes (1937 QJE, 221) “The theory can be summed up by saying given the psychology of the public, the level of output and employment as a whole depends on the amount of investment.”
- Capital stock: imperfect substitution (Rowthorn 1999)
- Capital stock: increased K (for given Y) reduces price setting power of firms (Rowthorn 1995)
- Profit claims / mark up depends on (long-term) interest rate
  - $\pi^R = \pi_0(i-p)$ (Hein 2008)

A Post-Keynesian NAIRU

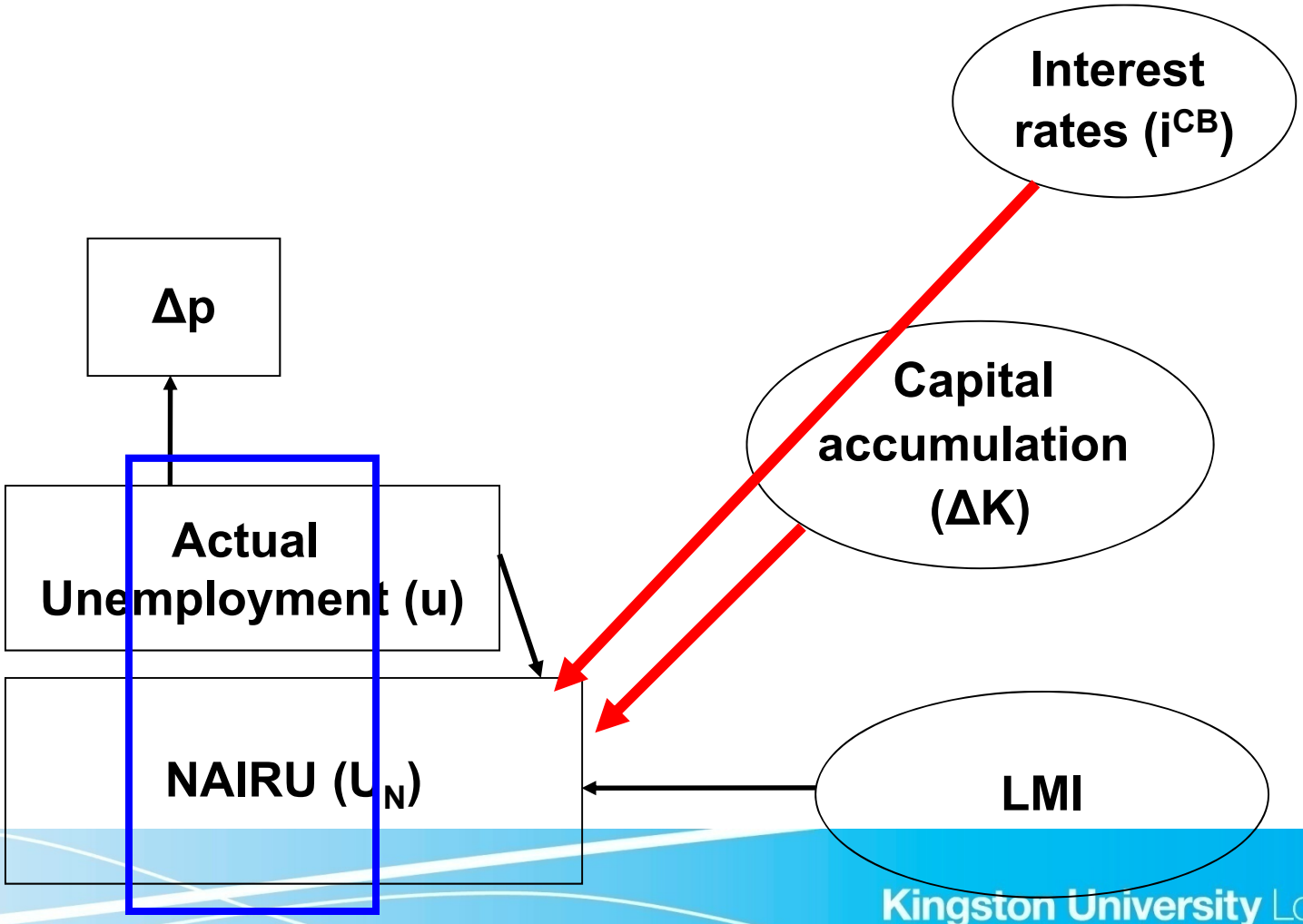


Determinants of unemployment: the role of capital accumulation

Capital accumulation as a determinant of actual unemployment and the NAIRU

- Stockhammer and Klär (2008)
- Estimate reduced from equation: $u = u(\Delta p, LMI, MS, \Delta K)$
- Panel approach (with non-overlapping 5 yr avg)
- 20 OECD countries
- Latest OECD LMI (Bassanini-Duval) dataset, BGHS dataset

Capital accumulation, labour market institutions and unemployment



Review of the empirical literature

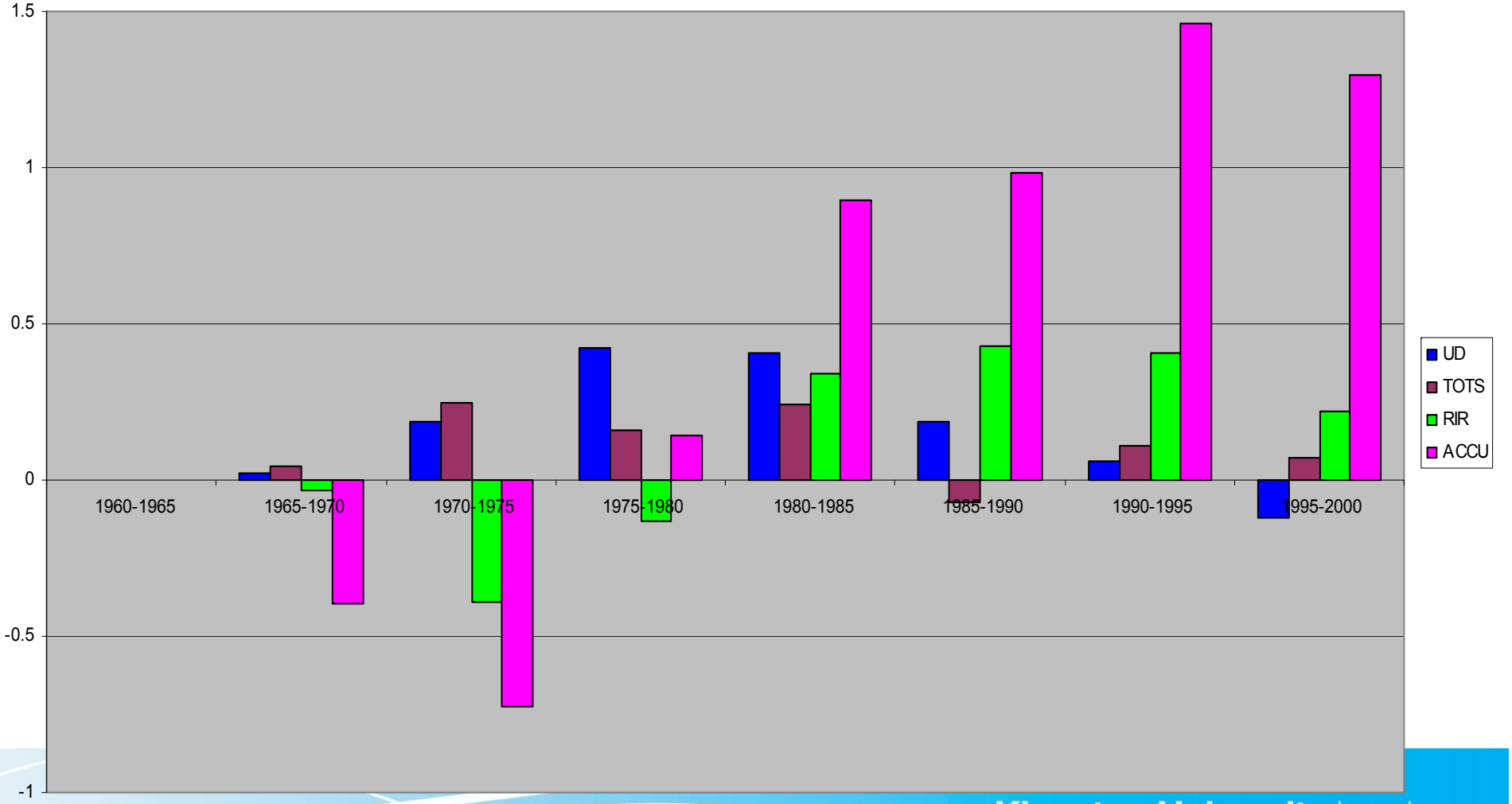
- **Large mainstream literature on LMI and unemployment**
  - (Nickell 1997, Blanchard & Wolfers 2000 (interaction of LMI and macroshocks), IMF 2003, Nickell et al 2006)
- **Two principal Keynesian criticisms:**
  - LMI explanation does not actually work empirically (Howell et al 2007), Baccaro and Rei (2007)
  - Capital accumulation matters (Rowthorn 1995, 1999, Stockhammer 2004, Palacio-Vera et al 2006, Arestis et al 2007)
    - Demand (and hysteresis)
    - Limited substitutability (Rowthorn 1999)
- **Usually not both elements in the same study**
  - Exceptions: Stockhammer 2004, Arestis et al 2007
  - But: time-series = only limited LMI set, small range of countries

Regression results (BD 83-03 dataset)

	3			4			5			6		
	LMI + MS + ACCU			LMI + MS + ACCU			LMI + MS + ACCU			LMI + MS + ACCU		
				(no period effects)			(incl. ΔINFL)			(in differences)		
UB	0.01	*0.58*		0.02	*1.06*		0.02	*0.75*		-0.03	-1.00	
BD	-1.09	*-0.82*		-0.03	*-0.02*		-1.08	*-0.83*		-2.35	-2.21	**
EPL	-0.72	*-1.05*		-0.63	*-1.05*		-0.77	*-1.12*		-0.79	-1.20	
UD	**0.13**	***4.01***	***	**0.09**	***2.25***	**	**0.13**	***4.14***	***	**0.09**	**3.02**	***
COORD	-0.77	*-1.09*		-1.25	*-2.78*	**	-0.97	*-1.35*		-0.63	-0.71	
CBC	**-0.04**	***-4.16***	***	**-0.03**	***-2.76***	***	**-0.04**	***-4.32***	***	**-0.05**	**-3.89**	***
TW	0.08	*1.18*		0.10	*1.61*		0.08	*1.27*		0.04	0.73	
PMR	0.39	*0.94*		-0.13	*-0.41*		0.41	*1.00*		0.66	1.79	
INT	**0.54**	***3.02***	***	**0.55**	***4.77***	***	**0.55**	**2.99**	***	**0.22**	**1.62**	*
TOTS	0.14	***2.27***	**	0.06	***1.30***		0.13	**2.27**	**	**0.02**	**0.45**	
LDS	0.11	*1.46*		0.12	*1.85*	*	0.11	1.58		0.07	1.00	
TFPS	0.96	*0.10*		6.06	*0.65*		0.28	0.02		0.09	1.59	
ACCU	**-0.87**	***-2.61***	**	**-0.92**	***-3.31***	***	**-0.87**	***-2.61***	**	**-1.69**	**-7.03**	***
ΔINFL							0.14	*0.56*				
R^2 (adj.)	0.92			0.99			0.92				0.72	
n	93			93			93				73	
DW	2.18			2.16			2.22				1.74	

White period standard errors & covariance (d.f. corrected); no weights (except variant 4: cross section weights). *,**,*** denote significance at the 10, 5, and 1% level, respectively.

Contributions to unemployment in %pts relative to 1960-64 for ‚mean country' (BGHS dataset)



Findings I

- **LMI do play a role, but a minor one**
  - Few are consistently statistically significant, many display perverse signs
  - Only Union Density (UD) statistically significant (and with the expected sign) across data sets and different specifications
  - In line with Baccaro and Rei (2007), Howell et al (2005)
- **Demand shocks do play an important role**
  - Strong (and significant) effect of real interest rates
    - +1%-pt. real interest rate → +0.5%-pts. unemployment rate
  - Strong (and significant) effect of ACCU
    - +1% ACCU → -0.9%-pts. unemployment rate
- **Supply shocks play some (minor) role**
  - TOT, LD have effects, particularly in the short (BD) sample

Findings II

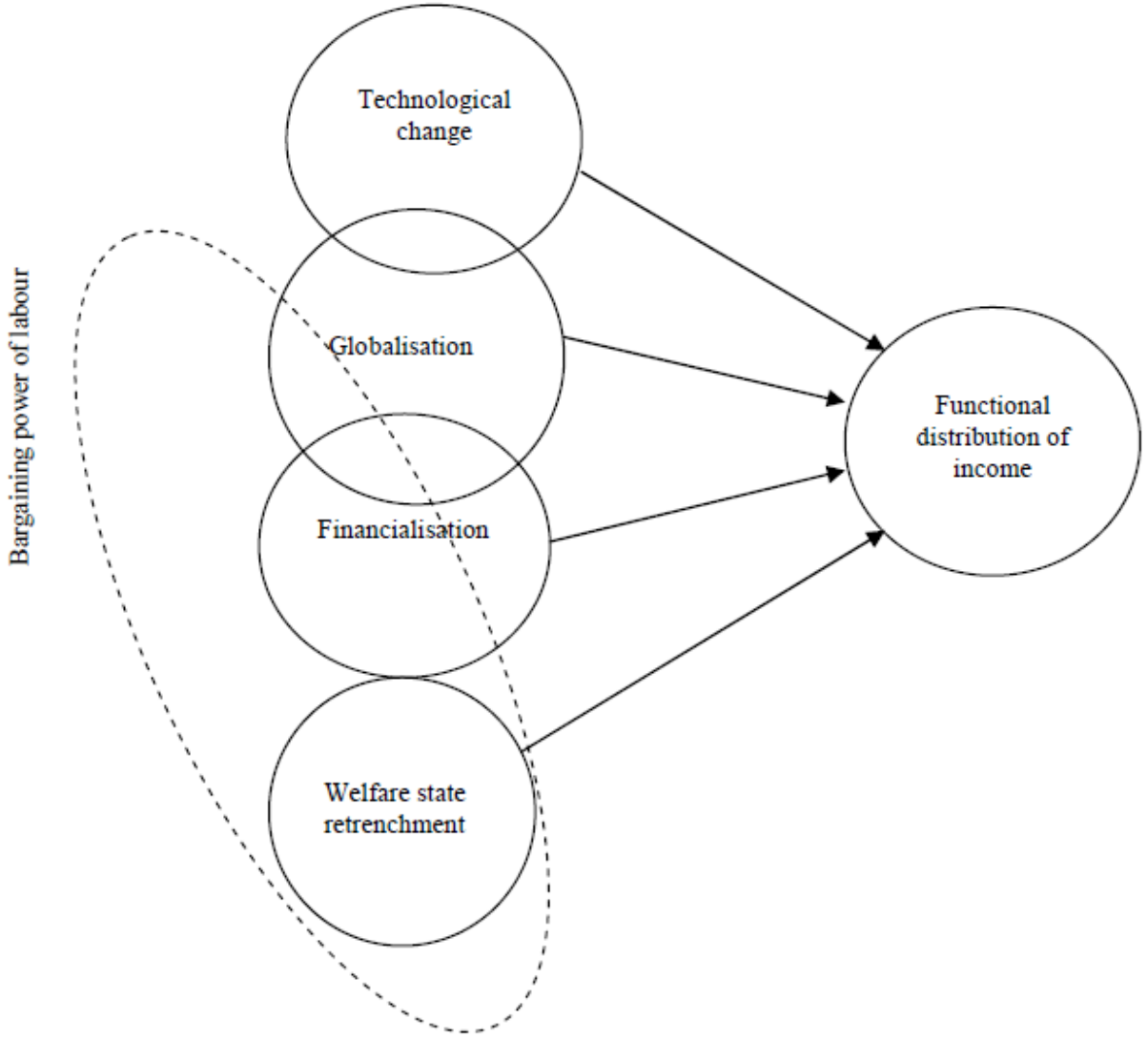
- **Economic relevance over time**
  - Early 70s: INT and ACCU lower unemployment, from 80s on strong positive effects: high real interest rates and diminished ACCU raise unemployment
  - 70s and 80s: UD contributes to unemployment, in 90s the effect is negative
  - From mid 80s on, TW contributes to unemployment (however typically insignificant in our study, as opposed to B&D 2006)

Determinants of wages (distribution)

Hysteresis delinks the determinants of unemployment and distribution

- A standard NAIRU model (as well as Goodwin-type Marxian model) will have the same determinants for equilibrium employment and for equilibrium wages (or distribution)
- If there is hysteresis this link gets broken.
- That's what I find: different determinants
  - Capital accumulation not a major determinant of distribution

Determinants of income distribution



Overview baseline variables
WS = f(fin, tech, wfst, glob)

	ALL/DVP	ADV
financialisation	FINGLOB	FINGLOB
globalisation	OPEN	OPEN ToT
Welfare state	CG	CG UNION
Technological change	GDPpw IND AG	KL ICT

Baseline specification (ADV)

- Baseline equation (advanced ADV countries):

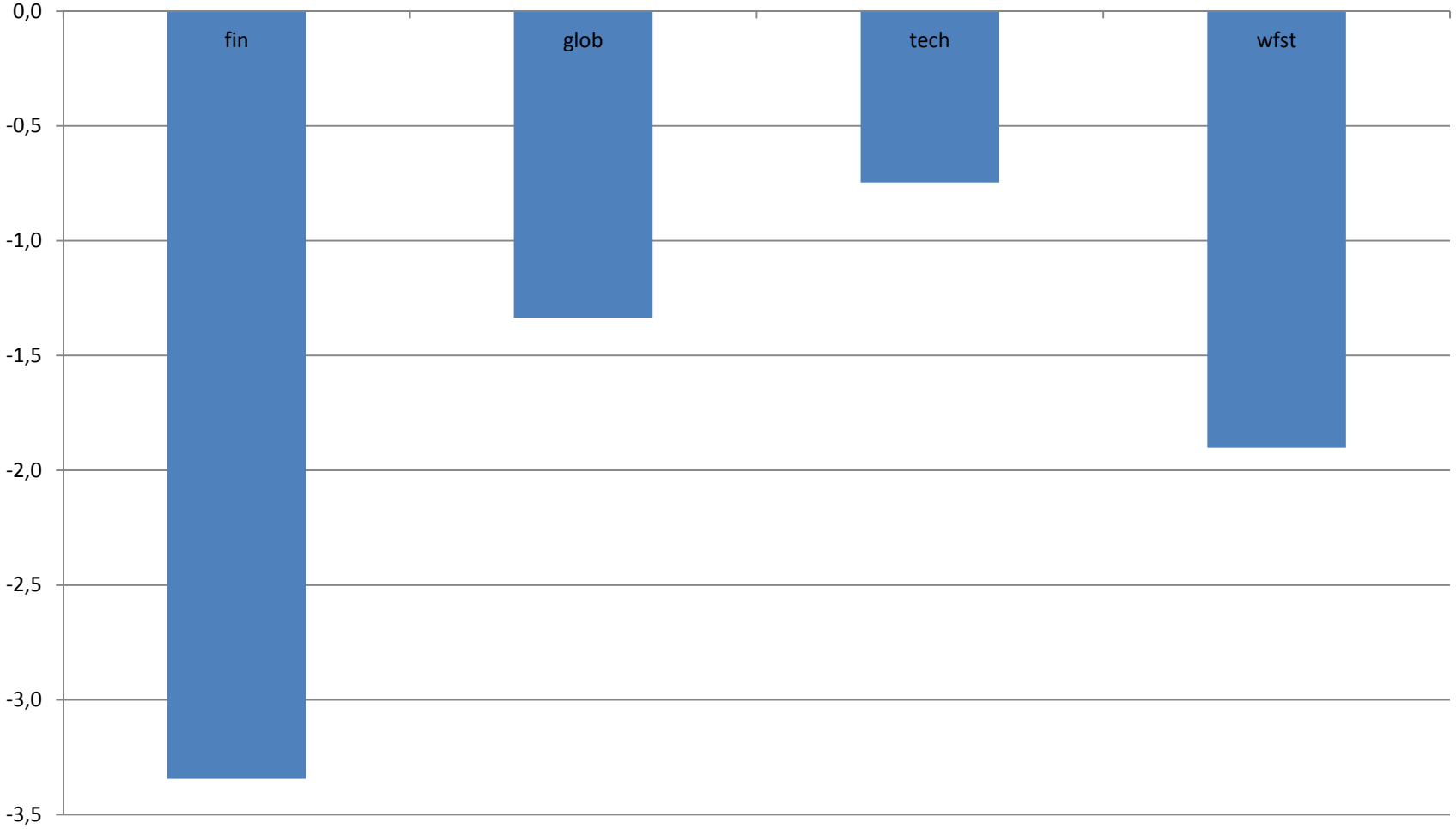
$$WS = f(\Delta y, FINGLOB, TOT, OPEN, govt, UNION, K/L, ICT)$$

- Variables for
  - Globalisation: OPEN, TOT
  - Financialisation: FINGLOB
  - Technological + structural change: Y/L, ICT
  - Welfare state retrenchment: gov't, UNION

Baseline specification (ADV)
dep var: $WS_{adj,\ priv}$

	coeff	t-value
GROWTH	-16.43	-5.22***
LOG(FINGLOB)	-2.42	-3.37***
OPEN	-5.89	-3.21***
TOT	-4.55	-2.57**
CG	0.93	3.84***
UNION	0.10	1.78*
LOG(KL_KLEMS)	-7.03	-1.82*
LOG(ICT_KLEMS)	1.44	1.64
obs	470	
adj r2	0.94	
dw	1.81	

Contributions to the change in the wage share, advanced countries 1980/84-2000/04



Policy conclusions

OECD 2006

- “on average, extremely different degrees of “interventionism” in almost each selected policy area [on labour market] may lead to very similar employment and unemployment rates. This suggests that there is not a single road for achieving good employment performance.” *OECD Employment Outlook 2006, 192*

policy conclusions

- Issues of fairness, justice are ubiquitous on labour markets. Instiutions are important in mediating and stabilizing distributional conflicts (not merely „imperfections“)
- No guarantee that effective labour demand is downward sloping – labour market is not self adjusting!
- Hysteresis effects are pervasive as wage norms will adapt to actual wages – NAIRU is endogenous.
- Role of the state: (1) a mediator, (2) stabiliser
  - Wage conflicts are unresolved distributional conflicts, not an inability to apprehend the law of the market.
  - Employment stabilization is important policy goal, even if it is inflationary in the short run.

Thank you for your attention!

NAIRU model: labour market

- *Assume const labor productivity*
- Wage claims (WBC): $(1-\pi)^W = w_0 - w_1 u$
- Profit claims (PS): $\pi^R = \pi_0$
- Actual wage share: $(1-\pi) = w_0 - w_1 u - w_2 p^U$
- Actual profit share: $\pi = \pi_0 - \pi_2 p^U$
- *Adaptive expectations:* $p^E = p_{t-1}$, $p^U = \Delta p$ *[6]*
- PC: $\Delta p = (w_0 + \pi_0 - 1)/(\pi_2 + w_2) + w_1/(\pi_2 + w_2).u(y)$
- $u = u_N - (\pi_2 + w_2)/w_1 \, \Delta p$
- NAIRU: $u_N = (w_0 + \pi_0 - 1)/w_1$

Phillips Curve: PC: $p = p(u, u_N; p_{t-1})$

NAIRU model: demand side

- Demand: $y = y_0 + y_2 p + y_3 \pi$ [8]
  - $y = y_0 + y_2(\Delta p + p_{t-1}) + y_3 \pi$
- Employment: $u = n - y$ [7]

- [8] in [7]: $u^{IS} = u(\Delta p, \pi)$

Table 6.3. **Four different regimes of labour market functioning**[a]

	OECD unweighted average	High employment outcomes		Low employment outcomes	
		English-speaking countries, mainly[b]	North European countries, mainly[c]	Countries of continental and southern Europe, mainly[d]	Countries of eastern Europe[e]
Employment protection legislation	2.01	1.38	2.13	2.71	1.83
Generosity of unemployment benefit system[f]	27.81	18.23	39.86	36.17	9.69
Active labour market programmes[g]	29.25	15.76	64.14	25.84	3.46
Tax wedge[h]	27.10	18.54	27.42	34.33	32.43
Union coverage	59.96	30.75	83.33	82.57	38.33
Union co-ordination	2.88	1.88	3.92	3.79	1.33
Product market regulation	1.42	1.20	1.28	1.55	1.97
Employment rate	67.11	70.92	71.91	62.54	58.00
Unemployment rate	7.47	5.30	4.79	8.97	15.12
Total LMP expenditures[i]	1.86	0.98	2.68	2.60	0.82
of which: ALMP expenditures[i]	0.76	0.39	1.31	0.94	0.25
Income inequalities (Gini index)[k]	29.35	31.50	25.58	29.85	31.35
Relative poverty rate[l]	9.64	11.78	7.77	9.86	7.05

a) This country classification is derived from a Principal Component Analysis (see Annex 6.A1), a simple statistical technique which helps to identify existing combinations of policy settings and to highlight similarities and differences across countries. However, some countries are barely representative of the group of countries to which they belong, being close to the frontier between two regimes of labour market functioning. This is for instance the case for Austria, Finland, Germany, Ireland, Japan, Korea, Portugal, Sweden and Switzerland, as shown in the Annex 6.A1.

b) This group of countries includes Australia, Canada, Japan, Korea, New Zealand, Switzerland, the United Kingdom and the United States.

c) This group of countries includes Austria, Denmark, Ireland, the Netherlands, Norway and Sweden.

d) This group of countries includes Belgium, Finland, France, Germany, Italy, Portugal and Spain.

e) This group of countries includes the Czech Republic, Poland and the Slovak Republic.

NAIRU model: different closures

- Simple NAIRU model
- Wage setting (WBC) and price setting (PS) function
  - Imply a NAIRU
  - Give a reduced form (expectations-augmented) Phillips Curve (PC)
- Employment determined by demand
- *Demand function:* $y = y_1.p + y_2.WS$
  - How does Δp affect demand?
  - How does ΔWS affect demand?
- *Determination of the NAIRU* (u_N)
  - Is it exogenous (LMI) or endogenous („hysteresis“)?
  - NAIRU: $\hat{u}_N = \lambda(u-u_N)$. λ=0?
  - Or: y(x) *and* $u_N(x)$

It‘s not labor market institutions!

"While labor market institutions can potentially explain cross country differences today, they do not appear able to explain the general evolution of unemployment over time."

- Blanchard & Wolfers 2000, *EJ*, p. 2

"the Layard and Nickell model seems unable to explain the increase in European unemployment"

- Madsen 1998, *Economic Journal*, p. 862

"Simple, cross-country comparisons suggest that EPL has little or no effect on overall unemployment."

- *OECD Employment Outlook* 1999, 50

“labor market policies are not important causes of the unemployment successes and failures since 1985."

- Ball 1999, *Brookings Papers ..,* 191

LMI, cont‘d

- “no meaningful relationship between [the] OECD measure of labor market deregulation and shifts in the NAIRU.”
- Baker et al 2005, 107

- „We find no systematic support for the deregulatory view. Indeed, employment protection, benefit replacement rates, and tax wedge do not seem to bave a significant impact on unemployment. At the same time, we find a robust positive association between union density and unemployment.“
- Baccaro and Rei 2007, 563

Classification of the Literature

	Econometric approach			*LMI controlled for*			*Macro shocks controlled for*		
	TS	Dyn.P	Sta.P	None	some	many	none	some	K
Nickell 1997			X			X	X		
Blanchard & Wolfers 2000			X			X		X	
Bassanini & Duval 2006		X				X		X	
Nickell et al 2007		x	x			x		x	
Baccaro & Rei 2007		X	X			X		X	
Stockhammer 2004	X				X				X
Palacio-Vera et al 2006	X			X				X	X
Arestis et al 2007	X				X				X

Regression results based on Baker et al dataset (1960-99)

Table 2: Unemployment effects of Institutions, macro shocks, and capital accumulation															
Baker et al dataset (1960-1999)															
	3			**4**			**5**			**6**		
	LMI + MS + ACCU			**LMI + MS + ACCU**			**LMI + MS + ACCU**			**LMI + MS + ACCU**		
				(no period effects)			(incl. ΔINFL)			(in differences)		
UB	-2.64	*-1.00*		-1.57	*-1.07*		-2.62	*-1.00*		-1.19	-0.70	
BD	-1.63	*-0.90*		-0.33	*-0.33*		-1.65	*-0.91*		-1.77	-1.37	
EPL	-1.09	*-0.73*		-0.55	*-0.50*		-1.06	*-0.71*		-2.05	-3.32	
UD	**6.02**	***1.54***		**-0.93**	***-1.45***		**-0.93**	***-1.41***		**5.78**	**3.01**	***
COORD	-0.94	*-1.42*		2.78	*1.27*		6.39	*1.62*		-0.14	-0.35	
TW	3.14	*0.43*		11.51	*3.51*	***	2.77	*0.38*		2.36	1.34	
INT	**0.25**	***3.10***	**	**0.28**	***3.99***	***	**0.23**	***2.80***	**	**0.16**	**2.90**	***
TOTS	-0.25	*-0.73*		-0.32	*-1.06*		-0.28	*-0.83*		-0.14	-0.42	
ACCU	**-0.59**	***-1.51***		**-1.05**	***-4.66***	***	**-0.55**	***-1.39***		**-0.93**	**-3.30**	***
ΔINFL							-0.21	*-1.05*				
R^2 (adj.)	0.81			0.84			0.81			0.48		
n	149			149			149			129		
DW	0.92			1.13			0.92			1.68		

Regression results (BD 83-03 dataset)

	3			4			5			6		
	LMI + MS + ACCU			LMI + MS + ACCU			LMI + MS + ACCU			LMI + MS + ACCU		
				(no period effects)			(incl. ΔINFL)			(in differences)		
UB	0.01	*0.58*		0.02	*1.06*		0.02	*0.75*		-0.03	-1.00	
BD	-1.09	*-0.82*		-0.03	*-0.02*		-1.08	*-0.83*		-2.35	-2.21	**
EPL	-0.72	*-1.05*		-0.63	*-1.05*		-0.77	*-1.12*		-0.79	-1.20	
UD	**0.13**	***4.01***	***	**0.09**	***2.25***	**	**0.13**	***4.14***	***	**0.09**	**3.02**	***
COORD	-0.77	*-1.09*		-1.25	*-2.78*	**	-0.97	*-1.35*		-0.63	-0.71	
CBC	**-0.04**	***-4.16***	***	**-0.03**	***-2.76***	***	**-0.04**	***-4.32***	***	**-0.05**	**-3.89**	***
TW	0.08	*1.18*		0.10	*1.61*		0.08	*1.27*		0.04	0.73	
PMR	0.39	*0.94*		-0.13	*-0.41*		0.41	*1.00*		0.66	1.79	
INT	**0.54**	***3.02***	***	**0.55**	***4.77***	***	**0.55**	**2.99**	***	**0.22**	**1.62**	*
TOTS	0.14	***2.27***	**	0.06	***1.30***		0.13	**2.27**	**	**0.02**	**0.45**	
LDS	0.11	*1.46*		0.12	*1.85*	*	0.11	1.58		0.07	1.00	
TFPS	0.96	*0.10*		6.06	*0.65*		0.28	0.02		0.09	1.59	
ACCU	**-0.87**	***-2.61***	**	**-0.92**	***-3.31***	***	**-0.87**	***-2.61***	**	**-1.69**	**-7.03**	***
ΔINFL							0.14	*0.56*				
R^2 (adj.)	0.92			0.99			0.92				0.72	
n	93			93			93				73	
DW	2.18			2.16			2.22				1.74	

White period standard errors & covariance (d.f. corrected); no weights (except variant 4: cross section weights). *,**,*** denote significance at the 10, 5, and 1% level, respectively.