

# The effects of immigration on Wages and Employment

Robert Rowthorn  
University of Cambridge UK

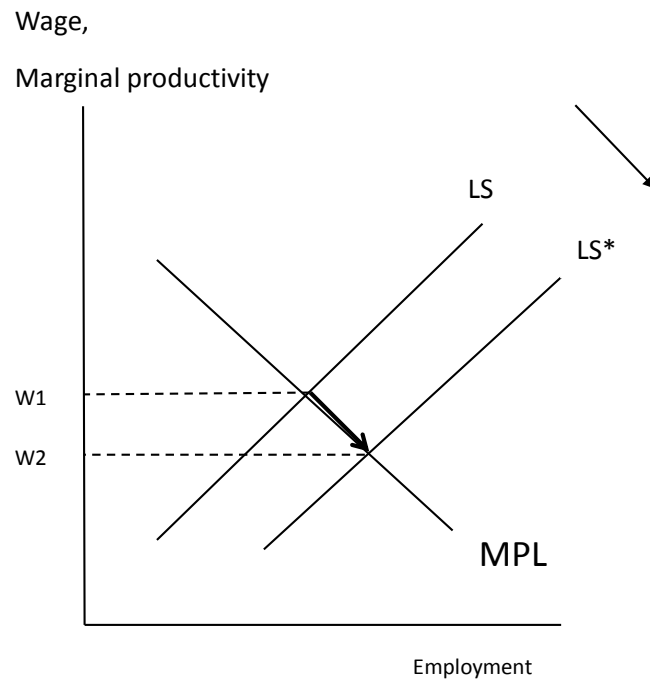
“There is no theoretical reason why immigration need depress either native wages or increase native unemployment” (*Government Submission to the House of Lords, 2007*)

# The Canonical Model: Effect of Immigration on the Real Wage

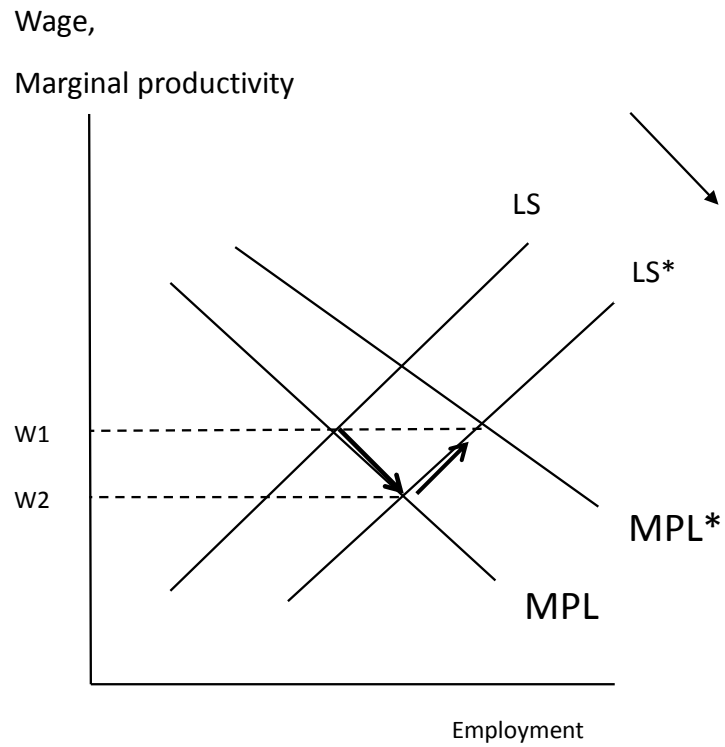
- Homogeneous Labour
- Returns to scale: decreasing in the short-run but constant in the long-run
- Upward sloping supply curve of labour
- Wages flexible

Result of immigration: wages fall in the short-run, but eventually return to their old level.

# Canonical Model: Effect of Immigration on Wages Short-run (Given Capital Stock)



Canonical Model:  
Effect of Immigration on Wages  
Long-run (After Capital Stock Adjusts)



# Extensions of the Canonical Model

- Wages rigid: immigration leads to job loss for natives
- Complements and substitutes: different types of immigration have different effects
- Local workers benefit from immigrants whose labour complements their own, and lose from competition with immigrants.
- Historically, immigration has been very heterogeneous. Local workers of any given type gain from some kinds of immigration and lose from others. Net effect is likely to be quite small (e.g. unskilled workers gain from the immigration of entrepreneurs but also lose if they have to compete with immigrants).

# Returns to Scale

Robert Rowthorn (2008), “Returns to Scale and the Economic Impact of Migration”, *Spatial Economic Analysis*, 3:2, 151-158.

# Effects of immigration in Model

- Raises wages under increasing returns
- Reduces standard of living in most cases
- Leads to outflow of natives in most cases

Hatton and Tani (2005) find that an inflow of migrants into UK regions leads to an outflow of existing residents.

# Exception

Immigration leads to an increase in the standard of living and an inflow of natives in the labour supply version of the model when:

- Increasing returns to scale are large
- Consumption externalities are small

# Estimates of Returns to Scale

*Effect on productivity of doubling city size*

- USA: 3-8% (Rosenthal and Strange, 2003)
- Japan: 3.4% (Nakamura, 1985)
- Brazil: close to zero (Henderson, 1986)
- Europe (incl. UK): 4.5% (Ciccone, 2002)
- UK: 3.5% (Rice, Venables & Patacchini 2005)

# Evidence on Labour Market Impact of Immigration

- “The empirical literature from around the world suggests little or no evidence that immigrants have had a major impact on native labour market outcomes such as wages and unemployment. Recent work by a number of other authors for the UK is also consistent with this view.” (*Blanchflower et al, 2007*)

# Some Contrary Results

- Angrist and Kugler (2003) find that immigration has a large and statistically significant effect on male employment in the EU. For each 100 male immigrants, they estimate that between 35 and 83 male native jobs will be lost.
- Using Census data for the UK and the “difference in differences” method, Dustmann et al (2003) estimate that 23- 60 native jobs are lost for each 100 immigrants. [Using LFS data, the same study finds a smaller and less statistically significant effect.]
- The IMF finds that immigration into the high-income economies has increased the share of profits at the expense of wages. *IMF World Economic Outlook 2007*, Chapter 5.
- A succession of articles by Borjas finds the immigration of unskilled workers into the USA, especially from Mexico, has had a large impact on the wages of unskilled native workers, especially blacks. [Ottovani and Peri (2006) argue that the effect is much less than Borjas claims]

# Evidence: Transitional Effects

"Our estimates do not find any permanent effect of immigration, measured as the share of immigrants in the labour force, upon natives' unemployment.... however, the transitory impact may be substantial; its magnitude and duration largely depends on the persistence of unemployment shocks, and it may last between five and ten years." (Jean and Jiménez, OECD 2007)

# UK Evidence

- Aggregate Employment Series
- Econometric Studies

Figure 1: Growth of UK Employment Since 1997

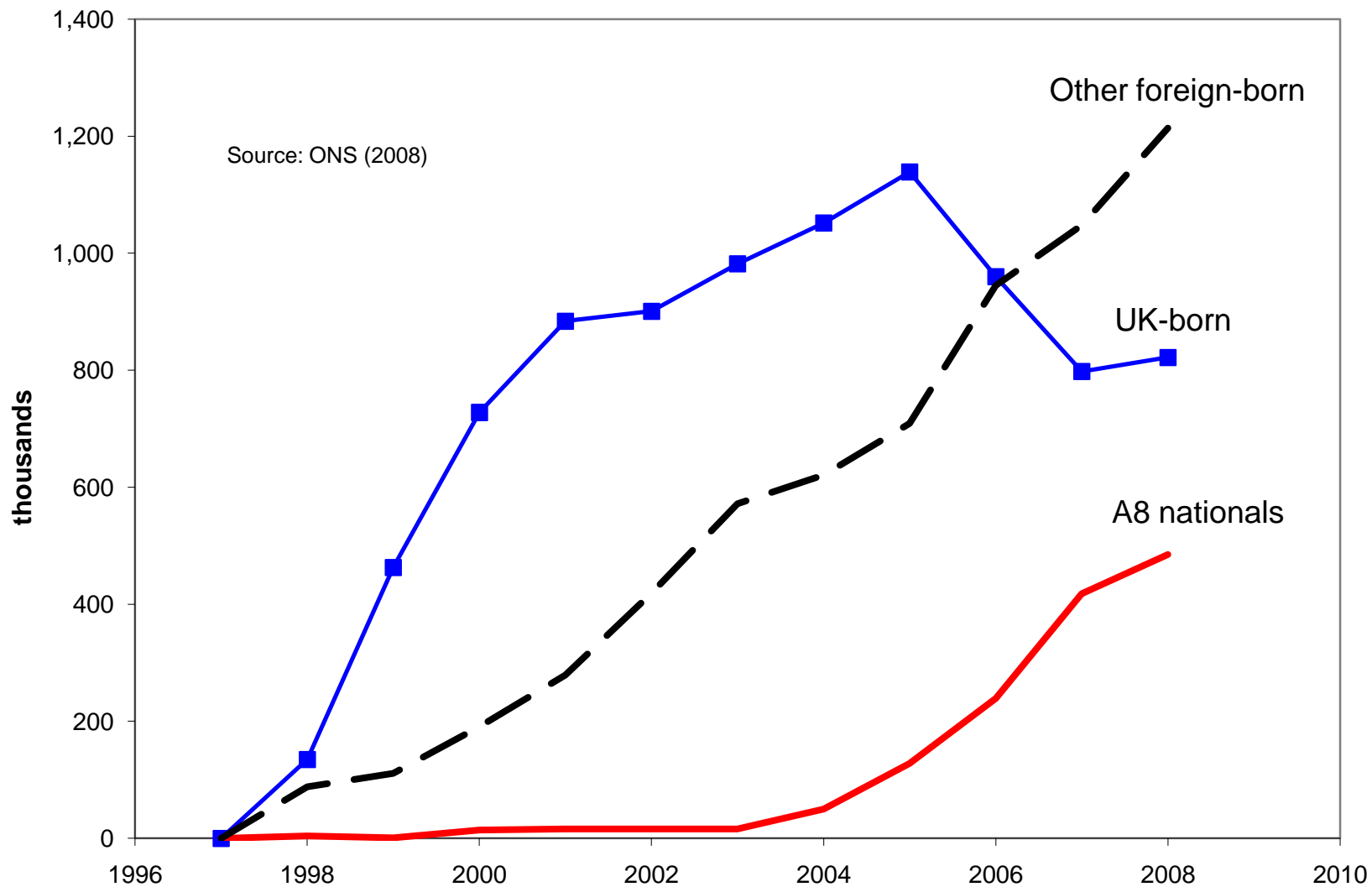
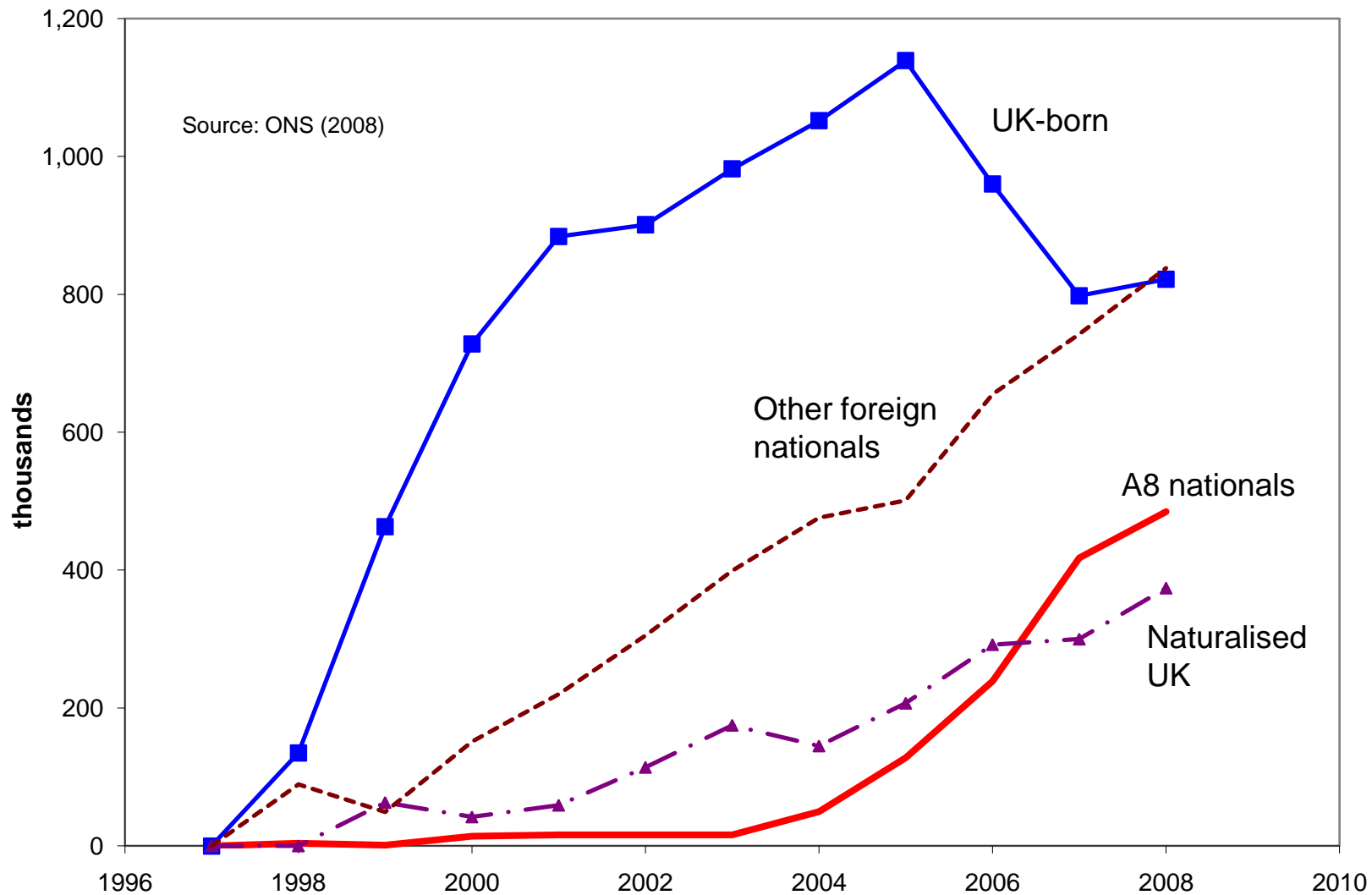
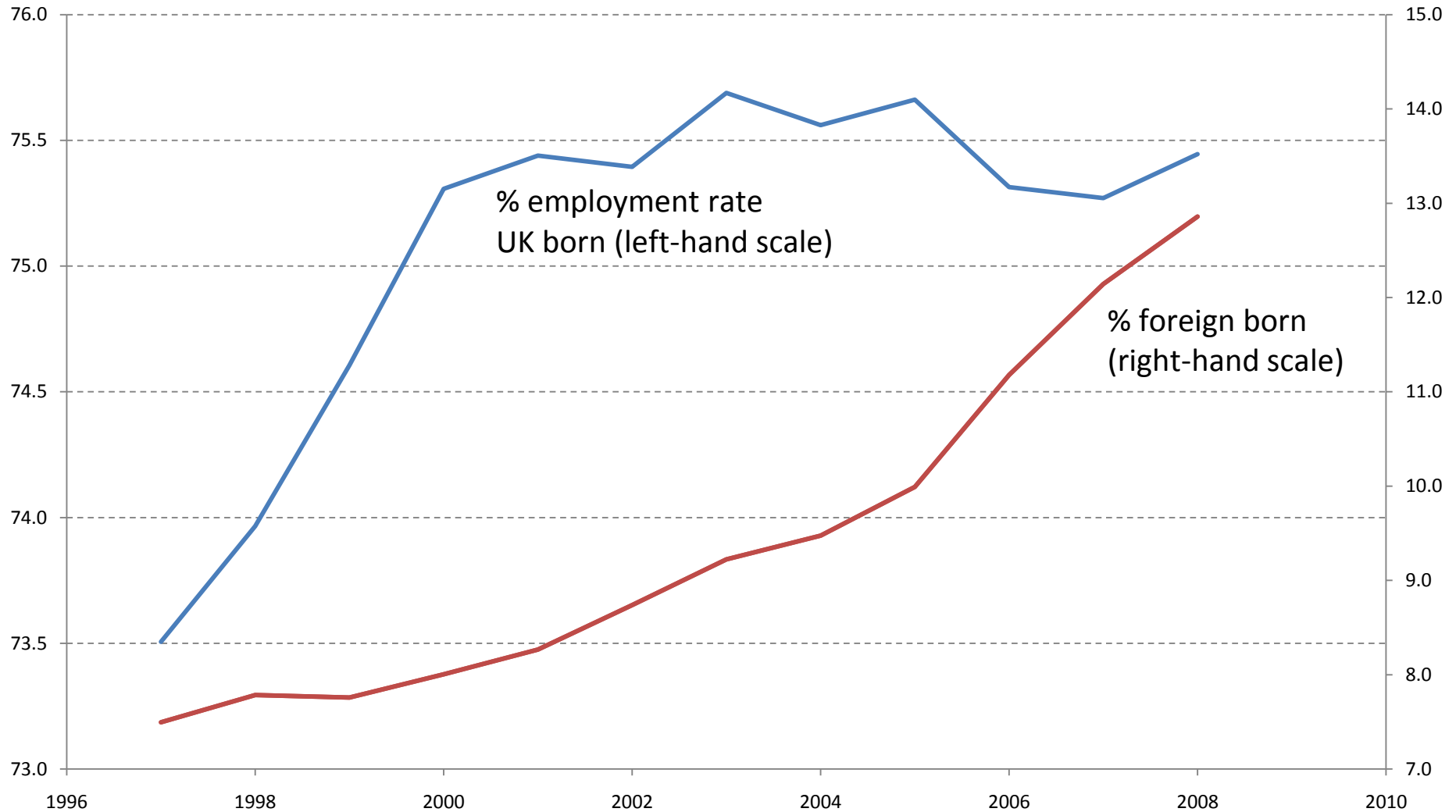


Figure 2: Growth of UK Employment Since 1997



**Figure 3: Employment Share of Foreign Born and Employment Rate of UK born since 1997**



# DWP study

- Gilpin, N., M. Henty, S. Lemos, J. Portes and C. Bullen (2006), “The impact of free movement of workers from Central and Eastern Europe on the UK labour market”, DWP Working Paper No 29.

# Gilpin et al findings

- Statistically not significant, but sometimes large, estimates for the impact of A8 immigration on unemployment in the UK.
- Most “long-run” coefficients are equal to at least 0.6.
- If correct, would imply that in the “long-run” 60 or more local workers will become unemployed for each 100 A8 immigrants that enter a region.(Estimate very unreliable)
- Paper claims that coefficients are “small”. Also no “discernable” evidence that recent immigration has caused unemployment.
- Low statistical significance not the same as “small”, nor does it mean “not discernable”.
- Correct interpretation of the results is that there is too much noise in the system or too many confounding factors to permit reliable estimation. Jury still out.

# CReAM Study

Christian. Dustmann, Tommaso. Frattini and Ian Preston (2008), “The Effect of Immigration along the Distribution of Wages”, Discussion Paper, CDP\_03\_08

“immigration leads to a decrease in wages at those parts of the distribution where the relative density of immigrants is higher than the relative density of natives. ... On average over the distribution of natives, we find that immigration, over the period considered, leads to a slight increase in average wages”. (Dustmann et al 2008)

Wage reduction below 20<sup>th</sup> percentile

Manacorda et al (2006) find that losers are mainly previous immigrants

# Reasons for average increase

- Immigrants and natives imperfect substitutes in same education and age cell.
- Immigrants down-grade when they arrive: work below education level
- Immigrants earn less than their marginal product.
- Above generate a surplus for existing workers







An increase of 1 percentage point in the share of the foreign born working-age population leads to an increase of between 0.2% and 0.3% in average wages. (Dustmann et al 2008)

Between 1997 and 2008 the foreign born share of the working age population rose by 5.3 percentage points (from 8.6% to 13.9%). With the above estimates this implies an increase of between 1.1% and 1.6% in the average wage.

# Population Implications of Dustmann et al Findings

- If immigrations stops, the gains from past immigration fade away.
- To maintain the 1.1%-1.6% increase in the average wage already achieved requires substantial immigration in the future
- To achieve a further 1.1%-1.6% increase in real wages would require raising the share of foreign born in the working age population from 13.9% to 19.2%.
- This would require a permanently high level of immigration.
- Result would be indefinite population growth.
- Impact on non-wage elements in the standard of living?

**TABLE 1: Impact of an Immigration Shock**  
 (corrected version of table in Rowthorn (2008))

	$P$	$G$	$p$	$w$	$\frac{w}{p}$	$L$	$u$	$N$
<b>Indexation Version</b>								
Increasing returns (  )	+	+	+	+	-	+	-	-
Decreasing returns (  )	+	+	+	+	-	-	+	-
<b>Labour Supply Version</b>								
<i>Increasing returns (  ):</i>								
Small 	+	+	+	+	+	+	-	+
Big 	+	+	+	+	-	+	-	-
<i>Decreasing returns (  )</i>	+	+	+	-	-	+	+	-