BANK OF ENGLAND

Speech

Trends in European labour markets and preferences over unemployment and inflation

Speech given by

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Reference paper

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"Inspiration is most likely to come through the stimulus provided by the patterns, puzzles and anomalies revealed by the systematic gathering of data, particularly when the prime need is to break our existing habits of thought"
Ronald Coase, Nobel Prize lecture (1991)

In this lecture I am going to consider the similarities and differences between European labour markets. This is going to be grounded in various pieces of research I have done in this area. A good deal of this work is joint with Andrew Oswald, and involves examining micro-data files on individuals across space and through time. It mostly involves estimating equations of a similar form across countries. Our main focus has been on comparisons between EU countries and the USA but we have also looked at other OECD countries. What is striking is how similar the various *patterns in the data* we observe are, despite the different labour market institutions. Following Harberger (1993), I think of economics as essentially an observational discipline.

I will start by sketching out the evolution of unemployment across Europe and the US over the past 50 years or so. I will then look at the received wisdom that has been used to explain the changes we observe, which suggests the importance of labour market institutions. Somewhat surprisingly I find little supporting evidence for such claims. I will then go on to consider the implications of unemployment for wages, finding considerable stability in the impacts across countries. The talk will culminate with a discussion of happiness and people's preferences between unemployment and inflation, which is the subject of a new paper I am releasing today (Blanchflower 2007). The main conclusion of this lecture may be rather surprising: there are more similarities than there are differences in the observed patterns across EU labour markets. Perhaps this finding is much less surprising in light of recent developments in financial markets, reinforcing the message that we are operating in a global economy.

1) Unemployment

I will assume for simplicity that the ILO unemployment rate is a measure of labour market slack. Table 1 sets out the relevant decadal averages for the EU15 plus Japan and the USA. A number of observations can be made.

1) Unemployment was low in the 1950s, 1960s and 1970s.
2) It was considerably higher in the 1980s and 1990s and has fallen again in the 00s.
3) Unemployment has been particularly high since the 1980s in France, Germany, Italy and Spain.
4) Unemployment has remained low in the Northern European countries of Sweden, Norway and Denmark plus Japan.
5) Unemployment dropped dramatically in Ireland in the 2000s and increased strongly in Finland from the 1990s.

Is the explanation for the differences in unemployment experiences across countries due to their labour market institutions? Probably not. For example, the decline in unemployment in Ireland in the 2000's was not brought about by reforms of the labour market institutions but by tax and product market reforms. Similarly the increase in unemployment in the 1990s in Finland was not driven by labour market

reform, but was in part the result of the collapse of its preferred bilateral trade deal with Russia.

Chart 1 makes it clear that unemployment has been higher in Europe as a whole than in the US over the past 20 years, but prior to the 1980s the reverse was true. That picture is also true for the UK – unemployment rates up to the 1980s were below US rates and then during the 1990s they were higher. I remember the time of the switch well. I was a member of the Centre for Labour Economics at the LSE and every week we would attend the Unemployment Seminar and try to work out why unemployment had risen so rapidly. Subsequently, the explanation, notably as set out by Layard, Nickell and Jackman (2005)[1], tells us that this switch was brought about by the oil price shocks of the 1970s interacting with supply-side rigidities in the EU, such as union power and more generous and easily available benefits. As the oil price rose, unions across the EU resisted falls in real wages, causing the NAIRU to rise, while a more generous benefit system reduced the fear of unemployment. In contrast, US workers' real wages adjusted down, and unemployment increased less. Given the apparent causes of the increase, the policy prescription required to solve the unemployment problem was to undertake structural labour market reforms to remove these rigidities.

That is an interesting theoretical story. Unfortunately, as I set out in Blanchflower (2001), it turns out that there is little or no connection in the actual data between changes in most of the various labour market rigidity variables and changes in unemployment. Indeed, Charts 2-6 illustrate that it is difficult to show *any* significant relationships between rigidity variables and levels and changes in unemployment rates *even in the raw data*.[2]

a). Benefit duration

Chart 2 shows unemployment rates across 20 OECD countries in 2002 against the ratio of the net replacement rate in the 60th month of benefit receipts to their value in the first month of entitlement. The traditional view is that long duration benefits help to explain high unemployment, but this chart seems to suggest a negative correlation between these variables.

b). Employment protection

Chart 3 plots from 1980-1998 for three five year periods and one four year period (1995-1998) the unemployment rate against a job protection index for each OECD country. No significant relationship is found. Interestingly, in a recent paper published by the OECD (2004) it was shown that Ireland had very low job protection rates at the end of the 1980s and none of the various indicators they reported for Ireland had subsequently changed! Overall job protection strictness measures for Ireland estimated by the OECD for 2003 ranked below every country except Canada, the UK and the USA. Changes in the unemployment rate in Ireland had more to do with housing, product and tax reforms than with labour market reforms.

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[1] Layard, Nickell and Jackman (2005) is the second edition of their 1991 book, which "is identical to the first except for a long introduction", (Blanchard, 2007).

[2] These data have been provided by David Howell, to whom I am very grateful and are reported in Howell et al (2007) and Baker et al (2004).

c). Trade unions

Chart 4 plots from 1980-1998 for three five year periods and one four year period (1995-1998) the unemployment rate against union density for each OECD country. There is no significant relationship. The World Bank has recently argued as follows.

> "Union density per se has a very weak association, or perhaps no association, with economic performance indicators such as the unemployment rate, inflation, the employment rate, real compensation growth, labor supply, adjustment speed to wage shocks, real wage flexibility, and labor and total factor productivity." Aidt and Tzannatos (2002, p.11)

d). Changes in replacement rates

However, there is evidence in Chart 5 that changes in gross replacement rates and changes in unemployment rates between 1982 and 2002 have the expected positive sign (R^2=.075). Oswald and I have also found evidence for the role of benefits in explaining unemployment across US states.

e) Inequality

What is clear though is that countries that rely on institutions to set wages and working conditions *do* have lower rates of *inequality* or dispersion of earnings. The US, which ranks as the most market-driven labor market, has the highest dispersion of wages. Other economies with relatively market-driven labor markets also have high levels of inequality. By contrast, Norway, where institutions set wages, has the lowest dispersion.

f). Labour market deregulation

A central pillar of OECD labor market policy has been that reforms that reduce labor market rigidities are the answer to persistent high unemployment. An enumeration of such reforms was carried out by the OECD (1999) as part of its follow-up to the *Jobs Study* (OECD 1994). Howell et al. (2007) created an index based on a list of reforms related to unemployment benefits, employment protection, and wage bargaining systems, as these constitute the key labor market institutions typically regarded as employment-unfriendly. Chart 6 is taken from their study and shows no significant relationship between this measure of deregulation and the change in unemployment across OECD countries

The orthodox rigidity explanation of unemployment has been subject to fairly extensive econometric testing, and in recent years, the validity of the empirical results supporting this view has been called into question. To put it technically, it has proved difficult to estimate a set of cross-country panel unemployment regressions that contain a lagged unemployment rate and a full set of year and country dummies and show that any of the labour market rigidity variables work. This is the first main similarity between European labour markets: labour market institutions do not tend to cause unemployment. The major exception is changes in the replacement rate, which do appear to be negatively correlated with changes in the unemployment rate.

In a recent article, Howell et al (2007) econometrically examined the impact of these rigidity variables, or what they call Protective Labor Market Institutions (PLMIs), and concluded that:

> "While significant impacts for employment protection, benefit generosity, and union strength have been reported, the clear conclusion from our review of these studies is that the effects for the PLMIs is distinctly unrobust, with widely divergent coefficients and levels of significance."

Howell et al. (2007) go on to argue a point of view I have held for quite some time, that the confidence with which labor market rigidities are held to be the root of poor employment performance is in contrast to the fragility of the findings.

Indeed, in his published comments on the Howell et al. article, Nobel Laureate, Jim Heckman (2007) concurs, arguing that the authors

> "…are convincing in showing the fragility of the evidence on the role of labour market institutions in explaining the pattern of European unemployment, using standard econometric methodology."

Freeman (2007) also finds the evidence for the impact of these institutional variables less than convincing.

> "Movement toward market-determined pay widens earnings distributions....By contrast, despite considerable effort, researchers have not pinned down the effects, if any, of institutions on other aggregate economic outcomes, such as unemployment and employment"

What is true is that unemployment in Europe is higher than it is in the United States and Western Europe has more job protection, higher unemployment benefits, more union power, and a more generous welfare state. But that is a cross-section correlation and it tells us little or nothing about time series changes. That leaves us looking for alternative explanations for the observed crossing of US and European unemployment rates in the 1980s.

I'm now going to set you a brief challenge – can you think of another series that has followed a similar trend to that of unemployment rates in the UK and US, i.e.

a) Was lower in the UK than in the US for the period 1945-1980
b) Was higher in the subsequent period.

I'll even give you a hand by showing you the series in Chart 7. Well I'll put you out of your misery – it's the housing market, and the home ownership rate more specifically. This seems pretty topical these days.

It seems that unemployment is positively correlated with changes in rates of home ownership. I would characterise this as a major similarity between European labour markets. Chart 7 shows the relationship for the US and the UK, but the evidence

holds for many more countries. Of the major industrial nations Spain has the highest unemployment and the highest rate of home ownership and Switzerland the lowest unemployment and the lowest rate of home ownership. During the 1990s there were three European countries with unemployment rates close to 20% and these three had the highest home ownership rates (Ireland, Spain and Finland).

In the 1950s and 1960s the United States had the highest unemployment and the highest rate of home ownership. This pattern also holds within US states: for example, Michigan has both a high unemployment rate (6.9% in 2006) and a high home ownership rate (77.4%), while California has a low unemployment rate (4.9% in 2006) and a low homeownership rate (60.2%). In new work for the US Andrew Oswald and I have estimated a state level unemployment equation for the period 1977-2006 with a lagged dependent variable and a full set of year and state dummies. Home ownership lagged two or more years enters significantly and *positive*. Union status is insignificant.[3] Higher home ownership *raises* unemployment, presumably because it reduces labour market mobility.

Over the past few decades European governments have made concerted efforts to reduce the size of the private rented sector and to increase home ownership. Yet homeowners are relatively immobile, partly because they find it much more costly than private renters to move around. Unemployment rates have grown most rapidly in the nations with the fastest growth in home ownership. Workers in Michigan laid off from GM own their own homes which they can't sell and it is hard then for them to move to new jobs in other parts of the country. The large increase in European home ownership has considerable advantage over the other possible explanations for the rise in unemployment – it seems to fit the data!

In a recent paper written with my colleague Chris Shadforth (2007a), we examined the striking growth in self-employment that has been observed in the UK over the past couple of years. Self-employment accounts for about 13% of the stock of workers. However, over the period May-June 2005 to May-June 2007 self-employment accounted for 199,000 out of an increase in total employment 356,000 or 56% of total job growth.[4] We estimate that approximately half of this growth in self-employment could be explained by the rise in house prices freeing up capital constraints. What goes on in the housing market, matters for the labour market.

In the very first meeting of my introductory Labour Economics class I tell the students that the demand for labour is a derived demand, derived from the demand for the product. Reforming the labour market is unlikely to work if you don't reform the product market. In the absence of freely functioning capital and housing markets the labour market can't work efficiently. There is much work still to do in this area but the role of labour and capital mobility in improving the functioning of the labour market seems to be important. Reforming the product, capital and housing markets

[3] Estimated equation is as follows and also includes 50 state and 28 year dummies.
$\ln Ut = .8223 U_{t-1} + .0020 \ln \text{Union density}_{t-2} + .0027 \ln \text{Home ownership rate}_{t-2}$
(53.62) (1.33) (2.23)
N=1428, R^2=.9269. T-statistics in parentheses.

[4] Source: Labour Market Statistics. First Release, September 2007, ONS

are likely more important than reforming the labour market. The labour market follows.

2) Wages

So that is what has happened to unemployment, but what are the consequences of unemployment? I'm now going to talk briefly about the impact of unemployment on wages.

The relationship between wage inflation and unemployment is usually thought of as being described by the Phillips curve, but the empirical evidence does not provide much support for the theory. The results of estimated Phillips curve relationships - that is how the level of unemployment impacts wage inflation - appear to be time-specific, data-specific and/or country-specific.

There is evidence of a downward-sloping Phillips curve in the UK at points during the 1970s and 1980s, but since the 1990s the curve has been flat (Chart 8). In other words, for the past 15 or so years there has been no trade-off between (wage) inflation and unemployment. But that does not mean there isn't a relationship between wages and unemployment. For many years I have argued for the use of micro data and described an empirical regularity or law linking the level of pay to the unemployment rate in the local area – known as the *wage curve* (Blanchflower and Oswald, 1994). This was the title of the book Andrew Oswald and I published in the 1990s which documented this pattern across sixteen countries; for these countries we found that the data are well described by a wage curve with an unemployment elasticity of approximately -0.1 – in other words *a doubling of the unemployment rate is associated with a ten percent decline in the level of the real wage*.

Just to be clear, there is evidence of a stable relationship between changes in real wages and changes in unemployment (the wage curve). In contrast there is no evidence of a relationship between changes in the real wage and the level of unemployment (the Phillips curve). This empirical finding has subsequently been verified for 43 countries and many time periods some by us and by many other authors.[5] It suggests that macroeconomic time series analyses of the labor market suffer from aggregation and missing variable biases of uncertain sign and magnitude.

An extensive meta-analysis was conducted by Nijkamp and Poot (2005) on a sample of 208 wage/unemployment wage curve elasticities from the literature, and concluded that, unlike the Phillips curve, the wage curve is… "an empirical phenomenon". Chart 9 shows such a wage curve, traced out for the EU15 countries (excluding Spain) and US for the period 1995-2005. It plots changes in real wages on changes in unemployment rates by country from 1995-2005. It is clear that the countries experiencing the highest falls in unemployment over the period also experienced the largest increases in real wages.

[5] Wage curves have been found in Argentina, Australia, Austria, Belarus, Belgium, Brazil, Bulgaria, Burkina Faso, Canada, Chile, China, Côte d'Ivoire, Czech Republic, Denmark, East Germany, Estonia, Finland, France, Great Britain/UK, Holland, Hungary, India, Ireland, Italy, Japan, Latvia, New Zealand, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Turkey, USA, and West Germany (Blanchflower and Oswald, 2005).

Sanz-de-Galdeano and Turunen (2006) examined the wage curve for the Euro area over the period 1994–2001. They found that the overall unemployment elasticity in the euro area is -0.14 once they had controlled for individual level fixed effects.[6] The elasticity varies across groups of workers. They found that wages of workers at the bottom of the distribution are more responsive to the local unemployment rate.

Based on these findings, I would characterize a major similarity in European labour markets to be the existence of remarkably similar wage curves. Why do we find evidence of wage curves, but not Phillips curves? Margo (1993) cites two principal reasons related to the use of microeconomic versus macroeconomic data, the former being typically used for the estimation of wage curves and the latter for Phillips curves. First, less-aggregated data provide many more degrees of freedom than a decade or so of time series data. And second, he suggests that work at a lower level of aggregation can reveal aspects of human behaviour that lie hidden in the aggregate time series.

A number of authors, including myself, have attempted to model the Phillips curve using micro data, controlling for country/region and time fixed effects. When we do, we find that the autoregressive nature of the macroeconomic theory tends to disappear (Blanchflower and Oswald, 2005). These two factors suggest that much macroeconomic data is suspect as it suffers from aggregation biases of uncertain sign and magnitude. Except in isolated specifications, there is not persuasive support for a simple Phillips curve. It seems more sensible to view the data as being characterized by dynamic fluctuations around a long-run stable wage curve.

So what has happened to wages in the UK in recent times? Over the last two years wage growth in the UK has been benign. For example, average earnings growth without bonuses was 4.2% (4.6%) in July 2005; 3.3% (3.9%) in July 2006 and 3.7% (3.8%) in July 2007, with the numbers in parentheses with bonuses.[7] These surveys exclude workers in the smallest workplaces of less than twenty workers whose wages are the most flexible downwards. Wage settlements over the last year have remained flat. Part of the reason for this is given by the wage curve – wage pressures have been constrained because unemployment has increased.

The degree of slack in the labour market directly influences wage pressures, and it can also impact migration, which itself can have second-round effects on pay. The UK, Ireland and Sweden were the only countries to fully open their borders to workers from the eight Eastern European EU accession countries in May 2004.[8] These workers have helped to contain wage pressures in the UK by increasing the labour force available to UK firms, both by moving to the UK to fill vacancies in low skilled,

[6] All models include a set of control variables (time invariant variables are omitted from the fixed effects models): age, age squared, female dummy, married dummy, 2 education level dummies (primary education is the omitted category), 8 occupation dummies (elementary occupation is the omitted category), public sector dummy, 7 year dummies (2001 is the omitted category) and 65 region dummies.

[7] Source: Labour Market Statistics First Release, September 2007 ONS, Tables 15& 16).

[8] The A8 countries are the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

low paid jobs, but also by providing out-sourcing opportunities in their home nations. The increase in available workers has therefore increased the 'threat' of unemployment for UK workers (Blanchflower, 1991), which tends to have a downward impact on pay especially in the non-union sector. The fear of unemployment lowers wages.

One measure of the 'threat', and the fact that it has increased in the UK since A8 accession, is captured in a monthly survey of consumers conducted by the European Union. The Directorate General for Economic and Financial Affairs of the European Commission conducts regular harmonised surveys for consumers in which they are asked: "How do you expect the number of people unemployed in this country to change over the next twelve months? The number will a) increase sharply b) increase slightly c) remain the same d) fall slightly e) fall sharply f) don't know." The answers obtained from the survey are aggregated into a survey 'balance'. Balances are constructed as the difference between the proportion giving positive and negative replies. Chart 10 shows a clear correlation between changes in the fear of unemployment and actual unemployment over the past few years in the UK. Fear of unemployment has also risen in Ireland, where there has also been a significant inflow of workers from Eastern Europe, even though unemployment has remained low. In contrast, Chart 11 shows that the fear of unemployment has not risen across the rest of the EU, i.e. in those countries that didn't open their borders to A8 workers. In combination with rising unemployment, the 'fear' of unemployment is likely to have contained wage pressures in the UK. Here is an example of a major difference across EU countries.

c) Happiness, unemployment and inflation

So far I have pursued the general theme that institutions have less influence on unemployment than has previously been considered to be the case. By examining micro data, we have seen that rather than there being a trade off between wage inflation and unemployment in recent years, in fact it is the level of the real wage that is linked to changes in the unemployment rate. Now, before concluding, I'm going to consider the same issues, but from a different perspective, and look at preferences between unemployment and inflation, based on a paper I am releasing today. This paper is available from the Bank's website now.

The paper I am releasing has its roots in work that I and others have undertaken on the economics of happiness. I have worked in this field for a number of years and am impressed by the stability of results obtained from analysing individual's responses to questions about levels of happiness or life satisfaction. Considering the theme of this lecture, I will also look at the differences and similarities across European countries in preferences between inflation and unemployment.

As part of its remit, the Monetary Policy Committee is responsible for achieving the government's target rate for inflation. I am pleased to say that both inflation and unemployment have fallen in recent years, but individuals seem to have rather different preferences over unemployment and inflation.

Happiness equations estimated in one EU country look much like those estimated in all others. There are once again more similarities than differences and here is the third major empirical similarity. In *every* EU country happiness is highest for those

who are married compared with those who are single, higher among the more educated and those in work. Conversely, happiness is especially low for the unemployed, those who are divorced, widowed or separated and the least educated. (Blanchflower and Oswald, 2004, 2007a, b). Money does buy happiness but it takes a lot to compensate for life events. It also turns out that individuals and countries with high levels of happiness have lower levels of hypertension (Blanchflower and Oswald, 2007a; Mojon-Azzi and Sousa-Poza, 2007).

Interestingly, happiness is U-shaped in age and minimises in the mid to late forties across most EU countries. On average happiness minimised at age 47 in the EU and age 45 in the USA and 46 for the world (Blanchflower and Oswald, 2007b)!

	Age at minimum
World average (WVS 55 countries)	46
USA (GSS)	45
EU15 average	47
Belgium	46
Denmark	50
Finland	50
France	50
Germany	43
Greece	53
Ireland	38
Italy	64
Luxembourg	41
Netherlands	47
Portugal	66
Spain	50
Sweden	50
UK	36

There is also evidence that individual happiness is correlated with macro variables. In the raw data, life satisfaction is negatively correlated with the unemployment rate (Chart 12) and with inflation (Chart 13). Previous work has shown that people are happier when both inflation and unemployment are low (Di Tella et al, 2001; Wolfers, 2003). These previous studies also find that unemployment depresses well-being *more* than does inflation. And it appears that life satisfaction is positively correlated with higher GDP per capita too. When a nation is poor it appears that extra riches raise happiness but has little impact in the richest countries. Inequality also lowers happiness (Alesina et al, 2004).

I extend the area of research in the new paper to a wider sample of countries over a longer time period. In my paper I make use of data at the individual level from *Eurobarometer* surveys for a number of EU member countries, as well as Norway, Croatia and Turkey for the period 1973-2006. In these surveys, individuals are asked, *"On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead?"*. In total, we have data on 680,000 individuals, and for each of them we know their sex, age, employment status, marital status, education, occupation etc., and we map in annual data on unemployment, inflation, GDP and the interest rate for each country.

As with the previous literature, both inflation and unemployment enter significantly negatively – higher unemployment and higher inflation both lower happiness. But what do my estimates suggest about the relative size of the effects from the unemployment rate and the inflation rate? Is the evidence consistent with the misery index which weights unemployment and inflation equally?

My preferred aggregate equation gives coefficients on the effects of unemployment and inflation of -.0110 and –.0090 respectively, which represent the effect upon wellbeing of a one percentage point change in each of the two independent variables. Therefore, according to our estimate, a single-point rise in unemployment diminishes life satisfaction by 0.0110 units, while a single-point rise in inflation leads to a 0.0090 reduction in units of life satisfaction. From these results it is possible to calculate the slope of the indifference curve between inflation and unemployment. The issue here is to measure the effects of a one percentage point change in unemployment compared to a one percentage point change in unemployment – the so-called marginal rate of substitution between unemployment and inflation.

To do this, however, it should be born in mind that the social cost of unemployment contains both an aggregate and a personal component -with an increase in the unemployment rate, society as a whole becomes more fearful of unemployment and at the same time some people actually lose their jobs. It is apparent from that the person who actually becomes unemployed experiences a much larger cost, and is calculated from the coefficient on being 'unemployed' in our estimation procedure. One needs to add in the personal cost to the 1% of people who become unemployed.

I estimate the entire social well-being cost of a 1 percentage-point increase in the unemployment rate as the sum of two components, which is .0110 + .0036= .0146. This adds together the societal effect and the individual effect for the 1% of the workforce directly impacted by the 1% increase in unemployment – the unemployed themselves. To get the final result it is then necessary to divide .0146 by .0090. This implies that across European countries the wellbeing cost of a 1 percentage point increase in the unemployment rate equals the loss brought about by an extra **1.62** percentage points of inflation. The so-called 'misery' index, which simply sums the unemployment rate with the inflation rate then understates the importance of unemployment. In aggregate, society would prefer a reduction in unemployment over a reduction in inflation. Please note that I'm not advocating any change to the Bank's legislated goals here, just stating an empirical observation!

It is also possible to obtain estimates for sub-groups. I find that females have a similar trade-off to males (1.61 and 1.58 respectively). The least educated and the old are more concerned about unemployment – the put the *highest weight on unemployment*. Conversely, the young and the most educated and those still studying put the greatest weight on inflation. This runs counter to the idea that older people care more about inflation as they are more likely to have experienced it during their adult lives. The results are also consistent with this finding when the analysis is done by cohorts defined by year of birth. Older cohorts care more about unemployment than younger cohorts. I estimate the trade-off for the UK at **1.92**.

It is perfectly feasible, though, that an individual who experienced high inflation, and especially hyper-inflation, during their adult lifetime would be more concerned about the consequences of higher inflation than somebody who had, say, only experienced low and stable inflation. To isolate any such effects I mapped onto the data file a variable representing the highest annual inflation rate an individual had experienced in their adult lifetime. I find that an individual who has experienced high inflation in the past has lower happiness today, even holding constant today's inflation and unemployment rates. Inflation has its greatest impact when it is high and such effects remain through time. This is especially the case in Austria and Germany where inflation rates of over 1000% had been experienced by some in our surveys during their adult lives.

I shall leave the analysis there. I have shown that there are a number of similarities between European labour markets – indeed there seem to be many more similarities than differences. Contrary to the received wisdom, the differences do not appear to be attributable to labour market institutions: a more plausible explanation appears to be that poor labour market performance is due to rigidities in product, capital and housing markets: the labour market follows. Thank you for your attention. I am happy to take questions although not on Northern Rock!

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Table 1. Average unemployment rates, 1955-2007 (%)

	1955-69	1970s	1980s	1990s	2000s
Belgium	3.2	4.8	10.8	8.6	7.7
Denmark	3.1	3.8	8.9	9.6	4.6
Finland	1.7	3.6	4.9	11.8	8.6
France	2.0	3.8	9.0	11.0	9.2
Germany	2.6	2.3	6.0	7.8	8.2
Ireland	4.8	6.9	14.3	12.1	4.4
Italy	5.7	6.4	10.1	11.0	8.1
Japan	1.8	1.7	2.5	3.1	4.7
Netherlands	1.4	3.9	9.7	6.0	3.5
Spain	2.5	4.3	17.7	19.8	10.0
Sweden	1.9	2.1	2.5	6.2	6.0
UK	2.2	4.4	9.9	8.2	5.1
USA	4.0	6.2	7.3	5.8	5.0

Source. OECD Statistics for 2000s (2000-2007Q2)

Chart 1: Unemployment in UK, US and EU 15

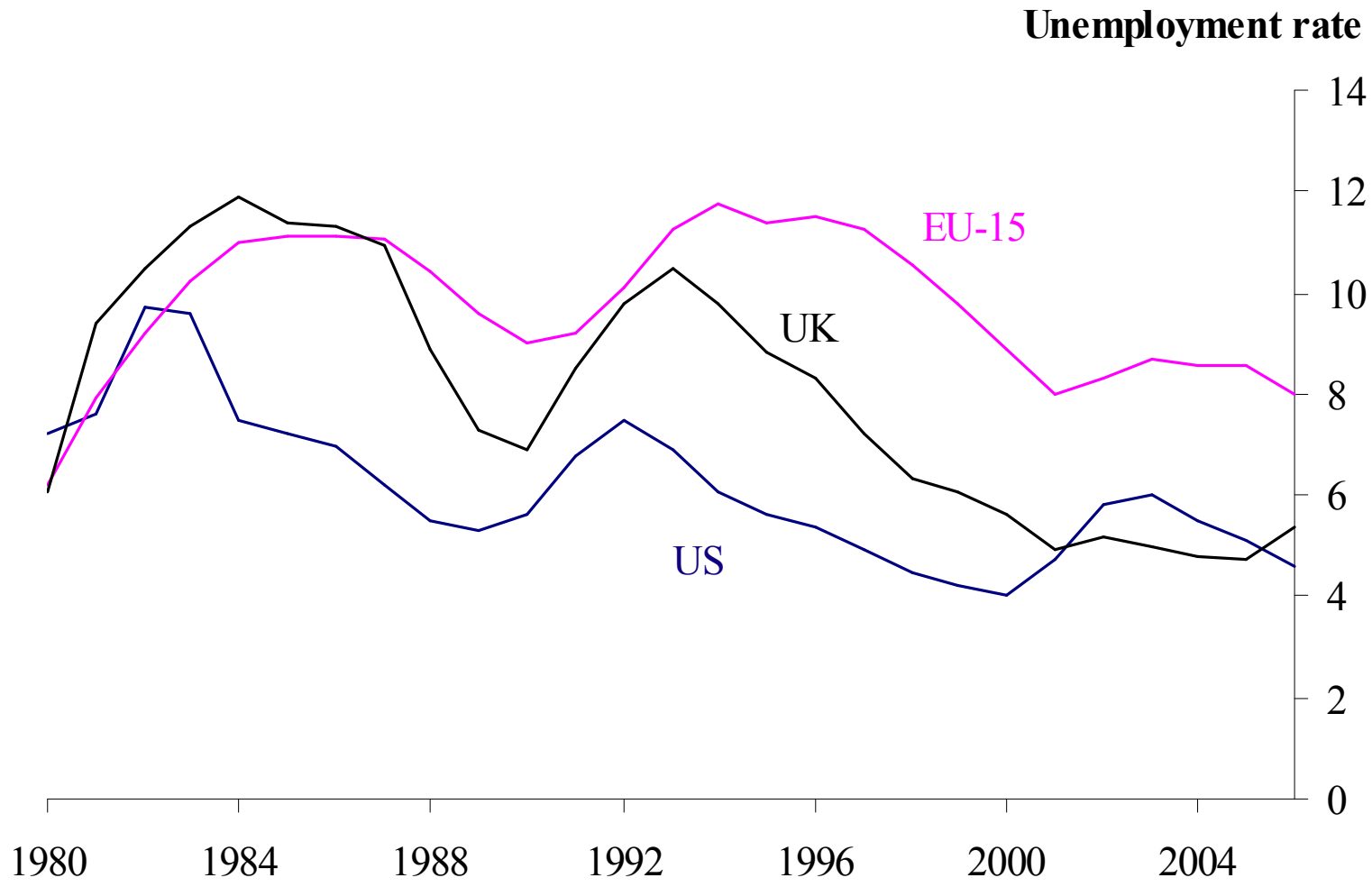


Chart 2: Unemployment benefit duration and unemployment for 20 OECD countries, 2001

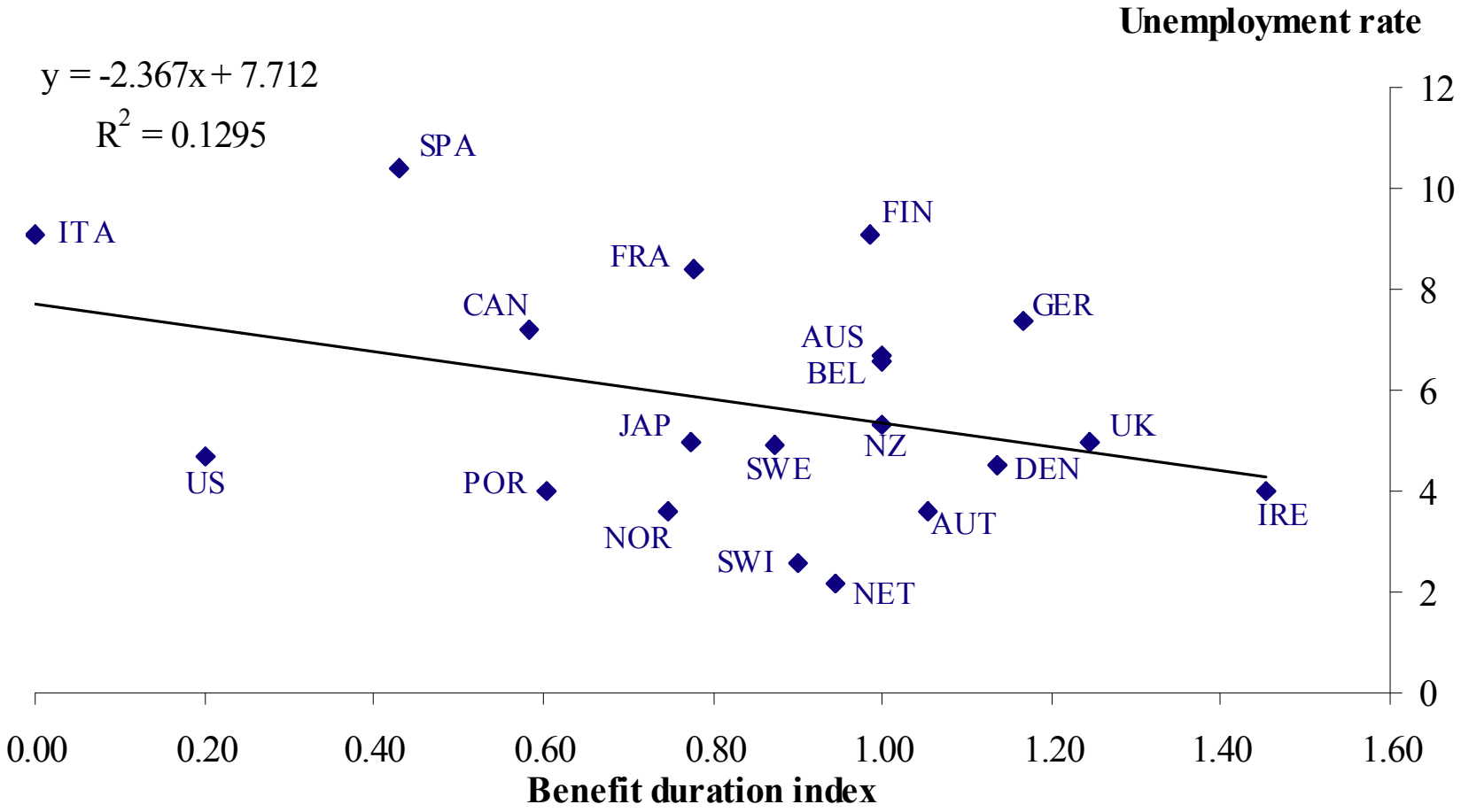


Chart 3: Employment protection and unemployment, OECD, 1980-1998

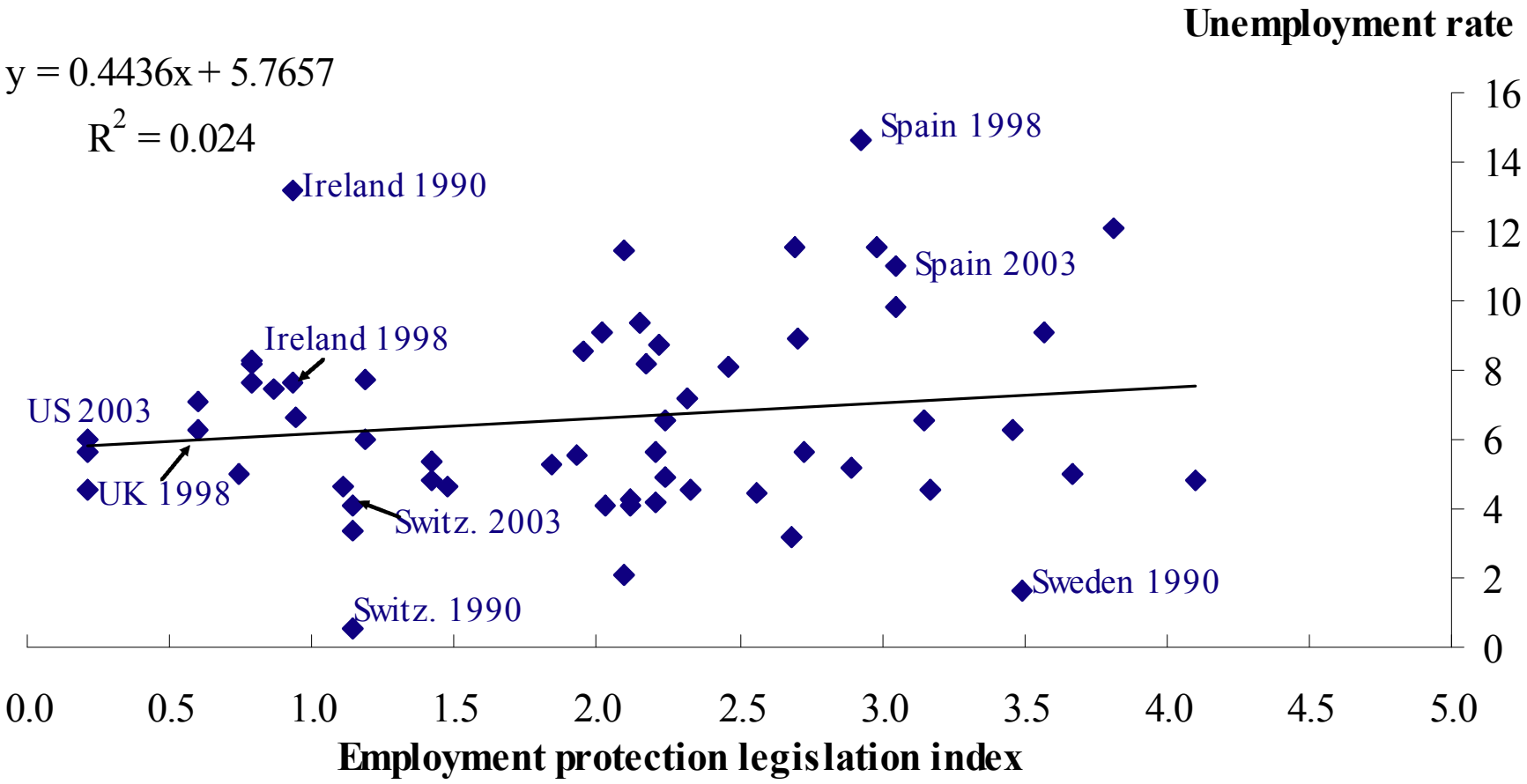


Chart 4: Union density and unemployment, OECD, 1980-1998

Source: Howell, Baker, Glyn and Schmitt (2007)

Chart 5: Change in gross replacement rates and unemployment rates for 20 OECD countries, 1982-2002

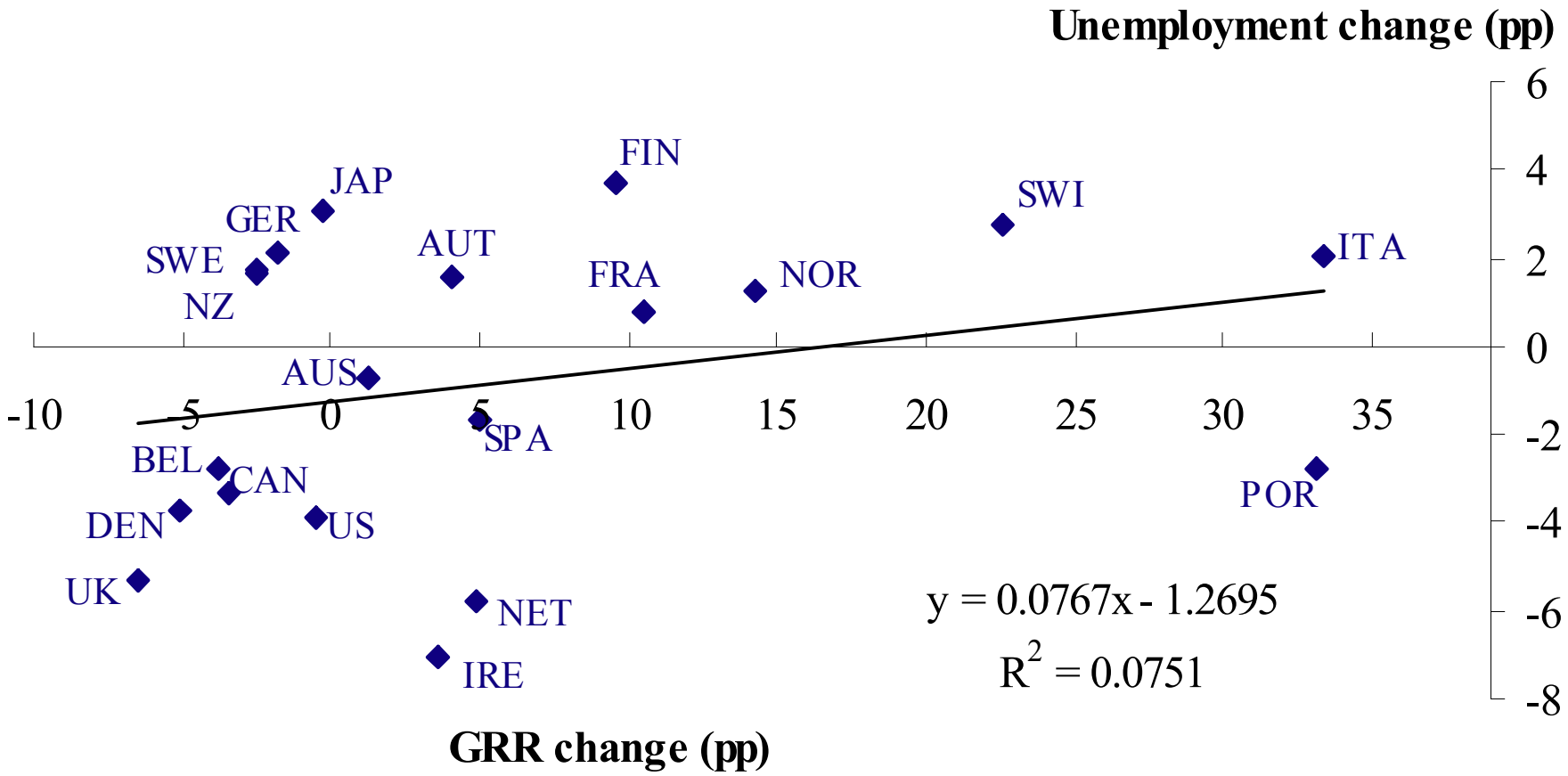


Chart 6: Labour market deregulation and changes in the NAIRU for 21 OECD countries in the 1990s

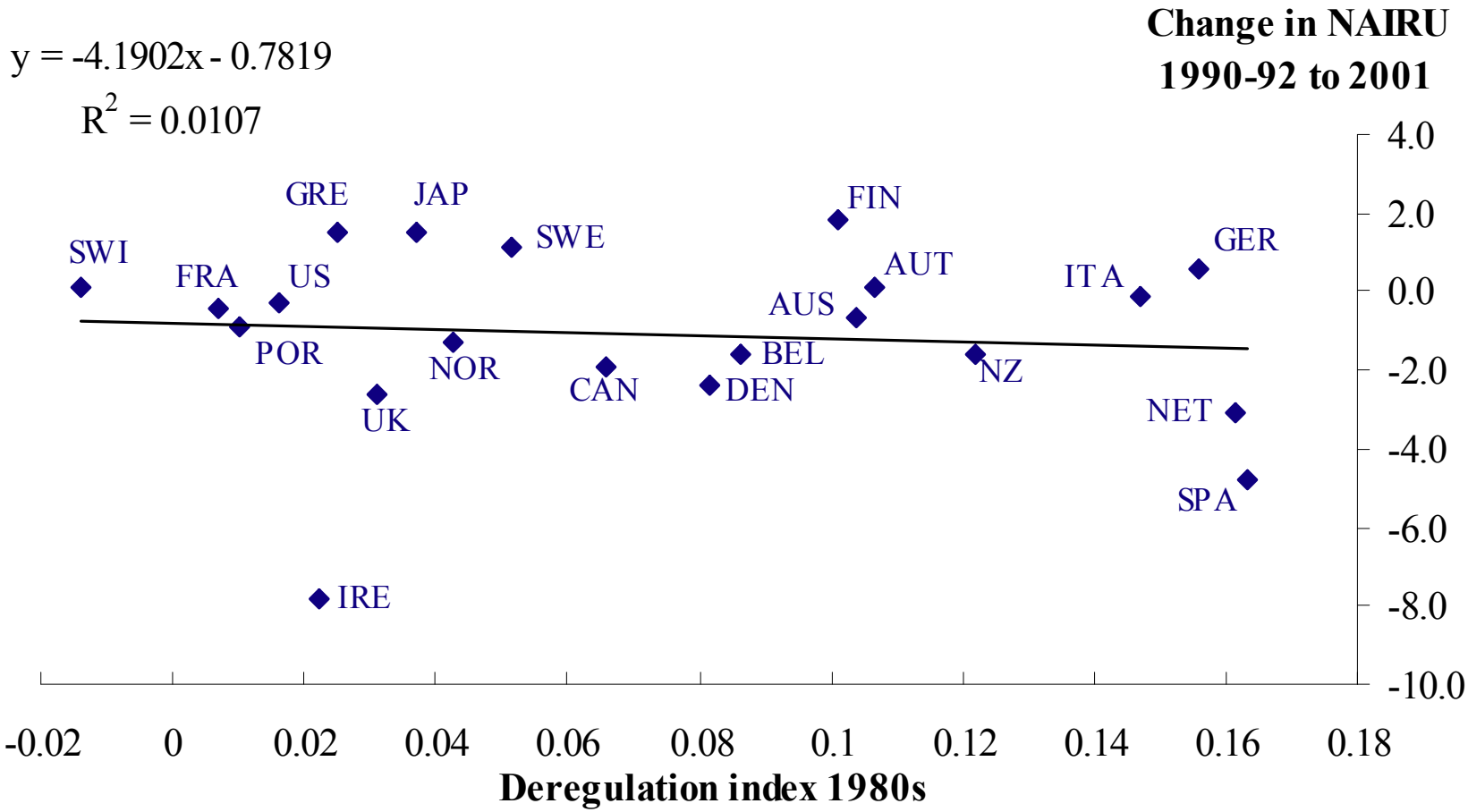


Chart 7: Unemployment and home-ownership

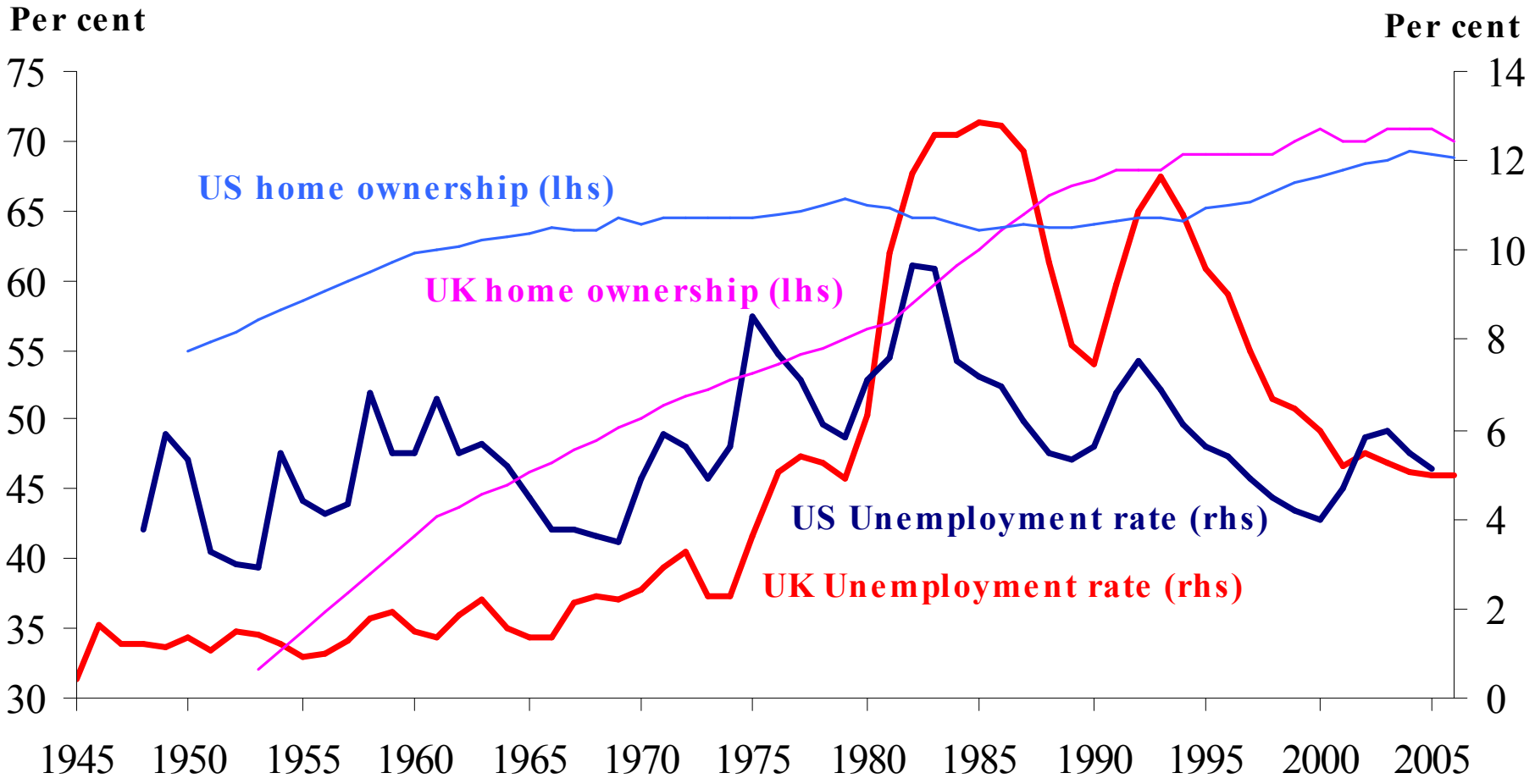


Chart 8. Phillips curve (quarterly observations)

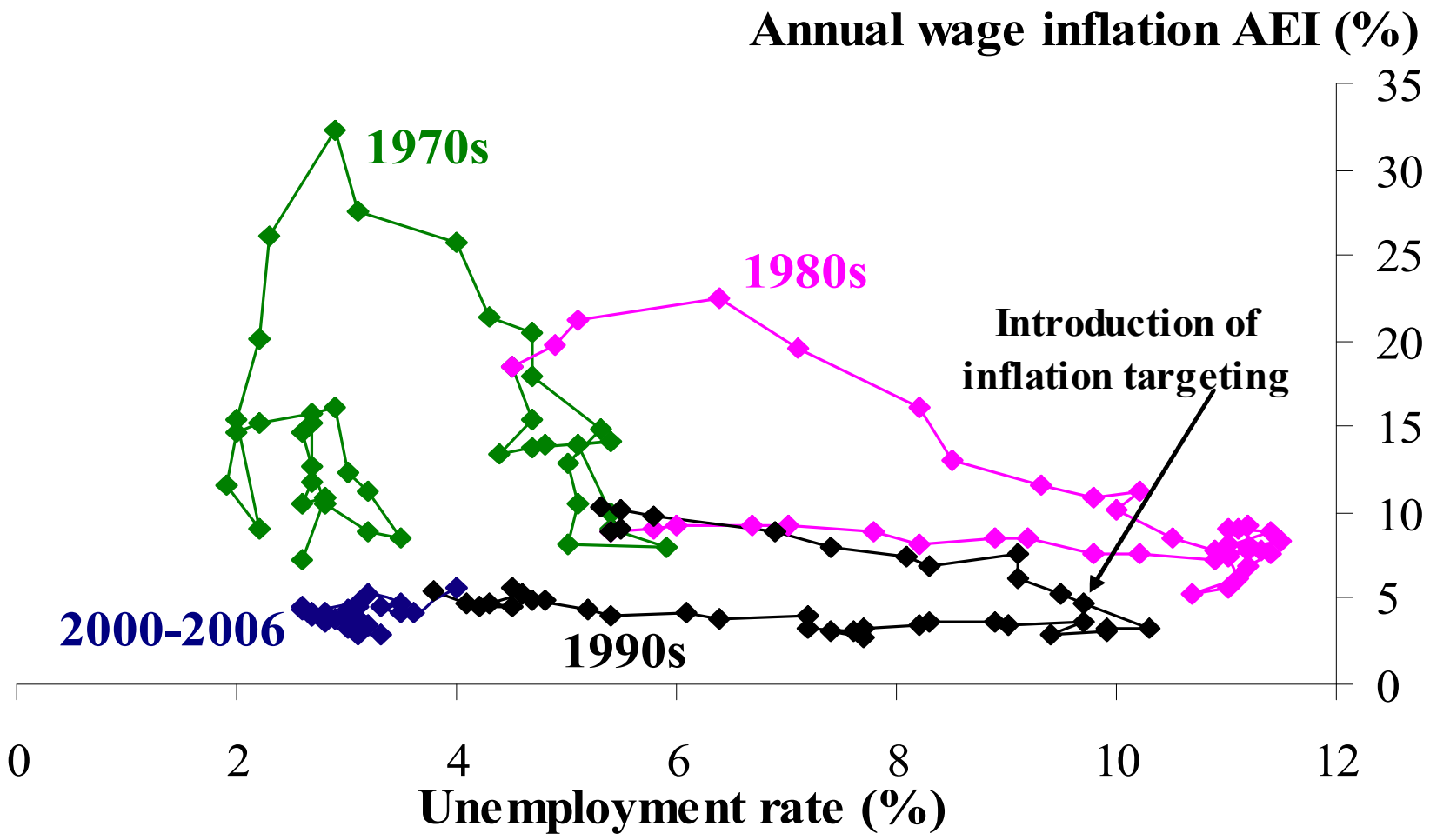
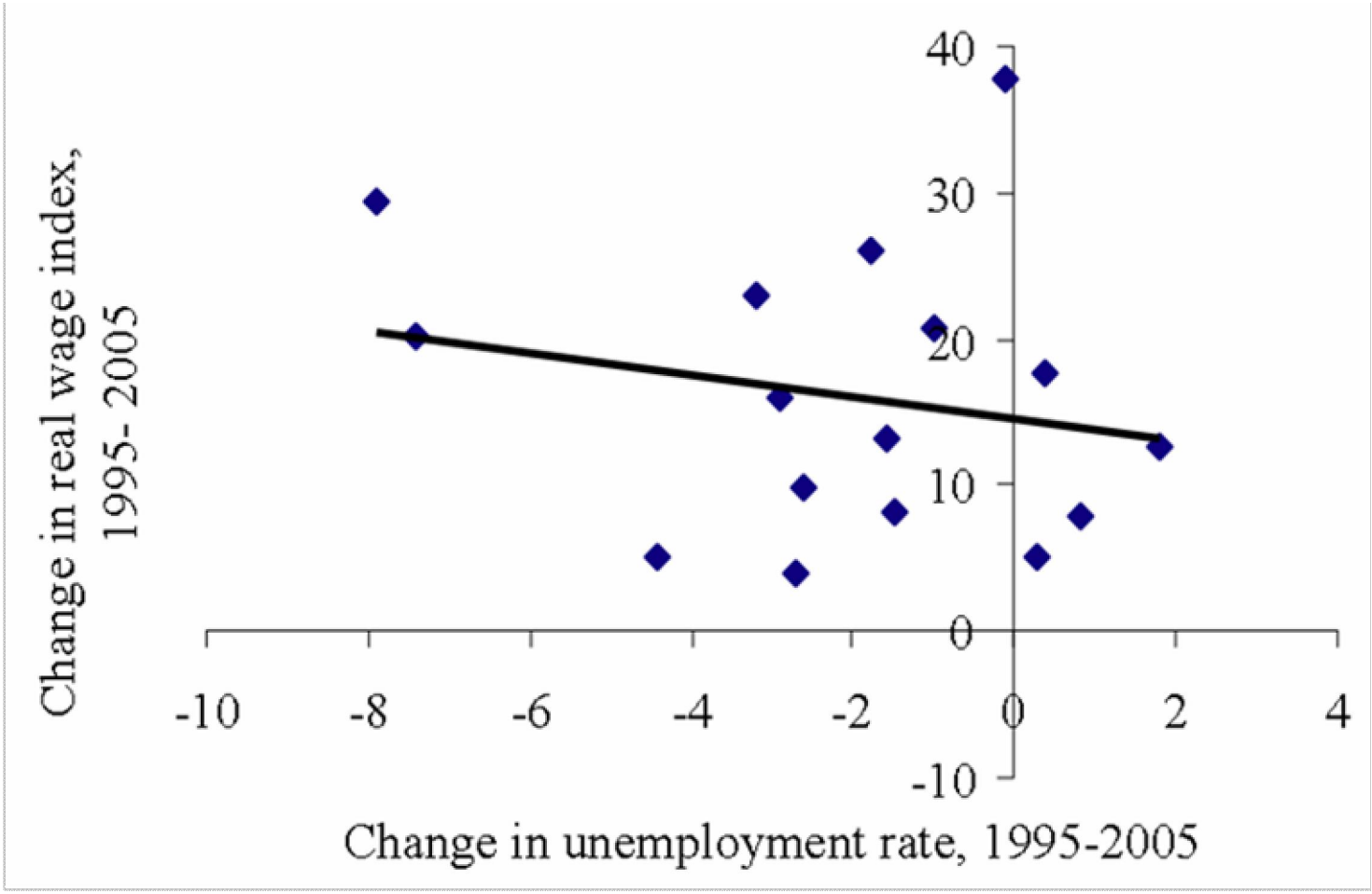


Chart 9: Wage curve, Europe and US, 1995-2005



Source: OECD Economic Indicators, author calculations

Chart 10. **UK - Unemployment expectations over the next 12 months**
(3 month average - advanced 12 months)

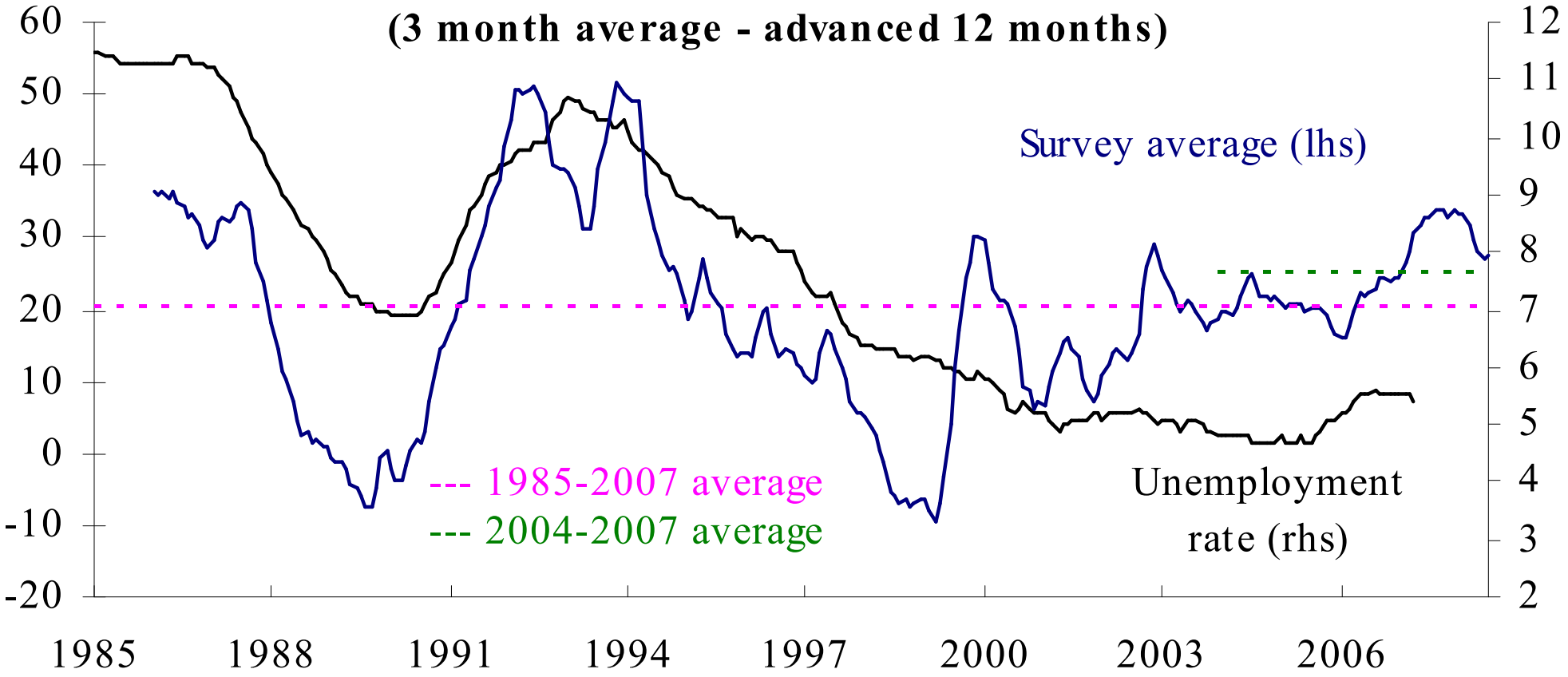


Chart 11. **EU-15 - Unemployment expectations over the next 12 months**
(3 month average - advanced 12 months)

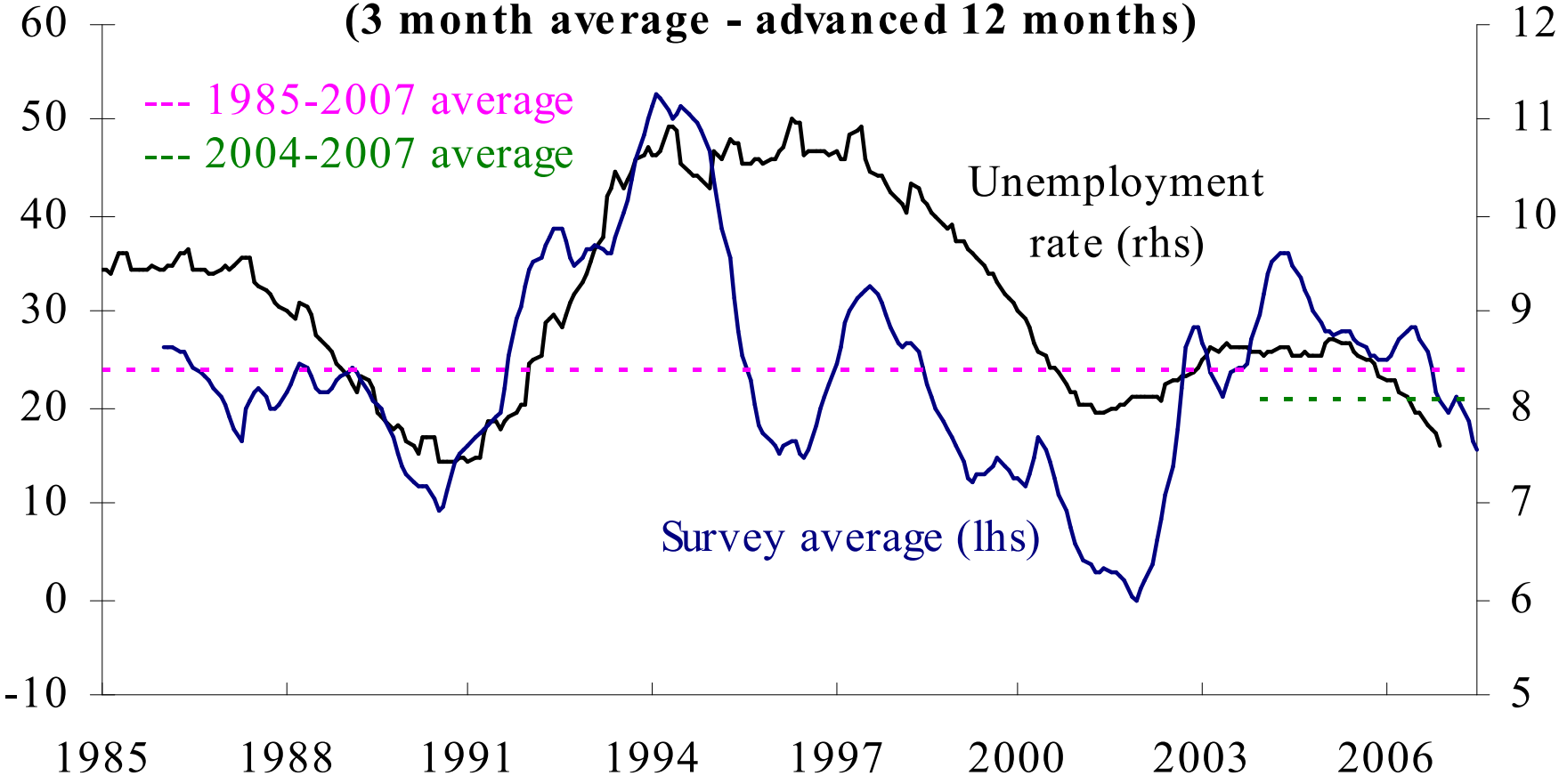


Chart 12: Life satisfaction and unemployment

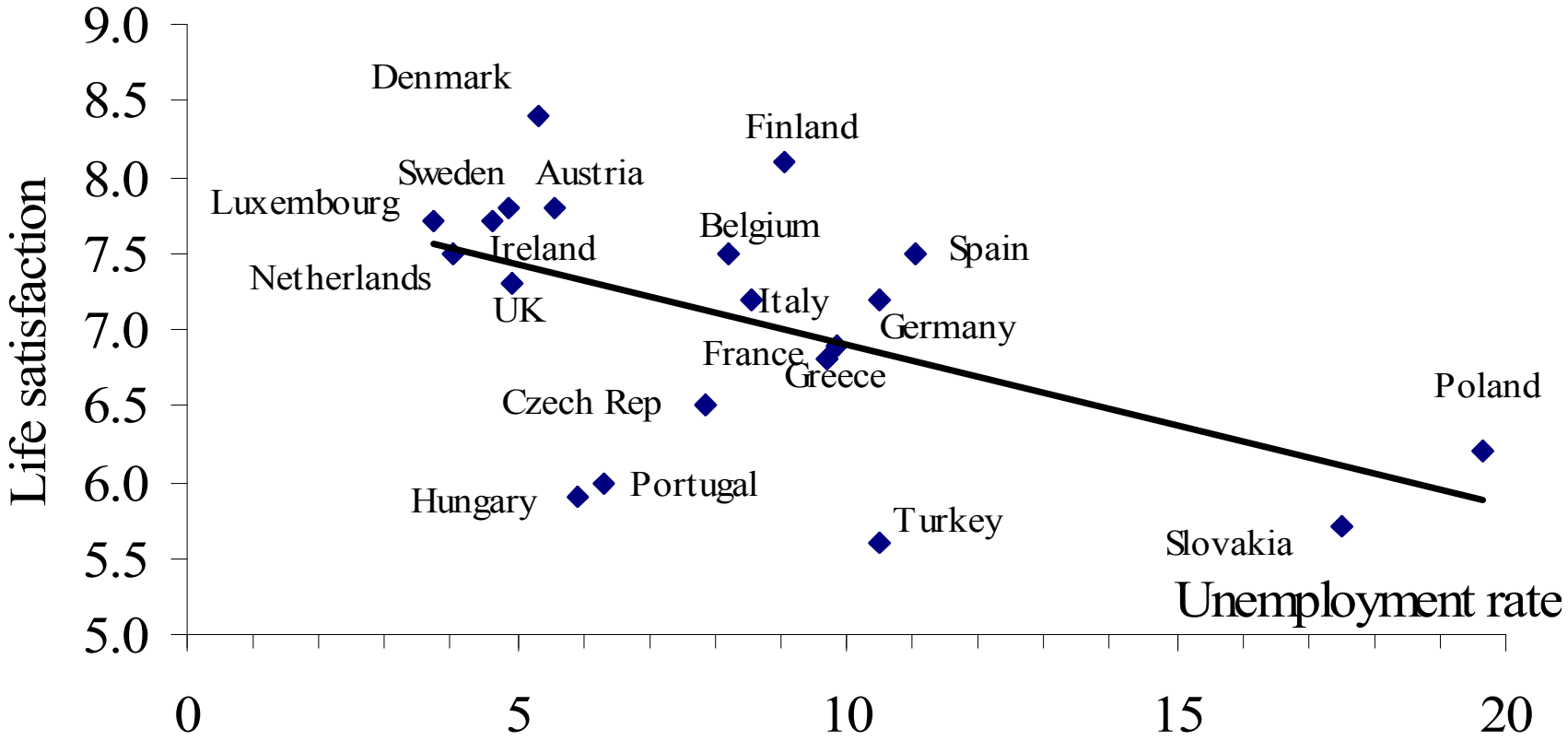


Chart 13: Life satisfaction and inflation (HICP, 2003)