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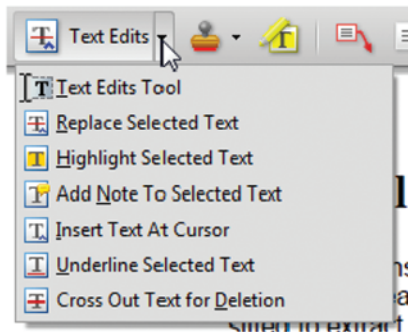
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The persistence of unemployment at the local area level: evidence from the US and the UK

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10 In the 1990s and 2000s, unemployment was seen, both by academic labour market economists and policymakers, as a short-run disequilibrium phenomenon. Policy was aimed at increasing the ‘flexibility’ of the labour market, at removing obstacles to the workings of the market, which would ostensibly restore equilibrium in the labour market. In this article, I examine the correlations over time of relative unemployment rates at the detailed disaggregated level of
 15 both US counties and UK local authority areas, using the 1990–2010 period. The United States and to some extent the United Kingdom are held up as examples of the more ‘flexible’ labour markets to which other countries should aspire. But even over a period of 20 years, there is strong persistence in relative unemployment rates at local area levels in both countries, and especially the United
 20 Kingdom. This result extends to counties and local authority areas *within* individual states and regions. Local areas with high (low) unemployment in 1990 are likely to have high (low) unemployment in 2010.

Keywords: unemployment; persistence; local area

JEL Classification: J64; J68; R12

25 I. Introduction

Most labour economists think of unemployment as a short-term disequilibrium phenomenon, which can be solved within the labour market by an adjustment of the price of labour, the real wage. Persistence over time in
 30 unemployment, according to this approach, is caused principally by rigidities in institutions associated with the labour market which prevent appropriate adjustment of the real wage. The solution is therefore to be found in deregulation and increasing ‘flexibility.’

35 Econometric results obtained in the 1980s and early 1990s appeared to give support to this view. A prominent example is the work of the LSE-based researchers Layard *et al.* (1991). These concepts moved rapidly into the policy arena. A very influential report, for example, was

the OECD *Jobs Study* (1994, 1996), which urged member countries to reform unemployment benefit systems to ensure that they did not ‘impinge’ on the functioning of labour markets; to modify employment security provisions that ‘inhibit’ employment expansion; eliminate
 40 ‘impediments to, and restrictions on, the creation and expansion of enterprises’; to increase ‘flexibility’ of working time regulations; and, most importantly, to take action toward making ‘wage and labour costs more flexible by removing restrictions that prevent wages from reflecting
 45 local conditions and individual skill levels, in particular, of younger workers.’

There is a large literature on the persistence of unemployment at the overall, macro level, and a smaller one at the regional level (for example, Baddeley *et al.*, 1998; OECD, 2005; Patuelli *et al.*, 2012). The regional evidence
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suggests rather high levels of persistence, certainly within countries in the European Union.

In this article, I examine the extent to which unemployment over the 1990–2010 persists at the much more disaggregated local area levels in the two main Anglo-Saxon economies, the United States and the United Kingdom over periods of 5, 10 ~~and 15~~ years. In other words, the extent to which, for example, local areas with relatively high rates of unemployment in a particular year tend to have relatively high rates in 5, 10 ~~and 15 years~~ time. The less is the persistence, the more flexible is the economy, and the more it conforms to the theoretical ideal of the labour market adjusting to equilibrium.

The geographical unit chosen is the smallest for which data is readily accessible, namely the county in the United States and the local authority in Britain. In both cases, the average level of employment is of the order of 50 000. I examine the correlations between unemployment rates at these local levels over 5, 10 and 15 year horizons. Section II describes the data, Section III sets out the results and Section IV discusses them.

II. The Data

The US data is the Bureau of Labor Statistics estimates of the unemployment rate by county, where the unemployment rate is defined as unemployment in a county divided by the sum of employment and unemployment. It is available for all counties in the 50 US states plus Washington DC,¹ giving a total of 3140 observations in each year.

The counties are on a geographically consistent basis back to 1990. Data for 1990 is therefore chosen as the base year, and is compared with data for 1995, 2000, 2005 and 2010.

The UK data is more complicated to explain for two reasons. First, there have been considerable changes in the boundaries of local authorities over the period 1990 to 2010. However, data on a consistent geographic basis is provided by the Office for National Statistics (ONS).² There are 406 local authority areas on this basis.³

Second, and more importantly, the UK data has two possible ways in which to measure the unemployment rate at a local authority level. As part of the denominator in the calculation of the rate of unemployment, with one measure the working age population resident in the area is used, and with the other the level of economic activity in the area (employment plus unemployment). The latter is directly comparable with the unemployment rate

calculated using the US data. These are the results reported here. As it happens, there is a very strong correlation between the two UK measures in any given year and the results are very robust with respect to the definition.⁴

III. The Results

In both countries, across counties and local authority areas, unemployment rates show strong persistence over time. The correlations between unemployment rates in 1990 and 1995, ~~1990, 2000~~ and 2010 are set out in Table 1.

So, even over a period of 20 years, 1990 to 2010, the correlation between the unemployment rates of US counties is as high as 0.61. But at least it is falling over time, the 5-year correlation being 0.81 and the 10-year one is 0.72.

Over a period of 5 years, the correlation between unemployment rates in the UK local authority areas is very similar to that of the US at 0.82 or 0.88, depending on the definition used. But the correlations show no significant signs of diminishing over time. Even with the ~~US~~ data over a period of 20 years, the persistence of relative unemployment rates at local areas levels is very strong.

This strong persistence and lack of strong equilibrating factors might be thought to be due to problems specific to particular regions. The North East of England, for example, has experienced relatively low rates of new job creation over many years. So, the possibility exists that the persistence of relative unemployment rates across the countries as a whole may be because of problems specific to some regions rather than a more general phenomenon.

However, similar strong persistence is observed in the correlations of unemployment rates over time between counties *within* the same state and local authority areas *within* the same region.

Table 1. Correlations over time between unemployment rates in US counties and between rates in UK local authorities

Period	US	UK
1990–1995	0.81	0.88
1990–2000	0.72	0.93
1990–2005	0.65	0.87
1990–2010	0.61	0.81

¹ Data for Puerto Rico is also available, but this is excluded from the analysis. The county of Yakutat, Alaska, is excluded due to the lack of data in 1990.

² Except for Northern Ireland.

³ We exclude the City of London. It is a most unusual area, having employment of over 250 000 but a tiny resident population of only some 5000 in total. The Isle of Scilly is also excluded due to the lack of data.

⁴ Full results available from the author.

Table 2. Summary statistics for the correlations over time of unemployment rates of counties *within* individual US states

Period	Min	1st quartile	Mean	3rd quartile	Max
1990–1995	0.56	0.75	0.81	0.87	0.98
1990–2000	0.28	0.70	0.75	0.83	0.97
1990–2005	0.10	0.61	0.69	0.78	0.97
1990–2010	–0.35	0.50	0.60	0.71	0.95

Note: The mean value is not exactly the same as the correlation across all counties taken together, because it is the average of the correlations within individual states.

There are a small number of US states with 10 or fewer counties⁵ and correlations may be distorted here by small sample issues. So, we consider the correlations between unemployment rates in counties within each of the remaining 45 states. In the UK regions, the small sample problem does not arise, and all 11 regions can be used.⁶

Table 2 sets out information on the range of correlations of unemployment rates in counties within individual states.

There is a wide range of experience within individual US states. The correlation between unemployment rates in counties within a state can even be negative after 20 years, but equally it can be as high as 0.95. Within the interquartile range, however, the correlations are all relatively high, and only a small number of states exhibit the flexibility usually attributed to the US labour market (Table 3).

So even *within* every single UK region, very strong levels of persistence of relative unemployment rates at local authority level are observed.

IV. Discussion

In this article, I have the simple aim of describing the persistence or otherwise of unemployment at very local levels in both the United States and the United Kingdom. There is, of course, a long list of possible reasons why unemployment may persist in local economic areas. Many focus directly on the labour market and include those cited above in the OECD study. Others relate to the willingness and ability of workers to migrate if an area receives an adverse shock specific either to the area itself or in addition to its immediate neighbours.

The striking feature of the results is the strength of persistence over time in patterns of relative unemployment rates at local area levels. Even in the United States

Table 3. Summary statistics for the correlations over time of unemployment rates of local authority area within individual UK regions

Period	Min	1st quartile	Mean	3rd quartile	Max
1990–1995	0.88	0.94	0.95	0.97	0.99
1990–2000	0.79	0.93	0.93	0.95	0.98
1990–2005	0.81	0.87	0.87	0.92	0.94
1990–2010	0.71	0.78	0.88	0.89	0.93

over a period of 20 years, a county which had an unemployment rate which was high (or low) relative to the national average in 1990 was likely to have a relatively high (or low) one in 2010. For the United Kingdom, the persistence is even stronger.

Persistence of relative unemployment patterns is not just a feature of data across the two countries as a whole, but within individual states and regions. Counties or local authority areas within any given state or region, which had a high (low) rate of unemployment relative to the average of that state or region in 1990 are likely to have a high (low) one in 2010.

The labour market flexibility of the theorists, beloved by policymakers, appears to be at odds with reality. This is especially the case for the United Kingdom, where relative unemployment rates at local area levels persist very strongly over long periods of time. The findings certainly call into question the efficacy of policies that were designed to increase flexibility and to improve the relative performance of the regions.

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⁵ Connecticut, Delaware, DC, Hawaii, New Hampshire, Rhode Island.

⁶ Wales and Scotland are described as 'regions' for these purposes.