

**Two become one : the integration of male and female
labour markets in the English and Welsh coalfields**

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TWO BECOME ONE: THE INTEGRATION OF MALE AND FEMALE LABOUR MARKETS IN THE ENGLISH AND WELSH COALFIELDS

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Abstract

This paper explores the extent to which the labour markets for men and women are becoming integrated as a single entity. It does so in the specific context of the English and Welsh coalfields, where major job losses in the coal industry fell almost exclusively on men. Using data from 1981 to 2008, the paper presents 'labour market accounts' for the coalfields that reveal changing female labour force participation and employment, and it compares these trends with those among men in the same places. Evidence emerges of two relatively independent labour markets, male and female, operating in the 1980s in the same geographic space. However, over time a degree of integration appears to have occurred. As a result, women increasingly have to compete with men for the same jobs and a greater proportion of new job opportunities in the former coalfields are now going to men.

Coalfields Dual labour markets Segmentation
 Employment Women

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Words=7,693

Introduction

This paper looks at the extent to which the local labour market for women functions independently of the labour market for men, and how this has changed through time. It does so in the context of the English and Welsh coalfieldsⁱ, which provide a particularly compelling case study because the UK coal industry has experienced major job loss that, at least in the first instance, almost exclusively affected men. How this has then rebounded, if at all, on the local labour market for women is not at all clear. Have women's job opportunities in the former coalfields been eroded by greater competition from men? Or is there still a sharp distinction between 'male' and 'female' jobs?

Since the beginning of the 1980s, the UK economy has undergone major restructuring (see FORESIGHT (2013) for a review of the evidence and trends). Whilst a third of all jobs were in energy, water or manufacturing in 1981, by 2008 these sectors accounted for just one in ten of all jobs. A major casualty of the restructuring process was the British coal industry. In the wake of the year long strike which ended in 1985, a rapid pit closure programme ensued and the remaining pits were eventually privatised in the mid-1990s. In 1981 211 pits had employed 250,000 men, but by 2005 only eight pits remained employing fewer than 5,000 men (BEATTY et al, 2007). These job losses were particularly localised due to the geography of the coalfields which is dictated by the geology of coal.

The enormity of the adjustments which took place in the male labour market in the aftermath of pit closures has previously been explored (BEATTY and

FOTHERGILL, 1996; BEATTY et al, 1997; BEATTY et al, 2007). Other studies have also highlighted the impact of the decline of the industry on ex-miners themselves (HOLLYWOOD, 2002) and on their communities (BENNETT et al., 2000). The relative success of regeneration schemes designed to improve these localities has also been explored (GORE et al, 2007; AUDIT COMMISSION, 2008).

However, little has been written about the effect that major job losses amongst men in these areas has had on employment opportunities for women, the exception being a study looking at the interaction of male and female labour markets in coalfield areas between 1981 and 1991 (BEATTY, 2000). The present paper therefore focuses on the trajectories of the female labour market in coalfield areas from 1981 to 2008. The changes that took place within female labour markets are considered alongside the job losses, and subsequent adjustments, in the male labour market in the coalfields over the same time period.

This paper addresses three key questions:

- *Has women's labour market participation increased in the coalfields?*

Female labour force participation rates have risen significantly over the past thirty years across the UK as a whole. Have these national trends been replicated in the coalfields, bearing in mind the large additional male labour supply released by the decline of the coal industry?

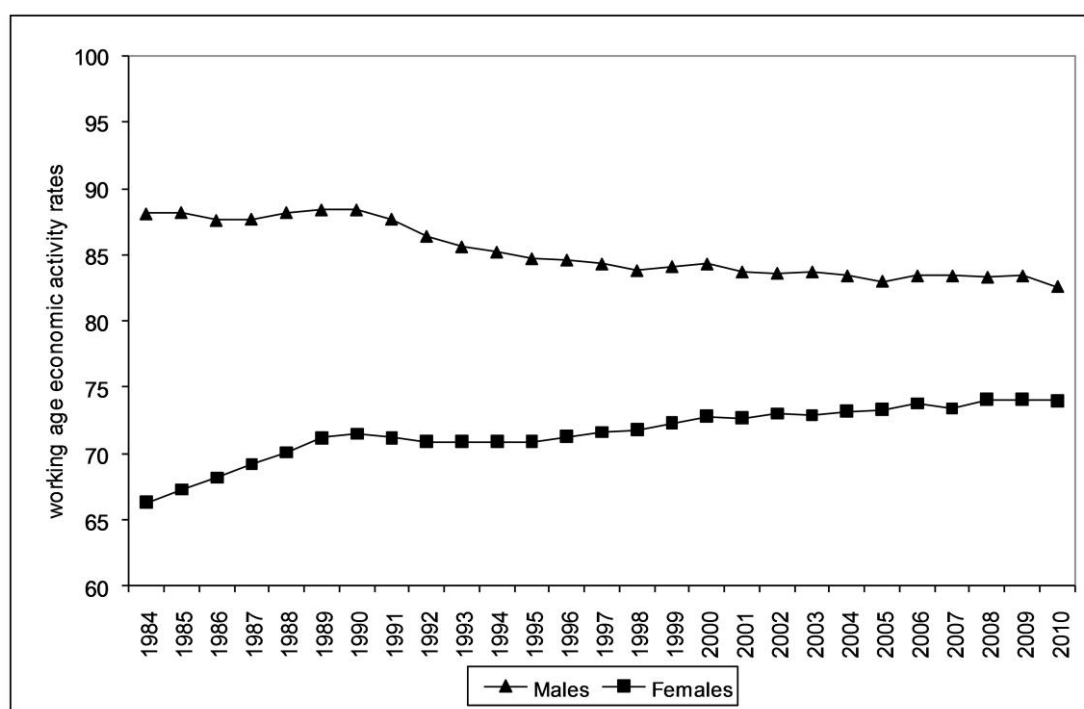
- *How has the female labour market in the coalfields adjusted, in terms of levels of employment, unemployment, migration and commuting, and how do these adjustments compare with what has been happening to men in the same places?*
- *Has job loss among men impacted on women's job opportunities? Do women in the former coalfields now face stronger competition from men for jobs, including for jobs that men might once have seen as 'women's work'?*

Women and the labour market: existing evidence

Before embarking on a detailed consideration of these questions it is useful to take an overview of the existing literature and evidence on the changing role of women in the labour market.

Across the UK, growing numbers of women have been taking part in the labour market (GREGG and WADSWORTH, 1998; GUITIÉRREZ-DOMENECH and BELL, 2004). Figure 1 shows the rise in the economic activity rate among working-age women between 1984 and 2010. The increase (from 66 to 74 per cent) contrasts starkly with the fall in the economic activity rate among working-age men (from 88 to 83 per cent). As a consequence, the gap between male and female activity rates has more than halved.

Figure 1 - Economic activity rates by gender as a percentage of working age population, Great Britain, 1984-2010



Source: Labour Force Survey, not seasonally adjusted

NB. Figures relate to the spring quarter, Males 16-64 and Females 16-59

In the UK, official statistics have until very recently defined 'working age' as 16-59 for women and 16-64 for men, reflecting the different ages at which men and women gained access to the state pension. This convention is followed in Figure 1 and elsewhere in the present paper. The substantial convergence in male and female activity rates is however far too large to be explained by the slightly different composition of the 'working age' groups. In practice, large numbers of men have become detached from the labour market (ALCOCK et al, 2003) while larger numbers of women are now participating in the UK labour market than ever before.

Six themes help locate the evolving nature of female labour market participation over the past thirty years in the UK in general and within the coalfields in particular.

The first is the *shift in the balance of employment* from industry towards services. This is an important factor associated with both the increase in female labour force participation (COTTER et al., 2001) and the loss of male employment (MCDOWELL, 1989). Women are concentrated in the service sector and the re-structuring of the British economy has led to increasing work opportunities for them (RUBERY et al, 1996). De-industrialisation has on the other hand led to large numbers of male manual workers being displaced (BEATTY et al, 2009).

The second theme is the *increasing flexibility of working practices* and casualisation of the workforce that has contributed to demand for female labour (DEX and BUKODI, 2010). At the beginning of the 1980s, 'economically inactive' women were seen as a potential source of cheap, 'green' labour (KEEBLE, 1980) or as a reserve army of labour (BRUEGEL; 1979; POWER, 1983). These were women who were neither in paid employment, nor unemployed, largely consisting of those looking after a home or family (BIVAND, 2005; GREEN, 1994). Precisely because care of the home and family was often seen as women's primary responsibility, they were sometimes viewed as a source of flexible, disposable, low skilled and low-paid labour (BEECHEY, 1987; WARREN, 2001; MUMFORD and SMITH, 2007).

Third, *part-time working remains prevalent among women*, particularly those with young children, with reductions in hours due to child-rearing being associated with reduced earnings and career progression (BLACKWELL, 2001; AASSVE et al, 2006). Women also continue to be concentrated in low skill and lower paid jobs (WARREN and WALTERS, 1998; OLSEN and WALBY, 2004). They often fulfil the function of peripheral or secondary workers in a segmented labour force, which in turn can encourage the creation of dual labour markets (DOERINGER and PIORE, 1971; HUDSON, 1988; ROBINSON, 2002). HÄUSERMANN and SCHWANDER (2010) characterise the dualisation of the labour market in post-industrial economies in terms of pay, conditions and atypical working patterns as being split between 'insiders' and 'outsiders' with women more likely to be concentrated in the latter group. The 'outsiders' are more likely to be employed on short-term or zero-hours contracts, be denied access to occupational pension schemes and, because of the often transitory nature of their employment, lack the statutory employment rights (on redundancy and maternity for example) available to 'insiders'. This segmentation in the supply of labour in turn enables employers to pursue policies of segmentation with regard to labour demand. Hence it is not that some jobs become female dominated because they are low paid, rather that jobs may be low paid because the majority of workers are women (MUMFORD and SMITH, 2007).

Fourth, *gender segregation reinforces occupational segmentation* (BURCHELL and RUBERY, 1994; BLACKWELL, 2001) and a gender pay gap (GRIMSHAW and RUBERY, 2007). Women tend to be concentrated within

certain types of jobs, where fellow workers are also predominantly women (MACEWEN SCOTT, 1994; TOMLINSON et al, 2005). This horizontal segregation means that men and women may often not be in direct competition for the same jobs. Certain jobs therefore become considered as 'women's work' (BRADLEY, 1989; ADKINS, 1995), whilst some men identify strongly with, and continue to seek out, traditional male work (NIXON, 2006). This may in part be due to male manual workers having neither the relevant skills, nor inclination, to take up employment opportunities in the growing service sector (WEBSTER, 2000).

Fifth, *socio-demographic influences* also play an important role in rising female participation rates. Factors such as greater access to education and skills, and changes in demography, the structure of the family and social attitudes to women's roles have all contributed. GUTIÉRREZ-DOMENECH and BELL (2004) concluded that these factors accounted for two-thirds of the increase in female economic activity rates between 1984 and 2002. They speculate that new policies introduced were, in part, also likely to affect behaviour and provided further incentives for women to enter the workforce. Such policies included the Right of Reinstatement in 1979, an extension of Maternity Pay in 1987, the introduction of Family Credit in 1988 and joint taxation being replaced by an individual allowance in 1990.

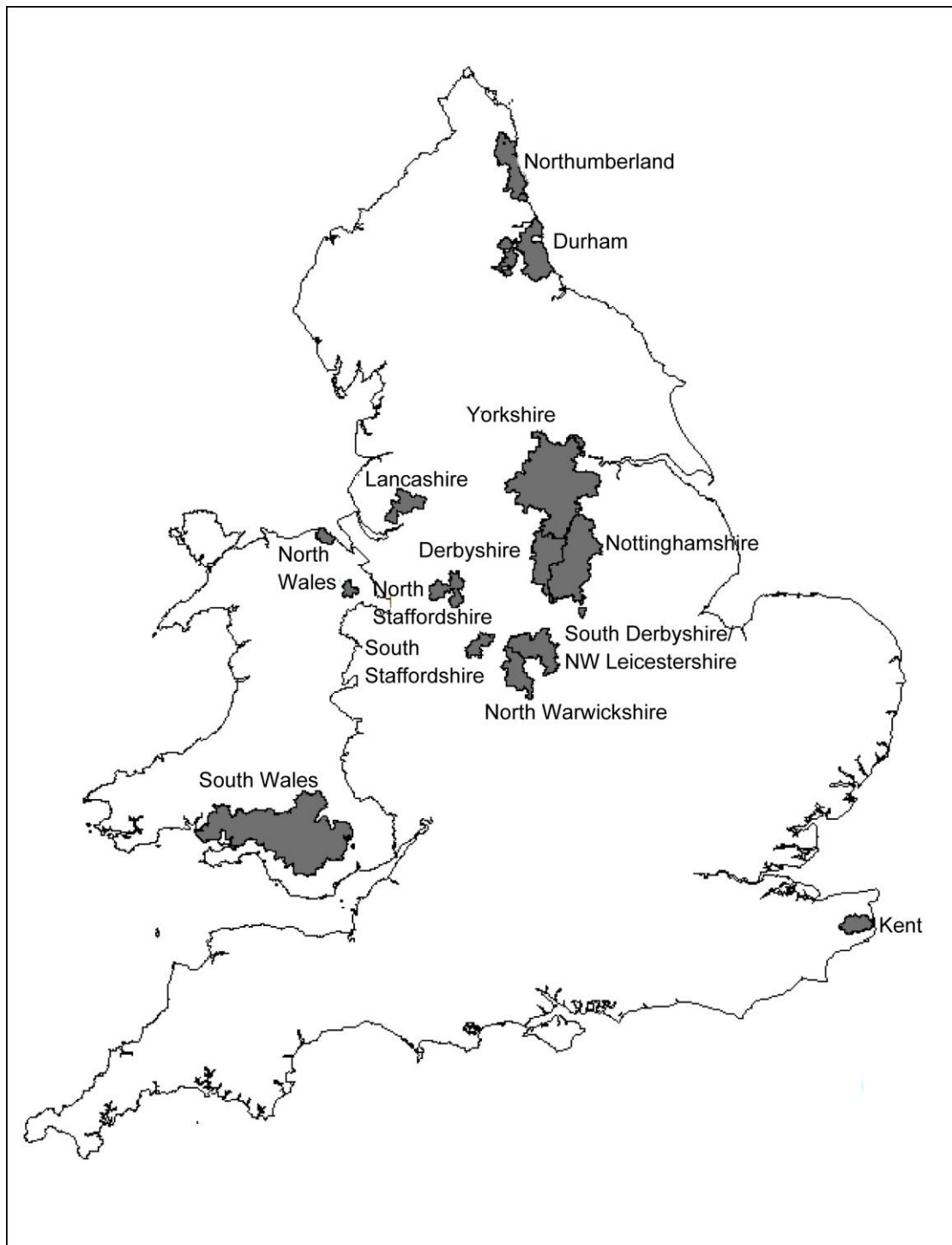
Sixth and finally, a range of *factors specific to coalfields* impacted on female labour force participation in these places. Traditionally, labour force participation among women in the coalfields was lower than across the UK

(BEATTY, 2000). Whilst some coalfields had a strong manufacturing history in the clothing and textile industries, which often relied on female labour, there was a distinct shortage of job opportunities for women in other sectors. In general, local economies in the coalfields tended to be less diverse than in larger urban conurbations and often characterised by a weak service sector - traditionally an employer of women. There were also few small firms in the coalfields, which might have helped provide more female job opportunities (MASSEY, 1984).

Data sources and methods

Figure 2 shows the coalfields in England and Wales covered by this study. In 2001, nearly 4.5 million people lived in these areas (BEATTY et al, 2007). The definition of coalfields used here is a bespoke ward-level geography based on the share of male employment in the coal industry in 1981 (BEATTY and FOTHERGILL, 1996). Other studies have also utilised this definition (COALFIELDS TASK FORCE, 1998; GORE et al, 1999, GORE and SMITH, 2001), which broadly forms the basis of the UK government's definition of coalfields based on 1998 ward boundaries (ODPM, 2003).

Figure 2: The English and Welsh coalfields



Source: Sheffield Hallam University

This analysis draws heavily on data from the 1981, 1991 and 2001 Census of Population. The Census provides data on the economic status of coalfield

residents and on the number of people in employment in each area. Small area data on employment is also available from the Annual Business Inquiry (ABI) which allows the analysis to be updated to 2008ⁱⁱ. It was not possible to extend the analysis beyond 2008, when the ABI was discontinued, because subsequent local data is not disaggregated by gender and the full results of the 2011 Census were still not available.

Bringing the analysis forward to 2008 is important because, as becomes apparent later in the paper, the coal job losses of the 1980s and 1990s cast a long shadow, with major labour market adjustments still occurring in the 2000s. Up-dating to 2008 does however require a greater degree of estimation. For 2008, the economic activity rates among coalfield residents are up-dated on the basis of trends since 2001 in the 35 principal coalfield local authority districts (defined in BEATTY et al, 1997), from the Labour Force Survey (LFS). The unemployment figures for 2008 are based on claimant count data for the coalfields but have been revised upwards by the ratio between the LFS measure of unemployment and the claimant count, by region, to place them on the same basis as the 2001 Census figures (which used the LFS definition).ⁱⁱⁱ

The labour market adjustments resulting from changes in supply and demand are by no means straightforward. Naively, it might be assumed that a large job loss would feed through into an equivalent rise in unemployment; or that a new source of employment in an area would soak up unemployment. In practice, other labour market adjustments occur simultaneously, not least in

labour supply.

In order to get a clear picture of the adjustments that took place in the coalfields, both for men and women, 'labour market accounts' have been assembled. These assemble labour market flows in the form of a balance sheet in which all the variables are arithmetically related. The CAMBRIDGE ECONOMIC POLICY GROUP (1980, 1982) first applied this methodology to UK regions. BEGG, MOORE and RHODES (1986) furthered the methodology by applying it to British inner city areas over the 1951-81 period. Others have successfully employed this approach for sub-regional travel to work areas (OWEN et al, 1984; OWEN and GREEN, 1989; GREEN and OWEN, 1991), Rural Development Areas (BEATTY and FOTHERGILL, 1997); Britain's cities (TUROK and EDGE, 1999), and seaside towns (BEATTY and FOTHERGILL, 2004).

Labour market accounts disaggregate local labour market trends into a number of separate elements:

- *Natural increase in the workforce* – the excess in the number of young people reaching working age over the number reaching state pension age and deaths of working age.
- *Net migration* – the balance between the numbers of people of working age moving into and out of an area.
- *Change In net commuting* – the change in the balance of commuting flows into and out of an area.

- *Change in labour force participation* – the change in the proportion of adults of working age who are ‘economically active’ (i.e. in employment or seeking employment).
- *Change in employment*- the change in the number of jobs located in an area
- *Change in recorded unemployment*- the change in the number of people who are unemployed (in this instance, ‘unemployed’ as defined and recorded by the Census of Population)

For the purposes of this analysis, these components are collated into labour market accounts as follows:

	Job loss in coal
Plus	Natural increase in workforce
Plus	Net in-migration
Plus	Increase in net in-commuting
Plus	Increase in economically active
Minus	Increase in non-coal jobs
<hr/>	
Equals	Change in recorded unemployment

Cohort projection models, using district level age and sex specific death rates, enable estimates of natural increase and migration to be calculated. Changes in net-commuting are calculated as the residual in the present accounts, rather than measured directly, but have been cross-checked against Census data for 1981-91 and 1991-2001.^{iv}

The findings presented here draw heavily on data first assembled for earlier studies of the coalfield labour market (BEATTY and FOTHERGILL, 1996; BEATTY, 2000; BEATTY et al, 2007). A full and detailed presentation of the data sources and methods, including the post-2001 up-dating methods deployed here, can be found in the appendix to the third of these earlier studies.

Question 1: Has women's labour market participation increased in the coalfields?

The first research question, set out earlier, concerns the extent to which women's labour market participation has increased in the coalfields over time.

Table 1 compares the economic activity rate among working-age women in the coalfields with the average for England and Wales. It indicates that whilst women's economic activity rates in the coalfields remained slightly below the national average between 1981 and 2008, a slightly faster increase from 1991 onwards in the coalfields meant the gap narrowed over the period as a whole. By 2008, the proportion of women of working age in the coalfields who were economically active (i.e. in paid employment or unemployed) had risen by almost 12 percentage points since the beginning of the 1980s. The biggest increase occurred between 1981 and 1991 but, as the figures in Table 1 show, the surge in women's labour force participation over this period was a national phenomenon rather than something unique to the coalfields.

Table 1: Economic activity rates amongst working age women, 1981-2008

	English and Welsh coalfields	England and Wales
Female economic activity rates (%)		
1981	58.1	60.8
1991	64.3	67.7
2001	67.2	70.3
2008	69.7	71.5
Percentage point increase		
1981-1991	6.1	6.9
1991-2001	3.0	2.6
2001-2008	2.5	1.2
1981-2008	11.6	10.7

Source: 1981, 1991, 2001 Census of Population, Labour Force Survey 2000/01, Annual Population Survey 2007/08

Rising labour force participation rates among women in coalfield areas occurred alongside falling economic activity rates among working-age men in the same places. Between 1981 and 2008 the male economic activity rate in

the coalfields fell by 11.2 percentage points. Over the same period, the male economic activity rate in England and Wales as a whole fell by 9.8 percentage points.

The broad similarity between the strong increase in women's labour force participation in the coalfields and in England and Wales as a whole, and the sharp contrast with the trend in labour force participation rates among men, suggests that women's growing engagement with the labour market has been little affected by the particular economic circumstances of the coalfields. They have neither been deterred from entering the labour market by the glut of male labour released by the pit closures, nor spurred into the labour market in even greater numbers by the need to maintain household incomes in the face of male job loss. It would appear that the rise in women's labour force participation, in the coalfields and elsewhere, has far deeper roots.

That women in the coalfields have continued to enter the workforce in large numbers at the same time as men – many of whom will be their partners – have dropped out into economic inactivity also brings into question assumptions about the interaction of the benefits system and household behaviour. The UK government's efforts to tackle worklessness among not only out-of-work claimants but also their partners (see for example DEPARTMENT FOR WORK AND PENSIONS, 2006; 2008) is rooted in the view that a welfare benefit claim by one member of the household creates a financial incentive for their partner not to take a job. These financial incentives do certainly operate in the context of means-tested benefits, though

rarely to such an extent as to fully offset the financial benefit of working. In the coalfields, the loss of benefit income has clearly not been sufficiently large to deter rising labour force participation by women. That the men who dropped out of the coalfield labour market often claimed Incapacity Benefit (BEATTY et al, 2007), which was not means-tested in most circumstances, may help offer an explanation.

Question 2: How has the female labour market in the coalfields adjusted?

The second question, posed earlier, concerns the wider adjustments in the female labour market in the coalfields. Whilst the fact that male and female economic activity rates moved in opposite directions appears to point towards a degree of separation between male and female labour markets in coalfields, it is reasonable to suppose that some interaction will have occurred, not least because since 1975 it has generally been illegal in the UK to make job advertisements gender specific.

Labour market accounts for working-age men and women in the English and Welsh coalfields are presented in Table 2. The accounts cover the full period between 1981 and 2008 and are therefore likely to encapsulate the vast majority of the adjustment in response to mining job loss, including adjustments that may take a decade or more to work through to full effect.

**Table 2: Labour market accounts for working age men and women,
English and Welsh coalfields, 1981-2008**

		Males		Females	
		No.	% working age male pop. in 1981	No.	% working age female pop. in 1981
	Job loss in coal	222,000	15.9		
PLUS	Natural increase in workforce	94,000	6.7	66,000	5.2
PLUS	Net in-migration	-39,000	-2.8	-14,000	-1.1
PLUS	Increase in economically active	-153,000	-10.9	149,000	11.8
PLUS	Increase in net in-commuting	-5,000	-0.3	-16,000	-1.3
MINUS	Increase in non-coal jobs	179,000	12.8	179,000	14.2
EQUAL S	Change in recorded unemployment	-60,000	-4.3	6,000	0.4

Sources: Census of Population, Annual Business Inquiry, ONS Mid-year population estimates

The decline of the coal industry led to the loss of over 220,000 male jobs over this period. By 2008, however, 80 per cent of the male jobs loss in the coal industry had been offset by a net increase of nearly 180,000 jobs in other sectors. Recorded male unemployment, too, was down by 60,000.

Superficially, then, the male labour market in the coalfields had moved a long way towards recovery. But the full picture is more complicated. The

coalfields still lost nearly 40,000 working-age men as a result of net out-migration. More particularly, the withdrawal of more than 150,000 men of working age from the labour market – measured by the decline in the numbers economically active – was a key factor holding down recorded male unemployment.

In one important respect, the adjustment in the female labour market in the coalfields was very similar: by 2008 there were 179,000 more jobs in the coalfields held by women, exactly the same increase as among men.

However, this substantial increase in female employment co-existed alongside a small increase in female unemployment. The explanation once again lies in changing labour force participation: whereas male labour force participation declined, the increase in the economic activity rate among women in the coalfields added almost 150,000 to labour supply. The natural increase in the workforce also added a further 60,000 women to labour supply. The increase in female employment in the coalfields, though very substantial, could not quite keep up with all this additional female labour supply.

Lesser labour market adjustments among women were provided via an increase in net out-commuting and net out-migration. The coalfields have always been substantial net exporters of commuters, both male and female, particularly to neighbouring cities and large towns. The negative figure for the increase in net in-commuting, in Table 2, indicates that on balance out-commuting among women increased by 16,000 between 1981 and 2008. The negative figure in the labour market accounts for net in-migration indicates

that, as with men, there was a net loss of working age women through migration.

If the coalfield labour market had been operating as a single entity, with no differentiation between men and women, the picture emerging from the labour market accounts might have been expected to be very different.

Surplus male labour, released by the decline of the coal industry, might have taken a greater number share of the new jobs, fewer men might have exited the labour force, and fewer women might have entered. The fact that the male and female labour market trends were in practice so different, especially with regard to labour force participation, is evidence that to a significant extent dual labour markets continued to operate in the coalfields between 1981 and 2008.

Question 3: How has job loss among men impacted on women's job opportunities?

The third question posed earlier, specifically concerns the interaction of male job loss and female job opportunities.

Table 3 provides a breakdown of the net growth in male and female employment in the coalfields, in industries other than coal itself, over three sub-periods – 1981-91, 1991-2001 and 2001-08. Once the coal industry is taken out of the equation, male and female job growth is identical over the entire period – a net growth of 179,000 each as the labour market accounts showed earlier. On average, 11,300 non-coal jobs were created each year

between 1981 and 1991, 9,600 a year between 1991 and 2001, and 21,300 a year between 2001 and 2008. These figures all refer to the number of jobs *located in the coalfields*.

Table 3: Increase in non-coal jobs in the English and Welsh coalfields, 1981-2008

	1981-91	1991-01	2001-08	Total 1981-2008
Men	44,900	48,300	86,100	179,200
Women	68,500	47,800	63,000	179,300
Total	113,400	96,100	149,100	358,500
annual rate	11,300	9,600	21,300	13,300
% going to women:				
Coalfields	60	50	42	50
England & Wales	54	67	47	56

Sources : Census of Population, Coal Authority, Annual Business Inquiry

The gender balance in job growth has however changed over time. In the 1980s, when the coal job losses among men were greatest, 60 per cent of the increase in non-coal jobs went to women. Between 1991 and 2001 the share going to women fell to 50 per cent. Between 2001 and 2008 men took the

largest share of new job opportunities in the coalfields, with women accounting for only 42 per cent of the increase in employment.

This changing gender balance in job growth is arguably fundamental to understanding how labour markets in the coalfields have evolved over time, and central to the interaction of the male and female sides of the labour market. The overview for the whole of the 1981 to 2008 period presented earlier in Table 2, suggested the possible existence of a dual labour market in coalfield areas. However, the dynamics of change, in Table 3, indicate that whilst job opportunities for women initially seemed insulated from the substantial increase in male labour supply arising from the pit closures, as time progressed women increasingly faced stiffer competition for jobs. In the post-2001 period, women lost out to men in their share of jobs growth in the coalfields.

Comparisons between the coalfields and England and Wales as a whole, in the last line of Table 3, underline this point. Between 1981 and 1991, women took a *higher* share of the job growth in the coalfields than in England and Wales as a whole. But after 1991 this trend was reversed, with a *lower* share of new jobs in the coalfields going to women than in the country as a whole.

These key trends raise questions about whether men in the coalfields (and perhaps more widely) are now diversifying into types of employment previously dominated by women. Part-time work has always been widespread amongst women, but has traditionally been relatively rare

amongst men. However, Table 4 shows a shift towards part-time working amongst men in both the coalfields and also nationally. In 1981, fewer than 2 per cent of men in employment in the coalfields worked part-time^v, compared to 40 per cent of women. By 2008 these figures had increased to nearly 15 per cent for men and 50 per cent for women. Indeed, in the coalfields and in England and Wales as a whole the proportion of women working part-time actually *fell*, in contrast to the continuing increase among men.

Table 4: Part-time working, English and Welsh coalfields, 1981-2008

	Males		Females	
	England		England	
	Coalfields	and Wales	Coalfields	and Wales
	as a percentage of all workers			
1981	1.4	2.3	40.0	37.8
1991	7.8	8.5	48.9	43.2
2001	13.0	14.2	53.3	48.0
2008	14.8	16.3	50.6	46.3

Sources: 1981 Census, 1991 Census, 2001 and 2008 Annual Business Inquiry

The changing gender balance of employment in the coalfields is explored in Table 5. The final two columns of this table show the share of jobs in each sector that were held by men in 1981 and in 2008. The picture is complex: in several sectors in which either men or women dominated employment in 1981 the gender balance has subsequently become more even, but there are also important sectors (notably manufacturing and public services) that buck this general trend. One way of looking at the figures as a whole is by an Index of

Dissimilarity^{vi} fell from 0.41 in 1981 to 0.34 in 2008, a slightly greater shift than seen in England and Wales where it declined from 0.32 to 0.26 over the same time period. This lends support to the idea that, at least at the level of broad industry groups, the distinction between 'male' and 'female' jobs is becoming increasingly blurred.

Table 5: Gender segregation by industry, English and Welsh Coalfields, 1981-2008

	% of total employment				% of jobs in each	
	Women		Men		sector held by men	
	1981	2008	1981	2008	1981	2008
Agri. & fishing	0.6	0.2	1.1	0.3	75.1	64.2
Energy and water	1.8	0.5	28.4	2.0	96.2	81.3
Manufacturing	27.7	7.2	27.7	22.8	61.4	76.6
Construction	1.5	2.0	11.5	10.8	92.6	84.7
Dist., hotels & restaurants	26.6	25.7	10.1	22.8	37.7	47.9
Trans & communications	2.2	3.4	6.4	10.4	81.8	76.1
Bank, fin. & insurance	5.7	13.1	3.3	13.9	47.8	52.6
Pub admin., edu., health &	34.0	47.9	11.6	17.1	35.1	27.1
Total	100	100	100	100	61.4	51.0

Sources: 1981 Census, 2008 Annual Business Inquiry

Note: Data based on employees only; data has been adjusted onto a comparable SIC basis over time

Discussion

Four main conclusions emerge from evidence presented in this paper. First, labour market adjustment processes, in response to major changes in the demand for labour, can lead to unexpected outcomes. In the English and

Welsh coalfields, the loss of male jobs did not feed through to a corresponding increase in recorded male unemployment, and substantial increases in female employment did not reduce recorded female unemployment at all. For many men in the coalfields, particularly ex-miners no doubt, an exit from the labour force seems to have been the alternative to conventional unemployment, facilitated by redundancy packages, early access to occupational pensions and a welfare system that diverted those with poor health onto disability benefits. The supply of male labour contracted alongside the collapse in demand. The converse is true for women. In the coalfields, female labour supply increased, underpinned by changing socio-demographic and behavioural factors, alongside an expansion of women's employment.

Second, the loss of a dominant male employer in an area appears to have far reaching consequences, not just on male employment opportunities but also on job prospects for women. The dynamics of change over time in the coalfields suggest that women increasingly face competition from men for non-coal jobs. The segmentation of supply and demand of labour in the coalfields weakened as men increasingly took part-time job opportunities, and gender segregation by industry weakened. By the 2000s, more of the increase in non-coal employment was going to men than women, a reversal of the situation on the 1980s.

Third, the adjustments to major labour market shocks appear to take long periods of time to work through fully. The ramifications of major male job losses in the coalfields in the 1980s and 1990s were not entirely predictable

and indeed continued to impact on female, as well as male, labour markets in these areas nearly thirty years later. Whilst the initial adjustment processes were concentrated in the male labour market, female job prospects were also affected in the longer term. Deficiencies in aggregate labour demand eventually affected women as well as men as competition from men for jobs increased and held back the growth in female employment.

Fourth, the analysis presented here indicates that, over time, there has been greater interaction between the previously relatively independent male and female labour markets in Britain's coalfield areas. A degree of merger between the two has taken place, albeit at a slow pace. Female employment has increased, but it appears that this has been held back by a restructuring of the local labour market. Women did not face a dramatic increase in competition for jobs in the immediate aftermath of the collapse of male employment in the coal industry, but there is evidence that in the longer term this has increasingly been the case.

In the coalfields, none of these shifts have happened quickly. Indeed, it is highly unlikely that the redundant miners themselves have been at the forefront, if for no other reason than the fact that by the late-2000s many of the men made redundant from the coal industry in the 1980s had reached state pension age (65) and passed out of the labour market. Instead, what has probably happened is that while the men made redundant a generation ago from industries like coal, steel and heavy engineering may have shunned what they saw as 'women's work', their sons have rarely had the same luxury.

The old industries have mostly gone – almost entirely in the case of the UK coal industry – and the opportunities for dropping out of the labour market onto disability benefits (a favoured option for many ex-miners) have diminished as benefit regulations have tightened. At the same time, the requirement to look for work as a condition of receipt of unemployment benefits and the impact of government welfare-to-work schemes (currently the Work Programme) mean that it is not easy to remain on unemployment benefits for extended periods. So in the coalfields, a younger group of men who a generation ago would have found jobs in the coal industry have instead taken up employment in shops, hotels, catering, hospitals and offices, often in roles that once might have been filled by women. In doing so they have made the labour market in the places they live more difficult for women. In this way the consequences of male job loss are transmitted, in part, from men to women.

That the male and female labour markets in the coalfields are now so intertwined is all the more remarkable given the historic and overwhelming domination of coal jobs by men and the sharp differentiation of gender roles in the wider coalfield community that so often developed in its wake. If the barriers that once divided the male and female labour markets in the coalfields can be broken down, albeit by an upheaval in the economic base, there are surely few immovable obstacles to similar processes occurring in other local economies. The UK coalfields may therefore be a highly unusual case study,

but it is the very extremity of the local economic circumstances that perhaps illustrates the power of the processes at work.

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References

ADKINS, L. (1995) *Gendered Work: Sexuality, family and the labour market*, Open University Press, Buckingham.

ALCOCK, P., BEATTY, C., FOTHERGILL, S., MACMILLAN, R. and YEANDLE, S. (2003) *Work to Welfare: How men become detached from the labour market*, Cambridge University Press, Cambridge.

AASSVE, A., BURGESS, S., PROPPER, C. AND DICKSON, M. (2006) Employment, family union and childbearing decisions in Great Britain, *Journal of the Royal Statistical Society, Series A: Statistics in Society* **169**, 781-804.

AUDIT COMMISSION (2008) *A Mine of Opportunities: Local authorities and the regeneration of the English coalfields*, Audit Commission, London.

BEATTY, C. (2000) *Female Labour Market Adjustment Processes in the UK Coalfields*, M.Phil thesis, School of Urban Regional Studies, Sheffield Hallam University.

BEATTY, C., FOTHERGILL, S., HOUSTON, D., POWELL, R. and Sissons, P. (2009) A gendered theory of employment, unemployment and sickness, *Environment and Planning C* **27**, 958-974.

BEATTY, C., FOTHERGILL, S., and POWELL, R. (2007) Twenty years on: has the economy of the coalfields recovered? *Environment and Planning A* **39**, 1654-1675.

BEATTY, C. and FOTHERGILL, S. (2004) Economic change and the labour market in Britain's seaside towns, *Regional Studies* **38**, 461-480.

BEATTY, C., FOTHERGILL, S. and LAWLESS, P. (1997) Geographical variation in the labour-market adjustment process: the UK coalfields 1981-91, *Environment and Planning A* **29**, 2041-2060.

BEATTY, C. and FOTHERGILL, S. (1997) *Unemployment and the Labour Market in RDAs*, Rural Research report No 30, Rural Development Commission, London.

BEATTY, C. and FOTHERGILL, S. (1996) Labour market adjustment in areas of chronic industrial decline: the case of the UK coalfields, *Regional Studies* **30**, 627-640.

BEECHEY, V. (1987) *Unequal Work*, Verso, London.

BEGG, I., MOORE B.C. and RHODES, J. (1986) Economic and social change in urban Britain and the inner cities, in HAUSNER, V. (ed), *Critical Issues in Urban Economic Development: Volume 1*, pp10-49, Clarendon Press, Oxford.

- BENNETT, K., BEYNON, H. and HUDSON, R. (2000) *Coalfields Regeneration: Dealing with the consequences of industrial decline*, Area Regeneration Series, Policy Press.
- BIVAND, P. (2005) Who are the economically inactive?, *Working Brief*, Issue 160, Centre for Economic and Social Inclusion, London.
- BLACKWELL, L. (2001) Occupational sex segregation and part-time work in modern Britain. *Gender, Work and Organization* **8**, 160-163.
- BRADLEY, H. (1989) *Men's Work Women's Work: A Sociological History of the Sexual Division of Labour in Employment*, Polity Press, Oxford.
- BREUGEL, I. (1979) Women as a reserve army of labour: a note on recent British experience, *Feminist Review*, vol 3, pp12-23.
- BURCHELL, B. and RUBERY, J. (1994) Divided women: Labour market segmentation and gender segregation, in MACEWEN Scott A. (ed), *Gender Segregation and Social Change*, Oxford University Press, Oxford.
- CAMBRIDGE ECONOMIC POLICY GROUP (1980) Urban and regional policy with provisional regional accounts 1966-1978, *Cambridge Economic Policy Review*, number 6.

CAMBRIDGE ECONOMIC POLICY GROUP (1982) Employment problems in the cities and the regions of the UK: prospects of the 1980's, *Cambridge Economic Policy Review*, number 8.

COALFIELDS TASK FORCE (1998) *Making the Difference; A new start for England's coalfield communities*, Department of the Environment, Transport and the Regions, London.

COTTER, D., HERMSEN, J. AND VANNENMAN, R. (2001) Women's work and working women: The demand for female labor, *Gender and Society* **15**, 249-452.

DEPARTMENT FOR WORK AND PENSIONS (2006) *A New Deal for Welfare: empowering people to work*, DWP, London.

DEPARTMENT FOR WORK AND PENSIONS (2008) *No one Written Off: reforming welfare to reward responsibility*, DWP, London.

DEX, S. and BUKODI, E. (2010) *The Effects of Part-time Work on Women's Occupational Mobility in Britain: Evidence from the 1958 Birth Cohort Study*, Centre for Longitudinal Studies, University of London, London.

DOERINGER, P.B. and PIORE, M.J. (1971) *Internal Labour Markets and Manpower Analysis*, Heath Lexington Books, Massachusetts.

FORESIGHT (2013) *The Future of Manufacturing: a new era of opportunity and challenge for the UK*, Project Report, The Government Office for Science, London.

GORE, T., DABINETT, G. and BREEZE, J. (1999) *Coalfields and the Lottery*, DCMS, London.

GORE, T. and SMITH, N. (2001) *Patterns of Educational Achievement in the British Coalfields*, Research Report 314, DfES, London.

GORE, T., FOTHERGILL, S., HOLLYWOOD, E., LINDSAY, C., MORGAN, M., POWELL, R. and UPTON S. (2007) *Coalfields and Neighbouring Cities: Economic regeneration, labour markets and governance*, Joseph Rowntree Foundation, York.

GREEN, A. (1994) The geography of changing female economic activity rates: issues and implications for policy and methodology, *Regional Studies* **28**, 633-639.

GREEN, A. and OWEN, D. (1991) Local labour supply and demand interactions in Britain during the 1980s, *Regional Studies* **25**, 295-314.

GREGG, P. and WADSWORTH, J. (1998) *Unemployment and Non-Employment: Unpacking Economic Inactivity*, Employment Policy Institute Economic Report **12**(6), London.

GRIMSHAW, D. and RUBERY, J. (2007) *Undervaluing Women's Work*, Equal Opportunities Commission Working Paper Series No. 53., Equal Opportunities Commission, Manchester.

GUITIÉRREZ-DOMENECH, M. and BELL, B. (2004) *Female Labour Force Participation in the United Kingdom: Evolving characteristics or changing behaviour?*, Bank of England Working Paper No 221, Bank of England, London.

HÄUSERMANN, S. and SCHWANDER, H. (2010) '*Varieties of Dualization? Labour market segmentation and insider outsider divides across regime's*, Conference Paper at "The Dualisation of European Societies?" Green Templeton College, University of Oxford 2010.

HOLLYWOOD, E. (2002), Mining, migration and immobility: towards an understanding of the relationship between migration and occupation in the context of the UK mining industry, *International Journal of Population Geography* **8**, 297-314.

HUDSON, R. (1988) Labour market changes and new forms of work in 'old' industrial regions, in MASSEY D. and ALLEN J. (eds) *Uneven Re-Development: Cities and Regions in Transition*, pp 147-166, Hodder and Stoughton, London.

KEEBLE, D. (1980) Industrial decline, regional policy and the urban-rural manufacturing shift in the United Kingdom, *Environment and Planning A* **12**, 945-62.

MACEWEN Scott, A. (1994) Gender segregation and the SCELLI research, in MACEWEN Scott A. (ed), *Gender Segregation and Social Change*, pp1-38, Oxford University Press, Oxford.

MASSEY, D. (1984) *Spatial Divisions of Labour: Social structures and the geography of production*, Macmillan, London.

MCDOWELL, L. (1989) Gender divisions, in Hamnett, C., McDowell L. and Sarre P. (eds), *The Changing Social Structure*, pp 158-198, Sage, London.

MUMFORD, K. and SMITH, P.N. (2007) The Gender Earnings Gap in Britain: Including the Workplace. *Manchester School*, **75**, 653-672.

NIXON, D. (2006) 'I just like working with my hands': employment aspirations and the meaning of work for low-skilled unemployed men in Britain's service economy, *Journal of Education and Work* **19**, 201–217.

ODPM (2003) *Updating Coalfield Areas*, ODPM, London.

OLSEN, W. AND WALBY, S. (2004) *Modelling gender pay gaps*. EOC Working Paper Series no. 17. Equal Opportunities Commission, Manchester.

OWEN, D.W., GILLESPIE, A.E. and COOMBES, M.G. (1984) 'Job shortfalls' in British local labour market areas: a classification of labour supply and demand trends, 1971-81, *Regional Studies* **18**, 469-488.

OWEN, D.W. and GREEN, A.E. (1989) Labour market accounts for travel-to-work areas 1981-84, *Regional Studies* **23**, 69-72.

POWER, M. (1983) From home production to wage labour: women as a reserve army of labour, *Review of Radical Political Economics* **XV**, 71-91.

ROBINSON, H. (2002) Wrong side of the track? The impact of the minimum wage on gender pay gaps in Britain. *Oxford Bulletin of Economics and Statistics* **64**, 417-448.

RUBERY, J., SMITH, M. and FAGAN, C. (1996) *Trends and Prospects for Women's Employment in the 1990s*, European Commission, Brussels.

TOMLINSON, J., OLSEN, W. NEFF, D., PURDAM, K. and MEHTA S. (2005) *Examining the Potential for Women Returners to Work in Areas of High Occupational Gender Segregation*, Department for Trade and Industry, Women Equality Unit, TSO, London.

TUROK, I. and EDGE, N. (1999) *The Jobs Gap in Britain's Cities*, Policy Press, Bristol.

WARREN, T. (2001) Divergent female part-time employment in Britain and Denmark and the implications for gender equity, *Sociological Review* **49**, 548-567.

WARREN, T. and WALTERS, P. (1998) Appraising a dichotomy: A review of part-time/full-time' in the study of women's employment in Britain, *Gender Work and Organization* **5**, 102-118.

WEBSTER, D. (2000) The geographical concentration of labour market disadvantage, *Oxford Review of Economic Policy* **16**, 114-128.

Endnotes

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- ⁱ Elements of the Census Special Workplace Statistics required for this analysis are not available for Scotland.
- ⁱⁱ There are differences in coverage between the ABI and Census of Population Special Workplace Statistics workplace based employment data which this analysis presented here takes into account to allow trends in coalfield areas to be considered post 2001. ABI counts employees in an area (including double jobbing) but excludes the self-employed. The Census data records the main employment of individuals working in an area and therefore excludes double jobbing but includes the self-employed. The 2008 ABI employee data was grossed by the ratio of employees recorded in the 2001 ABI relative to employment in each coalfield recorded in the 2001 Census to take account of self-employment and double jobbing. These ratios were calculated and applied separately for male and female employment for each individual coalfield to reflect different patterns of self-employment by sex and area. In addition there is a discontinuity with 2008 ABI data and surveys prior to 2006. Local Authority scaling factors available via NOMIS were applied to 2008 ABI data to place to take account of this discontinuity. For each coalfield an employee weighted average scaling factor based on local authorities partially or fully covered by each coalfield was applied.
- ⁱⁱⁱ The Labour Force Survey uses the International Labour Organisation definition of unemployment, which counts those who are out-of-work, available to start work, and looking for work, whereas the claimant count only includes those claiming Jobseeker's Allowance. In recent years in the UK, the LFS

measure of unemployment has been significantly higher than the claimant count.

^{iv} The inconsistency between the direct measurement of net commuting (from the Census) and the methods deployed here for 1981-91 and 1991-2001 accounts for fewer than 3,000 women in each of these periods. For 2001-08 net commuting cannot be measured directly in the absence of Census data, necessitating its estimation as the residual in the accounts. These are the same methods as deployed in BEATTY et al. 2007.

^v Part-time is defined in both Census and ABI data as 30 hours a week or less. The 1981 and 1991 data in this table is from Census Special Workplace Statistics on those in employment in the area including self-employed. The 2001 and 2008 data is for employees in the area from the ABI. National residence based data available from the 2001 Census indicates that whilst there is a slightly higher rate of part-time working amongst the self-employed than employees the impact on the workforce taken as a whole is negligible.

^{vi} The Index of Dissimilarity (ID) compares the distribution of men and women across industrial categories. It shows the proportion of males/females that would need to move between industrial categories in order to produce and identical distribution by sex. An ID of 0.34 in 2008 means 34% of males would need to change industrial categories to produce the same distribution by sector as females, down from 41% in 1981.