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A life-course perspective on ethnic differences in women's economic activity in Britain

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Angela Dale, Joanne Lindley, Shirley Dex

Angela.Dale@manchester.ac.uk

Research on women's employment has demonstrated greater differentials between ethnic groups than for men, with economic activity highest for Black women and lowest for Pakistani and Bangladeshi women. Unemployment is higher for all minority ethnic groups than for white women (Table 1). How do we explain these differences and how are they changing across generations and over time? This paper will focus on explaining differences in economic activity between the white, Black Caribbean/Black other, Indian and Pakistani and Bangladeshi groups.

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**A life-course perspective on ethnic differences in women's economic activity in
Britain**

Angela Dale, Centre for Census and Survey Research, University of Manchester

Joanne Lindley, Department of Economics, University of Sheffield

Shirley Dex, Institute of Education, University of London

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Contact: Angela Dale, CCSR, Crawford House, University of Manchester,
Manchester M13 9PL

Email: angela.dale@manchester.ac.uk

Phone: 0161-275-4891

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Abstract

A life-stage perspective on ethnic differences in women's economic activity in Britain

This paper examines the relationship between family formation, qualifications and employment for women from white and minority ethnic groups using a lifecourse approach. Cross-sectional data from the British Quarterly Labour Force Survey for 1992-2003 were used to estimate the relationships.

There are major differences between ethnic groups in the likelihood of being economically active, after controlling for life-course and level of qualifications. These are greatest for Pakistani and Bangladeshi women and least for Black Caribbean women. However, predicted probabilities of being economically active are very similar – over 90% - for all young women (19-34) with a degree level qualification who have neither partner nor child.

For all women, rates of economic activity are lower with young children, but again vary between ethnic groups. Employment patterns for Black Caribbean women are consistent with economic migration and norms of motherhood that encompass both roles of bread-winner and parent. In contrast, Pakistani and Bangladeshi women's patterns of economic activity reflect a strongly gendered division of labour where motherhood is associated with full-time care for children.

A life-course perspective on ethnic differences in women's economic activity in Britain

1. Introduction

Much research on ethnic differences in employment in the UK has shown not just the extent of inequalities but also the variation between ethnic groups (Berthoud, 2002; Blackaby et al, 2002). Research on women's employment has demonstrated greater differentials between ethnic groups than for men, with economic activity highest for Black women and lowest for Pakistani and Bangladeshi women. Unemployment is higher for all minority ethnic groups than for white women (Table 1). How do we explain these differences and how are they changing across generations and over time? This paper will focus on explaining differences in economic activity between the white, Black Caribbean/Black other, Indian and Pakistani and Bangladeshi groups. These provide marked contrasts and represent the largest ethnic groups in Britain.

Longitudinal analysis has shown that UK women's employment is strongly influenced by both life-stage and cohort – and both are mediated by level of qualifications (Dex et al, 1998; Dex and Joshi, 1996; Macran et al, 1996; Elliott et al, 2001). Theories that explain women's labour market behaviour focus on norms and assumptions that apply to white women - for example, the division of labour within the household - but differences between ethnic groups are rarely identified or explained. Qualifications are recognised as playing an important explanatory role in the rise in women's labour market participation in recent decades, particularly amongst women with young children. However, there has been little systematic analysis of employment

differences across the life-course for women from minority ethnic groups - in part explained by the lack of longitudinal data in the UK that can provide a true life-course analysis for minority ethnic groups. This paper uses the best evidence available – repeat cross-sections of data from the Labour Force Survey (Office for National Statistics, 2003) for Britain for 1992-2003 – to conduct a quasi-life course analysis of variation in economic activity between ethnic groups.

In section two we set out a life course framework which brings together historical experiences, cultural norms and expectations and individual agency. In section three we introduce the data source, the way in which key variables are measured and operationalised and the methods of analysis. The analysis is then discussed in two separate sections. Section four provides the results from multivariate logistic models that report predicted probabilities of economic activity for women at key life course stages and with different levels of qualification. Following this descriptive analysis we then define and test a series of theoretically derived hypotheses based on expected relationships for specific ethnic groups. The final section draws some conclusions.

2. Life course framework

The life course paradigm set out by Giele and Elder (1998) provides an appropriate explanatory framework within which to locate the analysis. Giele and Elder (1998:10) define three key elements: *location in time and place*, that includes the cultural background experienced by individuals; *linked lives*, referring to family norms and cultural expectations, for example with respect to women's roles concerning employment and child-care; and *individual agency* - the decisions that an individual makes and the priority that they give to different aspects of the lives, for example

decisions concerning education, employment and family formation. All these are intimately linked and are therefore discussed together below.

2.1 Location in time and place

The main minority ethnic groups in Britain have very different locations in terms of time and place. This is particularly evident in the timing and reasons for migration. Thus Black Caribbean women not only came to Britain as economic migrants but generally did so in the 1950s and early 1960s in response to a demand for labour that could not be met by the existing UK work-force. For example, the expanding post-war National Health Service directly recruited workers from Jamaica and the West Indies. The 'Black Other' group, tend to be young and many are the children of Black Caribbean marriages or of mixed parentage or mixed partnerships (Dale and Holdsworth, 1997).

South Asian migrants are relatively recent settlers but with significant differences in timing of migration between the key groups. The long association between India and Britain means that many Indians have close links with the UK. East African Indians, many expelled from Uganda in the 1960s, came to Britain with experience of running businesses and with educational assets. The Pakistani and Bangladeshi population are more recent migrants, many coming from poor rural areas of Mirpur and Syllhet with few economic or educational resources. South Asian men came to Britain in the early 1960s to take jobs that were not attractive to white men – often in the declining industrial areas of north-west England (Kalra, 2000). Women usually came to Britain as dependents, from a culture where they were responsible for domestic life and men were the bread-winners. The UK's 1962 Commonwealth Immigrants Act imposed

very severe restrictions on movement between Britain and the Asian sub-continent and thus encouraged families to form permanent homes in Britain (Ansari, 2004). The vast majority of adults of Pakistani, Bangladeshi and Indian origin were therefore born overseas, although a growing generation of young people are UK-born (Lindley et al, 2004).

2.2 Family norms and expectations: life course influences on employment

In the 1950s it was still seen as an 'ideal' for women in the UK to give up work when they got married (Dex, 1985). However, by the 1970s it was child-bearing rather than marriage that interrupted women's labour market activity. Britain was distinctive by comparison with most other European countries, in that women's employment was strongly related to the age of the youngest child. Although this relationship is still present, it is much more muted than in the past. For example, 55% of working age women with children under 5 were in the labour market in 2003 and 73% of those whose youngest child was aged 11-15 (ONSb, 2004). Better qualified women are much more likely to be in work and working full-time than those with few or no qualifications. Cohort comparisons show that women with few or no qualifications have increased their labour market attachment much less in recent decades and are much more likely to be working part-time than women with degree-level qualifications (Dex and Joshi, 1996; Dex et al, 1998; Elliot et al, 2001). This has led to a widening differential in the rates of women's employment and in the returns to employment. One aspect of this change has been a marked increase in employment amongst women with degree-level qualifications and young children. The relationship between qualifications and employment is likely to be influenced by a reduction in the gender pay gap for full-time employees in the UK from 28% in 1982 to 18% in 2004

(Perfect and Hurrell, 2003; Equal Opportunities Commission, 2004) which has increased the opportunity cost of giving up work for women with higher earnings.

The relationship between economic activity and the presence of dependent children varies by whether or not women have a partner. Partnered mothers are much more likely to be economically active than lone mothers (Summerfield and Babb, 2004). Lone motherhood has increased steadily in recent decades in the UK and the lower rates of economic activity for lone mothers have led to a succession of policy measures to enable parents, and particularly lone parents, to take employment. These have included welfare-to-work initiatives, in-work financial support and increased availability of affordable childcare.¹ Between 1994 and 2004, employment rates for UK lone parents rose from 42% to 54% and for married or cohabiting mothers from 64% to 71% (Walling, 2005). However, this description of changing family forms and their relationship with employment does not reveal the very marked differences between ethnic groups.

Black Caribbean and Black Other women are much less likely to be in a partnership than other ethnic groups and also have much higher rates of lone parenthood. This is also evident in the USA and is often explained as a legacy of the effect of slavery on family cohesion (Giele, 1998). Only 39% of Black Caribbean women in the UK aged 19-60 were married or cohabiting in 2000-2, compared with 74% of Pakistani and Bangladeshi women, 73% of Indian women and 68% of white women (Lindley et al, 2004). In the same time period, 24% of Black Caribbean women aged 19-60 were lone parents compared with 7% of white women and only 2% for Indian women (Lindley et al, 2004). Thus the association between partnership and children is much

looser for black women than for white women and is consistent with black women's settlement in the UK as economic migrants, discussed above. Duncan and Irwin (2004: 394) found that Black Caribbean mothers are more likely to see 'substantial hours in employment as a built-in component of good mothering' and to take it for granted that they have primary responsibility for family life and child-care (Duncan et al, 2003). Black Caribbean women are also better qualified than their male counterparts. In 2002/3 they outnumbered men by 2:1 as entrants to first degree courses and Black Caribbean/Black Other women are more likely to have degree level qualifications than white women (Lindley et al, forthcoming).

By contrast, South Asian families traditionally have strongly demarcated gender roles, reinforced by a belief in the importance of the family and of the role of a mother in bringing up children. Extended families may provide economic assistance and care for elders and other family members. Pakistani and Bangladeshi women traditionally marry at an early age and have larger families than women in other ethnic groups - 16% and 18% respectively of women aged 19-60 had three or more children under 16 in 2000-2 compared with 4% of white women and 4% of Indian women (Lindley et al, 2004). However, figures for Pakistani and Bangladeshi women represent a substantial decline in family size by comparison with a decade earlier (Lindley et al, 2004). Although family size contrasts greatly between Indian and Pakistani and Bangladeshi women, rates of cohabitation are uniformly low and show no sign of increasing over time (Lindley et al, 2004). The rate of lone motherhood is also very low in all South Asian groups and is usually because of widowhood rather than pre-marital conception or divorce.

Indian women differ from Pakistani and Bangladeshi women in the circumstances and timing of their migration and are more likely to be Hindu or Sikh than Muslim in their religious affiliation. Although family norms may be seen as traditional, Indian women have degree level qualifications (in recent years) on a par with Black Caribbean women and slightly higher than white women (Lindley et al, forthcoming). Nonetheless, there is no evidence that Indian women's level of education and thus earnings potential, is associated with a loosening of the link between marriage and child-bearing. Pakistani and Bangladeshi women are much less likely to have degree level qualifications (only 13% of women aged 22-60 in 2000-3) and only 45% of UK entrants to under-graduate study in 2002/3 were female. Nonetheless, these groups recorded the greatest increase in entry to undergraduate courses between 1994/5 and 1998/9 and a rising proportion of female applicants (Dale et al, 2002).

These ethnic groups – white, black, Indian and Pakistani and Bangladeshi – show marked contrasts despite living in the same country and therefore experiencing the same institutional framework. Pakistani and Bangladeshi women may be characterised as having the most traditional family life and we thus expect them to show the greatest differences between older women who were first generation settlers, often with little or no formal education and younger women who have experienced a UK education and upbringing. Indian women, despite sharing some cultural norms with Pakistani and Bangladeshis, have many similarities with white women. Also, Indian women's relatively high levels of education and employment do not seem to be associated with the decline in two-parent families evident for white women. Black Caribbean and white women also share similarities with respect to levels of education and rates of employment, but Black Caribbean women are much less likely to be

partnered, with lone motherhood much more frequent than partnered motherhood. Thus within the same societal structure there is evidence not just of different family norms and different levels of education between ethnic groups but a suggestion of differences in how women's rates of economic activity relate to family and education. In this paper we report both descriptive analyses and hypothesis testing to try to increase our understandings of these complex relationships.

3. Data, variables and methods

3.1 The data source: The Quarterly Labour Force Survey (QLFS)

The Quarterly Labour Force Survey is conducted by the Office for National Statistics and available for academic use through the UK Data Archive. Since 1992 the Quarterly LFS (QLFS) has conducted repeat interviews at each sampled address at three monthly intervals with the fifth interview taking place a year after the first. Each quarter, interviews are achieved at about 59,000 addresses with about 138,000 respondents. A response rate of about 77 percent was achieved for the first wave of the survey in 2002. All first interviews (with the exception of a very small sample located north of the Caledonian Canal) are carried out by face-to-face interview. Subsequent interviews are carried out by telephone. We use data for England, Wales and Scotland for sweep 1 of each quarter.² ONS calculate weights for the LFS which are designed to produce population estimates in line with the latest census. Weighting does not take into account ethnicity and, at the time of this analysis, weighting factors were being revised for all years from 1992 based on the 2001 Census. As our analyses focus on multivariate models and to not seek to provide descriptive population estimates we have used unweighted data.

The QLFS collects family and demographic information on each member of the household. This allows us to identify information about a woman's partner and her children. The QLFS also asks extensive information on employment and qualifications that are consistent each year. In addition, questions on ethnicity, country of birth and year of arrival in the UK are asked.

3.2 Ethnic group in the QLFS

By using the QLFS we are restricted to the definitions of ethnicity used in that study and changes that have occurred to the categories over time. Creating consistent categories for ethnic groups over the survey cross-sections involved grouping the two mixed race categories 'white and Caribbean' and 'white and African' into 'Black Other', and also grouping 'white and Asian' and 'other mixed' into a single 'other non-white' composite group. A fuller discussion of this process is available in Lindley et al (2004). In this paper we focus on the combined Black Caribbean / Black Other group (sometimes referred to as 'black'); an Indian group; and the combined Pakistani and Bangladeshi group, as well as the white group. The QLFS sampling design and large sample size means that reliable estimates can be obtained for ethnic minorities by combining data for several years.

3.3 Operationalising a quasi life-course approach

The lack of any longitudinal data that can represent minority ethnic groups in the UK means that we cannot follow individuals through the life-course. Instead we have had to use repeat cross-section data to identify the current stage of the life-course for the sample members. We cannot, therefore, assume that women will move through the

life-course in any predictable way and we cannot disentangle age, cohort and generation. However, we have used information on whether women were born or brought up in the UK as a way of distinguishing first and second generation immigrants.

Table 2: Key life-course stages

(1) Women aged 19-34, no partner and no child under 16
(2) Women aged 19-34, with a partner, no child under 16
(3) Women with child under 5 and partner
(4) Woman with child under 5 and no partner
(5) Women with child 5-15 and partner
(6) Women with child 5-15 and no partner
(7) Women aged 35-59 with partner, no children under 16
(8) Women aged 35-59 with no partner and no children under 16

Women with a child under 16 in the household may be of any age from 19-60.

In Table 2, we present eight quasi life course stages which summarise demographic and partnership information. Partnership is based on the respondent's self-description and includes either being married or cohabiting. A woman who reported herself as married (but not separated) but had no partner in the household was classified as married. This is particularly important for South Asian groups where a partner may be temporarily overseas but is likely to be supporting his wife financially and where norms associated with marriage still prevail.

A child is defined as under 16 and living in the same household as its mother. We cannot distinguish step-children from biological children. For women without dependent children at home we distinguish between those who are at a pre-family formation stage and those whose children may now be 16 or over. Women who are under 35 without children are assumed to be at a pre-family stage. The vast majority of women in life-stages 7 and 8 either have older children still at home (29% in life-stage 7 and 23% in life-stage 8 have children aged 16-19 at home) or will have children who have left home³. We expect that the past influence of these children will still be reflected in these women's labour market behaviour. Our life stage variable identifies whether a woman's youngest child living in the household is under 5, or 5-15 and also whether or not she has a partner.

3.4 Qualifications in the LFS

We have used the detailed information on qualifications in the LFS to develop a 5-point classification that is consistent across time. Overseas qualifications are recorded in the 'other' category - consistent with evidence that such qualifications have little if any impact on employment in the UK for ethnic minorities (Dale et al, 2002).

Table 3: Classification of qualifications

Degree and higher qualification NVQ and key skills 4&5	Higher degrees, first degrees, teaching qualifications, nursing, HNC/HND, BTEC higher, NVQ levels 4 & 5
A level NVQ and key skills 3	‘A’ levels typically gained at age 18; required for university entrance; Scottish Highers, advanced craft certificates, NVQ level 3
O level NVQ and key skills 2	‘O’ levels, GCSE grades A-C, typically gained at age 16 at the end of compulsory schooling, NVQ level 2, GNVQ intermediate
Other qualification Key Skills level 1 and entry level	CSE below grade 1, NVQ 1, GNVQ/GSVQ foundation level Other qualifications incl. overseas qualifications
No qualifications	No qualification reported, including don’t know and no answer

3.5 Generation, religion and fluency in English

We expect timing of settlement to play an important role in women’s propensity to be active in the labour market, although to some extent this will be captured by qualifications. The greatest distinction with respect to economic activity is between those who were born in the UK or settled before the age of 16 and those who came to the UK as adults (Dale et al, 2005). We have therefore created a binary variable that distinguishes ‘born or brought up in the UK’ from later arrivals.

Ideally both religion and fluency in English should be included in our analyses (Modood et al, 1997; Leslie and Lindley, 2001; Lindley, 2002; Dale et al, 2001) but the LFS data do not allow this to be done reliably.

3.6 The time-period 1992-2003

We have used a 12-year time period primarily to provide sufficient cases for the detailed analyses that follow. During this period there has been a large increase in qualifications amongst women generally – and for all ethnic groups (Lindley et al, forthcoming) as well as sustained economic growth in the UK and expanding child-care provision. We have therefore included time (in years) as an additional variable in the models.

3.7 Methods of analysis

In the first part of our analysis we estimate multivariate logistic models to predict the propensity of being economically active for women in each ethnic group. The response variable is thus binary where $y=1$ indicates a woman is economically active and $y=0$ indicates that she is not. Economic activity includes those who are either employed or unemployed using ILO definitions of unemployment². A set of explanatory variables (X) comprise stage of life-course (described in table 2), qualification level (described in table 3), whether born or brought up in the UK and a dummy to represent the year of the survey (1992-2003).

In the logit model the residual term u_i is assumed to follow a logistic distribution.

The probability, therefore, of the i th individual being economically active is given by

$$P(y_i) = \frac{1}{1 + \exp(-(\alpha X_i))}$$

In the second part of our analysis we test a number of specific hypothesis, introducing interaction terms as required. In these models we again use a logit model to predict the propensity to be economically activity. Explanatory variables included are: age,

age squared, age of children, qualification level, whether partnered, whether born or brought up in the UK and a dummy to represent the year of the survey (1992-2003).

All models are run separately for each ethnic group. This reflects the fact that we are interested in the differences *between* ethnic groups in the importance of the explanatory variables used. We have restricted respondents to those aged 19-60 and omitted all full-time students (irrespective of whether or not they are working). Students' employment status is likely to be secondary to their studies and based on a different set of decisions than for non-students.

4. Multivariate descriptive models

We expect to see differences between ethnic groups in women's rates of economic activity *within* different life-stages. In this section we report the results from multivariate models that establish the impact of different life-stage elements on the outcome variable, economic activity, and make comparisons between different ethnic groups. Thus we can establish the *relative* influence of each element (eg children under 5). For example, the relationship between children and economic activity can be compared across ethnic groups in a way that controls for differences in the level of motherhood.

Table 4 reports coefficients and standard errors for each model and Table 5 reports predicted probabilities of economic activity, based on these models, for each of our key ethnic groups, within categories of life-stage and qualification for women aged 19-60. We discuss only Table 5.

4.1 Results

Amongst young women aged 19-34 with neither child nor partner, probabilities of being economically active are very similar in each ethnic group – between 94-96% for women with degree level qualifications. This belies the widely accepted view of low rates of labour market participation for Pakistani and Bangladeshi women generally (eg as shown in Table 1), although there is much greater variation in rates of economic activity with qualifications for this group than for other groups.

The role of partnership can be identified by comparing the former category (1) with women of the same age with a partner but no child (2). For white and black women, predicted probabilities of being economically active are consistently higher for women with a partner, across all levels of qualification. However, for Indian and Pakistani and Bangladeshi women, rates of activity are lower, and, for the latter groups, much lower, (by 23 percentage points) for those with no qualifications.

The additional effect of a young child (under 5) is shown in lifestage 3. As expected, activity rates are generally lower and show a steep gradient with level of qualifications. Activity rates are higher and the gradient with qualifications least for Black women whilst for Pakistani and Bangladeshi women, rates of activity are much lower than for other ethnic groups across all qualification levels (only 5% for those with no qualifications) with a range of nearly 50 percentage points between the highest and lowest qualification groups.

Where the youngest child is of school-age (life-stage 4) women's rates of activity are higher and differentials by levels of qualification are less than for women with a pre-school child - except for Pakistani and Bangladeshi women where activity for degree-level women is 70% by comparison with only 11% for women with no qualifications.

Comparisons between single mothers (life-stages 5 and 6) and partnered mothers are only possible for white and black women. For Indian, Pakistani and Bangladeshi women, single parenthood is not usual and numbers do not support reliable analysis. For white single mothers, rates of economic activity replicate those for partnered mothers but at a much lower level. Single black women with children under 5 have considerably higher rates of economic activity than white women.

Amongst women aged 35-60 with a partner but no child under 16, we expect that the majority either have older children still at home or children who have left home. Rates of activity are remarkably similar to women with a partner and children aged 5-15, across levels of education and across ethnic groups. The final group, women aged 35-60 with neither children under 16 nor a partner have rates of activity that are very similar to their counterparts with a partner but consistently somewhat lower.

These results confirm that the ethnic differences shown in Table 1 are not simply the result of ethnic differences in family formation, qualifications or generation.

4.2 Discussion

We use a discussion of these results to derive some hypotheses that test particular theoretical formulations that relate to expected changes across generations or over

time bearing in mind, as seen above, that institutional structures are not sufficient to produce uniform responses to life-stage or qualifications across these different ethnic groups.

Table 5 confirms that black women have higher rates of economic activity across the life course than white women; they are more likely to remain economically active than white women when they have children and black single mothers have higher rates of economic activity than white single mothers. This is consistent with the much looser association between children and partnership, discussed above, where Black women may be seen as taking the role of both bread-winner and carer. In a culture where paid work is the 'norm' we expect to see only limited reduction in activity with the presence of children and across levels of qualification. However, for single-earners (lone mothers) high levels of unemployment and high costs of child-care may deter women from being economically active when children are below school age. We would expect, however, to see an increase in economic activity for black mothers, particularly those with young children, following the reforms of the 1997 Labour government.

Although Indian women's patterns of family formation show a much more traditional link between marriage and child-bearing, their rates of economic activity within life stage and qualification categories resemble those of white women. Thus, whilst economic activity is more responsive to partnership and children than Black Caribbean women, Indian women have much higher rates of economic activity than Pakistani and Bangladeshi women.

Pakistani and Bangladeshi women are distinctive in the strength of the relationship between employment and qualifications, partnership and the presence of children, resulting in much greater polarisation than for other ethnic groups. Whilst most commentators assume that there is little generational change in women's rates of employment, we show that women at a pre-family formation stage (single, 19-34 and with no partner) with higher levels of qualification, are as likely to be economically active as women in other ethnic groups. However, rates of economic activity are much lower for women with few or no qualifications. This is consistent with strongly gendered roles and a male bread-winner model. In more traditional families unmarried daughters may face considerable family resistance to taking a paid job outside the home, although women with degree-level qualifications have more power within the family, both in terms of decisions over employment and also in selecting a marriage partner (Dale et al, 2002). This helps to explain the marked difference in rates of economic activity with level of qualification shown in Table 5.

Dale et al's (2002) research also provides strong support for the ideal of children and maternal care of children among Pakistani and Bangladeshi mothers, irrespective of their levels of qualification. This, again, is consistent with the very strong positive effect of qualifications and, conversely, the strong negative effect of partnership and children on economic activity shown in Table 5. Key questions to be tested in the following section are whether women with higher qualifications are *disproportionately* likely to retain employment while their children are young.

These results need to be set into a dynamic framework that recognises generational differences and changes over the last decade. Generational change may be expected to

be greatest for Pakistani and Bangladeshi women where, for first generation women, both language and culture were different from the host society. However, considerable generational change is likely to be explained by increased educational qualifications and changes in family formation. In the following section we test whether there is evidence of generational change in addition to this, and whether there is evidence of change across the 12 year period of our analysis.

Blossfeld and Drobnic (2001), in their extensive review of theories of the family, highlighted the limitations of any single theory. In this analysis it is very clear that the range and complexity of employment patterns across the life course for different ethnic groups is not captured by any single theory of the family. Whilst economic theories of the family (Becker, 1981) may appear to explain the traditional, gender segregated, family organisation of Pakistani and Bangladeshis in Britain, it does not, as Blossfeld and Drobnic (2001) point out, explain the increase in young women obtaining higher qualifications. Qualitative research, however, identifies the importance of education for Pakistani and Bangladeshi daughters as a safety net in case they fail to make a suitable marriage. Education is also seen as a means of enhancing the family status and as a means of improving a daughter's marriage prospects. For young women themselves, education is often seen as a means of self-fulfilment (Dale, 2002).

Oppenheimer (1997) argues that wives' increased employment in Western industrialised societies can be seen as an adaptive strategy to protect a woman against the vulnerability of marital instability. Beck and others have argued that, associated with increased rates of employment and qualifications, women (by which they mean

white women), now expect to live an 'individualised' life, free to make their own choices (Beck and Beck-Gernsheim, 2001; Esping-Anderson, 2002). They argue that marriage is no longer a social or economic necessity; marriage and child-bearing can be dissociated from each other and become a matter of individual choice.

Becker (1981) predicted that increased employment by wives would reduce the gains from marriage and raise the risk of marital disruption. High rates of employment amongst Black Caribbean women and their relative lack of responsiveness to partnership and children are consistent with these ideas. However, the historical evidence does not provide clear evidence that increased rates of women's employment preceded high rates of lone motherhood. Rather, the evidence suggests that structural forces required women to take sole responsibility for children. Indian women, with levels of education and economic activity very similar to white women, although lower than black women, show no signs of increased marital instability and thus also counter any necessary link between marital instability and increased rates of employment.

5. Hypotheses to be tested

The analyses discussed so far give rise to a number of much more specific hypotheses that are relevant to a dynamic life-course perspective. These are set out below. The basic model used here contains each element of the life-course separately (age, partner, children) and thus provides considerable flexibility in testing specific effects. Results for each ethnic group are shown in Table 6. Other models either extend or collapse this basic model. All models that include white women have been repeated

on a random sub-sample of 5,000. Only results that remain significant with this sample size are discussed.

1. Generational changes in women's rates of economic activity

We have already discussed the contrasts between Pakistani and Bangladeshi women and Black Caribbean women in terms of migration history and cultural norms and assumptions. We may, however, expect to see generational change for both groups, but working in different directions. For Pakistani and Bangladeshi women we expect an increase in levels of economic activity. In part this will be a result of increases in levels of education and a reduction in fertility. However, we also predict an increase in economic activity for women born or brought up in the UK compared with overseas, after controlling for the structural effects of education and stage of life course, which may be explained by a move towards the labour market norms of the white majority.

For Black Caribbean women, those born or brought up in the UK may be more similar to the white majority and thus levels of economic activity are expected to be lower for second generation women than first generation – after controlling on other variables in the model.

2. The effect of partnership

We expect partnership *per se* to have no impact in 'modern' families where women expect to share domestic work with partners. Thus we expect no impact for white and black women but a negative effect for Pakistani and Bangladeshi women for whom gender roles are often still very distinct.

2a. However, we expect that, for Pakistani and Bangladeshi women only, the negative effect of a partner will be less amongst women born or brought up in the UK. Young women who have been exposed to white cultural norms during their adolescence may be less likely to conform to traditional gender roles than for those who were born and brought up overseas.

2b. If better educated Pakistani and Bangladeshi women are more likely to resist traditional family gender roles (Dale, 2002), we expect to see a positive interaction with partnership and qualifications. Thus we expect that the negative effect of partnership will be less for well qualified women than for those not so qualified. To test this we use an interaction term that combines degree and A level qualifications (Table 8).

3. The effect of partner's employment

In this section the effect of partnership is analysed further by distinguishing working from non-working partners. Men from minority ethnic groups have much higher rates of unemployment than white men. It is therefore important to establish what effect partner's employment status has on a woman's own likelihood of being economically active.

It is well established in the UK that women with employed partners are more likely to be in paid work and, conversely, that women with partners not in paid work are less likely to be in paid work themselves. The literature provides competing explanations

for the effect of partner's employment, including a rational response to the benefit system; a shared labour market; marital homogamy; and cultural norms about gender roles (Davies et al, 1992; Birkelund and Heldal, 2000; Halpin and Chan, 2003; Morris, 1990).

We test whether the positive effect of a working partner found for white women holds across different ethnic groups. We also test whether the negative effect of a non-working partner is the same across all groups. We expect that, for Black Caribbean/Black Other women and for Indian women, as for white women, a working partner will have a significant positive effect on economic activity. However, we expect that the strength of labour market attachment of Black Caribbean/Black Other women will not be influenced by a non-working partner and will over-ride any other influences. For Pakistani and Bangladeshi women we expect the strength of gender roles to result in a negative effect on economic activity irrespective of whether a partner is working or not working.

Two dummy variables are used: whether a partner is in paid work; and whether a partner is not in paid work (which may include unemployment, retirement or ill-health), with the reference category as 'no partner'.

4. Increasing economic activity over time

The data used covers 1992 – 2003. The new Labour Government of 1997 quickly introduced more child-care facilities to make it easier for mothers to be in employment. They also introduced active labour market policies to encourage mothers, and especially lone mothers, to take paid work. Whilst these policies apply

equally to all ethnic groups, the uptake may vary across ethnic groups. For example, formal child-care provision that is not sensitive to their cultural and religious norms is unlikely to be acceptable to most Pakistani and Bangladeshi families. Similarly, where policies cut against cultural norms they are unlikely to be effective. We do not, therefore, expect to see a significant increase in economic activity levels of Pakistani and Bangladeshi women. Similarly, the low levels of lone parenting within these groups make it impossible for them to respond to the new incentives for lone parents to be employed. By contrast, we expect that single Black mothers will take available opportunities to increase their labour market participation and we expect a significant increase over time for this group. We also expect to see an increase in the employment of white mothers with young children over time.

5. Role of qualifications over time

Previous research has shown an increasing polarity in labour market activity between (white) women in the UK with higher qualifications and those with few or no qualifications (Dex and Joshi, 1996; Macran et al, 1996). In the previous section we showed that for all ethnic groups there was a significant negative effect of year (from 1992-2003) on economic activity, holding constant other factors. We test whether there has been a polarisation in the relationship between qualifications and economic activity between 1992 and 2003 for each ethnic group, using an interaction term between year and qualifications.

5.2 Results

1. Generational changes in women's rates of economic activity

Logistic models using only age, age squared and whether UK born and brought up show that the latter variable has a large positive effect on the probability of being economically active for Pakistani and Bangladeshi and Indian women but not for Black Caribbean/Black Other women (tables not reported). However, once children, partner, qualifications and year are added, being UK born or brought up, the significant positive effect on economic activity only remains for Pakistani and Bangladeshi women (for white women the effect was not significant on a sample of 5,000) (Table 6). This suggests a significant cultural change across generations for Pakistani and Bangladeshi women – but we must remember that fluency in English is not measured and this may be a very important part of what is being measured by the ‘UK born or brought up’ variable (Leslie and Lindley, 2001; Dale et al, 2001).

For Black Caribbean/Black Other women, being UK born or brought up does not have the predicted negative effect on economic activity. Similar results are found for Indian women suggesting that any generational differences are explained by family structure and levels of qualification.

2. The effect of partnership

We suggested that in ‘modern’ relationships partnership *per se* would not influence a women’s likelihood to be economically active. However, table 6 shows that for white and black women having a partner has a significant positive effect on economic activity – controlling on other factors - whilst for Indian women there is no significant effect. For Pakistani and Bangladeshi women, partnership has the expected significant negative effect, consistent with a traditional family structure where women are more likely to take on a home-making role on marriage.

2a. Table 7 reports the interaction to test whether the negative effect of a partner, found for Pakistani and Bangladeshi women only, is less amongst women born or brought in the UK. All other terms in the model are as for table 6. The interaction term is not significant and thus, contrary to our expectations, provides no evidence of a move towards white cultural norms for Pakistani and Bangladeshi women born and brought up in the UK.

2b. Table 8 reports an interaction between higher qualifications (A levels and above) and partnership for Pakistani and Bangladeshi women. The coefficient for the interaction is positive and just significant at a 10% level. There is, therefore, tentative support for our hypothesis that higher qualifications are having an effect on traditional family roles that is *additional* to the effect of the qualifications alone.

3. *The effect of partner's employment*

Table 9 extends table 6 by disaggregating 'partner' into 'partner working' and 'partner not working'. The coefficients show that an employed partner has the expected significant positive effect on activity for black, white and Indian women, by comparison with the reference category – no partner. By contrast a working partner has no significant effect for Pakistani and Bangladeshi women. The positive relationship between economic activity and a partner being in paid work, found for white, black and Indian women, may be explained by marital homogamy or by shared labour market characteristics. The result does not provide any support for strong gender roles whereby women provide domestic work in return for their partner's paid employment. For Pakistani and Bangladeshi women, having a partner in paid work is

not significantly different in terms of the likelihood to be economically active, than having no partner. Thus the significant negative effect of partnership found in table 6 (and attributed to gender roles) is not found amongst Pakistani and Bangladeshi women with a working partner.

The coefficients for a non-working partner, by comparison with the reference group, are, as hypothesised, significant and negative for white, Indian and Pakistani and Bangladeshi women. However, as predicted, there is no significant effect for Black Caribbean/Black Other women.

The lack of any negative relationship with partner's non-work status for black women suggests that the welfare regime's regulations cannot explain the negative relationship found for other groups. Also, explanations of shared labour market characteristics or marital homogamy are not supported. It is, however, entirely consistent with Black Caribbean/Black other women's independence from their partners and the assumption that they take full economic responsibility for themselves and their children.

4. Increasing economic activity over time

Table 10 tests whether women with young children are increasing their labour market participation over time. Adding an interaction term for the variables indicating child's age produced a significant coefficient for children aged 0-4 for both black and white mothers. Thus the impact of government policies seems to have been significant for women with pre-school age children in these ethnic groups but not significant for women with children aged 5-15. However, for Indian and Pakistani and Bangladeshi women, the interaction coefficient was not significant for either age-group, suggesting

there was no time-related increase in economic activity for women with a school-age child, after controlling for other variables. We cannot, of course, determine whether this is because of an unwillingness to participate in government schemes, a lack of appropriate child care, an unwillingness to use formal child-care or an inability to afford it.

5. Role of qualifications over time

Our standard model (table 6) showed that, for all minority groups there has been a decrease in rates of economic activity over time, holding constant other factors. (For white women the negative effect did not reach significance with a 5,000 sample). We tested whether there has been a polarisation in the relationship between qualifications and economic activity between 1992 and 2003 for each ethnic group, using an interaction term between year and qualifications.

The results (not shown) suggested that there is, indeed, a polarisation over the 1992-2003 period for white women but this is between women with any qualifications and women with none. For Pakistani and Bangladeshi women there is evidence of a polarisation between women with degree level qualifications and all others – consistent with research that suggests degree level qualifications provide an incentive to participant in the labour market (Dale et al, 2002). For Indian and Black Caribbean/Black Other women no terms reach significance.

6. Conclusions

It is evident that qualifications and life-course are important elements explaining women's economic activity across all the ethnic groups examined here. However,

there are substantial differences between these groups in terms of the amount explained by partnership and child-bearing. Also, within the life-stage categories that these define, there are substantial differences in rates of economic activity. These differences can be understood within a life-course perspective that considers the cultural background and the timing of settlement of different ethnic groups and also the cultural and family norms that influence gender roles.

Although government policy and state institutions provide a framework that applies to all ethnic groups, the response to initiatives aimed at promoting employment for women with children differs between ethnic groups. We provide evidence of an increase in economic activity amongst white and black women with pre-school age children, but no change for Indian or Pakistani and Bangladeshi women after controlling on standard variables.

However, the rise in women's level of educational qualifications is apparent across all groups and has a large impact on rates of economic activity. Amongst Black Caribbean/Black Other women all the evidence is consistent with women taking on the dual role of mother and bread-winner. Whilst this dual role is also increasingly common amongst white women, black women are distinctive in their low levels of partnership and high rates of lone motherhood and in high rates of economic activity across the life course. They are the only group where the effect of a partner who is not in paid work does not differ significantly from having no partner – after controlling on other factors. White women differ from black women in having much higher rates of partnership and lower rates of lone parenthood than black women. Theories that predict a link between higher levels of education, greater labour force participation

and a decline in rates of marriage may be consistent with evidence for black women but, as argued earlier, the history of family disruption and separation pre-dates black women's increased levels of education.

Indian women have rates of economic activity that are similar to those for white women, and similarly responsive to qualifications, but there is no evidence to support a link between rates of economic activity and increased family disruption and lone motherhood. Therefore theories that suggest women are increasing their education and employment as protection against marital breakdown (Oppenheimer) get no support from data on Indian women. Pakistani and Bangladeshi women, with the most traditional backgrounds and lowest levels of education, provide the strongest evidence for theories based on role separation. However there is generational change in rates of economic activity, produced in part, but not entirely, by changing family formation and increased qualifications. While Pakistani and Bangladeshi women show the greatest differentiation based on level of qualification, the reasons for their increasing participation in education are complex and include their own wish for self-fulfilment as well as support from the family. Amongst Pakistani and Bangladeshi women, maternal care for children is still seen as a priority, even amongst the most educated group. However, there is tentative support for the hypothesis that the most highly educated women in this group are increasing their economic activity *disproportionately* to less educated women over time and that the negative role of partnership may be somewhat reduced for better educated women. Whilst there is some evidence that young Pakistani and Bangladeshi women may be delaying marriage in order to fulfil their career ambitions (Dale et al, 2005), there is no

convincing evidence of a move towards an individualised life-style among these women (Beck and Beck-Gernsheim, 2001).

In conclusion, therefore, our analyses of ethnic differences suggest that modern theories of the relationships between women's economic activity and their partnerships appear over simplified when considered in a multi-cultural society and need to be reconsidered.

References

Beck, U. & E. Beck-Gernsheim (2001): *Individualization*. London: Sage

Becker, G. S. (1981) *A Treatise on the family*, Cambridge, Mass. Harvard University Press.

Berthoud, R. (2000), 'Ethnic employment penalties in Britain' *Journal of Ethnic and Migration Studies*, Vol 26. No. 3. pp. 389-416.

Blackaby, D.H., Leslie, D.G., Murphy, P.D. and O'Leary, P.C. (2002), 'White/ethnic minority earnings and employment differentials in Britain: Evidence from the LFS', *Oxford Economic Papers*, 54, pp. 270-297

Blossfeld, H-P. and Drobnic, S. (2001) *Careers of couples in contemporary society*, Oxford: Oxford University Press.

Brah, A. (1996) *Cartographies of Diaspora: Contesting Identities*, London: Routledge

Dale, A. and Holdsworth, C (1997): 'Issues in the analysis of ethnicity in the 1991 British Census'. *Ethnic and Racial Studies* 20, 1, pp 160-181

Dale, A. and Holdsworth, C. (1998) ' Why don't minority ethnic women work part-time?' in J. O'Reilly and C.Fagan, (eds) *Part-Time Paradoxes*, London: Routledge

Dale, A., Shaheen, N., Kalra, V. and Fieldhouse, E. (2001) 'Labour Market Prospects for Pakistani and Bangladeshi Women' *Work, Employment and Society*. Vol. 16, No. 1.

Dale, A., Shaheen, N., Kalra, V. and Fieldhouse, E. (2002) 'Routes into education and employment for young Pakistani and Bangladeshi women in the UK' *Ethnic and Racial Studies*. Vol. 25, No. 6, November 2002. pp. 942-968.

Dale, A., J. Lindley and S. Dex (2005) 'Ethnic differences in economic activity', Working Paper, <http://www.ccsr.ac.uk/research/ethnic.htm>

Davies, R.B., Elias, P., Penn, R. (1992) 'The Relationship between a Husband's Unemployment and His Wife's Participation in the Labour Force', *Oxford Bulletin of Economics & Statistics*, Vol 54, 2, pp. 145-71

Dex, S. (1985) *The Sexual Division of Work*, Brighton: Wheatsheaf

Dex, S. and Joshi, H. (1996) 'A widening gulf among Britain's mothers' in *Oxford Review of Economic Policy*, Vol.12 No.1, pp.65-75.

Dex, S. Joshi, H. Macran, S. and McCulloch, A. (1998) 'Women's employment transitions around childbearing' in *Oxford Bulletin of Economics and Statistics*, Vol.60, No.1 pp.97-115.

Dex, S. and Joshi, H. (eds.) (2005) *Children of the 21st century: From birth to nine months*, Bristol: The Policy Press.

Drew, D., Gray, J. and Sporton, D. (1997). 'Ethnic differences in the educational participation of 16-19 year olds', in Karn, V. (ed) *Employment, Education and Housing amongst Ethnic Minorities in Britain*, London: HMSO

Duncan, S. and Irwin, S. (2004) 'The Social Patterning of Values and rationalities Mothers' choices in combining caring and employment' *Social Policy and Society*, 3:4, 391-399

Duncan, S., Edwards, R., Reynolds, T. and Alldred, P. (2003) 'Mothering, paid work and partnering', *Work, Employment and Society*, 17:2, 309-330

Elliott, J., Dale, A. and Egerton, M. (2001) 'The influence of qualifications on women's work histories, employment status and earnings at age 33' *European Sociological Review*, 17, 2, pp. 145-168

Equal Opportunities Commission (2004) *Facts about Women and Men in Great Britain in 2004*, Manchester: EOC

Esping-Andersen, G. (2002b): 'A New Gender Contract' in Esping-Andersen, G., D. Gallie, A. Hemerijck & J. Myles (2002): *Why We Need a New Welfare State*. Oxford: Oxford University Press.

Giele, J. and Elder, G. (1998) *Methods of Life Course Research*, (Thousand Oaks: Sage)

Halpin, B. and Chan, T.W. (2003) 'Who marries whom in Great Britain?' in H-P. Blossfeld and A. Timm, *Who Marries Whom? Educational Systems as Marriage Markets in Modern Societies*, Netherlands: Kluwer Academic

HESA (2005) Qualifications obtained by and examination results of higher education students at higher education institutions in the United Kingdom for the academic year 2003/04, <http://www.hesa.ac.uk/press/sfr82/sfr82.htm>

Holdsworth, C. and Dale, A. (1997) 'Ethnic differences in women's employment.' *Work, Employment and Society*. Vol. 11, No. 3. September 1997. pp. 435-457.

Kalra, V. (2000) *From Textile Mills to Taxi Ranks: Experiences of Migration, Labour and Social Change*, Ashgate: Aldershot

Leslie, D. and Lindley, J (2001). 'The impact of language ability on the employment and earnings of Britain's ethnic communities'. *Economica*, November 2001, pp.587-606.

Leslie, D., Lindley, J. and Thomas. R.L. (2001) 'Decline and fall: Unemployment among Britain's non-white ethnic communities 1963-1998'. *Journal of Royal Statistical Society, Series A (Statistics in Society)* Vol 164 Part 2, 2001. pp.371-387.

Lindley, J. (2002) 'Race or religion? The impact of religion on the employment and earnings of Britain's ethnic communities', *Journal of Ethnic and Migration Studies*, vol. 28, no. 3, pp. 427-442(16)

Lindley, J., Dale, A. and Dex, S. (2004) 'Ethnic differences in women's demographic and family characteristics and economic activity profiles 1992-2002' *Labour Market Trends*, April 2004.

Macran, S., Joshi, H. and Dex, S. (1996) 'Employment after childbearing: a survival analysis' *Work, Employment and Society*, 10, 2, pp.273-296

Modood, T. (1997), *Ethnic minorities in Britain: Diversity and disadvantage*, London: Policy Studies Institute.

Morris, L. (1990) *The workings of the household*, Cambridge: Polity Press

Office for National Statistics (2003) *Labour Force Survey User Guide – Volume 1, background and methodology*

Web-site: www.statistics.gov.uk/downloads/theme_labour/LFSGU_Vol1_2003.pdf

Office for National Statistics (2004a) *Focus on Ethnicity and Identity*, January 2004

Web-site: www.statistics.gov.uk/downloads/theme_compendia/foe2004/ethnicity.pdf

Office for National Statistics (2004b) *Focus on gender*, January 2004

Web-site: www.statistics.gov.uk/downloads/theme_compendia/fog2004/gender.pdf

Oppenhiemer, V.K. (1993) 'Women's rising employment and the fate of family in modern industrial societies', Los Angeles: University of California.

Perfect, D. and Hurrell, K. (2003), *Pay and Income (Women and Men in Britain series)*, Manchester: Equal Opportunities Commission

Summerfield, C. and Babb, P. (eds) (2004) *Social Trends, No. 34*, London: The Stationery Office

¹ Policies and provisions include: New Deal for Lone Parents; Working Family Tax Credit (and its successors Working Tax Credit, Child Tax Credit and Child Care tax Credit), and National Child Care Strategy and Sure Start.

² The longitudinal LFS data is not appropriate for this analysis because it only covers a 15-month time period and individuals who move address are not followed.

³ A comparison of rates of economic activity for women with no children under 16 by whether or not there were children 16-19 in the household showed almost identical rates of activity. This lends weight to our assumption that women under 35 are not the mothers of children who are 16 or older. Similarly, those women aged 35-60 with no children under 16 show the same levels of economic activity by whether or not 16-19 year olds are in the household.

Table 1 Economic activity and unemployment by ethnic group, women aged 19-60

Ethnic group	% economically active	Of those active: % unemployed	Total N in sample
White	74.5	5.0	363,932
Black Caribbean	75.8	12.3	3,652
Black African	67.3	20.3	2,073
Black Other	72.7	15.5	835
Indian	66.7	8.7	6,394
Pakistani	28.3	18.3	3,535
Bangladeshi	18.6	27.3	1,159
Chinese	67.2	6.1	1,099
Other	62.3	11.1	4,718

Source: Quarterly Labour Force Survey, England, Wales and Scotland, QLFS, 1992-2003, unweighted, excludes FT students

Table 4 Life-stage models to predict economic activity for women aged 19-60 by ethnic group

	White		Black Caribbean/ Black Other		Indian		Pakistani/ Bangladeshi	
	Coefficient	St error	Coefficient	St error	Coefficient	St error	Coefficient	St error
Partner, 19<35, no children	.3324	.0344	.5377	.3049	-.9106	.2045	-.9106	.1860
Partner, youngest child under 5	-2.177	.0229	-1.19	.1594	-2.08	.1762	-2.641	.1553
Partner, youngest child 5-15	-3.008	.0284	-2.020	.1481	-2.710	.3011	-2.470	.2618
Single, child under 5	-1.150	.0246	-.4515	.1949	-1.157	.1836	-1.814	.1703
Single, child 15-15	-1.916	.029	-.9869	.1599	-1.629	.2834	-1.995	.2588
35-60, partner, no children <16	-1.20	.0220	-.2457	.1615	-1.342	.1760	-1.828	.1700
35-60,no partner, no children <16	-1.406	.023	-.7018	.1479	-1.81	.1913	-1.917	.2213
Degree	1.718	.0138	1.813	.1245	1.999	.1016	3.003	.1483
A level	1.168	.0137	1.340	.1279	1.704	.1263	2.572	.1544
O level	1.128	.0117	1.230	.1118	1.505	.1067	2.069	.1316
Other	.8933	.012	.7983	.1095	.9046	.0715	1.252	.1052
UK born/brought up	.2035	.0238	.2138	.0939	.0539	.0646	.3946	.0930
year	-.0052	.0012	-.0282	.0116	-.0374	.0090	-.0485	.0129
constant	1.430	.0321	1.024	.1517	1.506	.1792	-.1562	.165
N	363932		4487		6394		4694	
Log likelihood	-179,224		-2,188		3,503		-1,895	

Reference group: Single 19<35,no partner, no child, no qualification, not UK born or brought up

Source: Quarterly Labour Force Survey, England, Wales and Scotland, QLFS, 1992-2003, unweighted, excludes FT students

Table 5: Predicted probabilities of being economically active from models in table 4.

	White					Black Caribbean/Other					Indian					Pakistani/ Bangladeshi				
	Level of qualification																			
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Single 19<35,no partner, no child	96	94	94	92	83	94	92	91	86	75	96	95	94	90	79	94	92	87	74	46
Partner, 19<35, no children	97	96	95	94	87	97	95	94	91	83	91	89	87	78	61	87	81	73	51	23
Partner, youngest child under 5	76	64	63	56	34	83	76	74	65	45	77	71	67	53	32	53	44	31	16	5
Partner, youngest child 5-15	90	83	83	79	61	91	87	86	79	63	89	86	84	74	54	70	62	51	29	11
Single, child under 5	58	44	43	37	20	69	59	56	45	27									26	9
Single, child 15-15	80	70	69	64	42	86	79	78	69	51									19	6
35-60, partner, no children <16	89	83	82	78	57	92	89	87	81	67	87	83	80	70	49	69	61	49	28	10
35-60,no partner, no children <16	87	79	79	75	55	89	83	82	74	56	80	76	72	59	37				25	10

Shaded cells are based on less than 30 women and are not reported.

Source: Quarterly Labour Force Survey, England, Wales and Scotland, QLFS, 1992-2003, unweighted, excludes FT students

Key:

- 1 Degree and higher qualifications – NVQ and key skills 4&5
- 2 A level – NVQ and key skills 3
- 3 O level – NVQ and key skills level 2
- 4 Other qualification – NVQ and key skills level 1
- 5 No qualifications

Table 6 Basic model to predict economic activity for women aged 19-60

	White		Black		Indian		Pakistani/ Bangladeshi	
	coeff	St error	coeff	St error	coeff	St error	coeff	St error
Age in years	.1685	.00312	.1959	.02748	.1564	.0244	.1180	0335
Age squared	-.0028	.0000	-.0028	.00034	-.002	.0003	-.0021	0004
child 0-4	-2.32	.0136	-1.858	.10843	-1.560	.0931	-1.85	1145
child 5-15	-.9190	.0124	-.742	.10791	-.2699	.0856	-.72	1209
Degree level	1.676	.013	1.716	.12543	1.968	.1014	2.971	1491
A level	1.086	.0139	1.246	.12892	1.635	.126	2.491	1536
O level	1.003	.0120	1.105	.1141	1.38	.1076	1.979	1315
Other qual	.8052	.0127	.6964	.1110	.8396	.0729	1.163	1053
Partner	.4399	.0099	.584	.08264	.1131	.0829	-.3828	0987
UKborn/ brought up	.1473	.0242	.1291	.09735	.0112	.0661	.3956	0940
Year	.0008	.0012	-.0288	.01176	-.0296	.0091	-.0475	.012
Constant	-1.306	.0645	-2.127	.5070	-1.426	.4537	-2.07	5581
N cases	363932		4487		6394		4694	
Loglikelihood	-175301		-2161		-3422		-1889	

All coefficients are significant at a 5% level except those in shaded cells. (For white women coefficients are also significant with a 5,000 subsample of cases.)

Source: Quarterly Labour Force Survey, England, Wales and Scotland, QLFS, 1992-2003, unweighted, excludes FT students

Table 7: Interaction to test effect of partner for women UK born/brought up, Pakistani and Bangladeshi women only

Pakistani/ Bangladeshi	coeff	St error
UKborn/ brought up	.430	.1679
Partner	-.3558	.147
UKborn * Partner	-.0466	.188

Source: Quarterly Labour Force Survey, England, Wales and Scotland, QLFS, 1992-2003, unweighted, excludes FT students
This model includes all the terms shown in table 6 and the additional interaction as shown.

Table 8: Interaction to test effect of partner for women with higher qualifications, Pakistani and Bangladeshi women only

Pakistani/ Bangladeshi	coeff	St error
partner	-.452	.1070
degree	2.704	.2177
A level	2.233	.2174
O level	1.978	.1320
Other qualificaton	1.167	.1056
Higher qual* partner	.3701	.2256

Higher qualifications = degree level or A level

Source: Quarterly Labour Force Survey, England, Wales and Scotland, QLFS, 1992-2003, unweighted, excludes FT students
This model includes all the terms shown in table 6 and the additional interaction as shown.

Table 9: Partner working or not working

	White		Black		Indian		Pakistani/ Bangladeshi	
	coeff	St error	Coeff	St error	coeff	St error	coeff	St error
Partner working	.7326	.01036	.9469	.0999	.4308	.0861	-.1169	.1047
Partner not working	-.5448	.01355	-.0907	.1185	-.6693	.0998	-.910	.1262

This model extends that in table 6 by splitting partner in to 'working' or 'not working'.

Reference category – no partner; other variables as in table 6.

Source: Quarterly Labour Force Survey, England, Wales and Scotland, QLFS, 1992-2003, unweighted, excludes FT students

Table 10: Interaction between age of child and time

	White		Black		Indian		Pakistani/ Bangladeshi	
	coeff	St error	Coeff	St error	coeff	St error	coeff	St error
Child 0-4	-2.522	.0223	-2.217	.1955	-1.408	.1568	-1.83	.2253
Child 5-15	-.965	.0223	-.935	.2013	-.2113	.1548	-.5432	.232
Year	-.009	.0017	-.0564	.0176	-.0204	.0129	-.0387	.0202
Child0-4*year	.0331	.0029	.057	.0255	-.0246	.0204	-.0021	.0285
Child5-15*year	.0081*	.0030	.0312	.0268	-.009	.020	-.0274	.0298

This model extends that in table 6 by adding an interaction between age of youngest child and year.

All other variables as in table 6.

Source: Quarterly Labour Force Survey, England, Wales and Scotland, QLFS, 1992-2003, unweighted, excludes FT students

*not significant with 5K sample