

# Cathie Marsh Centre for Census and Survey Research

# Preferences vs Constraints Revisited: Multilevel Modelling of Women's Working Time Preferences in England and Scotland

CCSR Working Paper 2007-07 Pierre Walthery Pierre Walthery@postgrad.manchester.ac.uk

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#### Acknowledgements

This paper partly originates in a Masters Dissertation submitted in September 2006 at the University of Manchester. The partial support of the Economic and Social Research Council is acknowledged. I would like to thank Wendy Olsen, my supervisor, for her genuine and constant support as well as the exchange of ideas she often initiated. I would also like to thank Colette Fagan and Mark Tranmer, for their supportive comments and advices on a preliminary version of this paper.

The 2001 Small Area Microdata is provided through the Cathie Marsh Centre for Census and Survey Research (University of Manchester), with the support of the ESRC and JISC. All tables containing Census data, and the results of analysis, are reproduced with the permission of the Controller of Her Majesty's Stationery Office and the Queen's Printer for Scotland.

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#### Abstract

This paper investigates determinants of the probability of preferring to work less hours among part-time and full-time working women aged 16 to 59 in England and Scotland in 2005-2006, against the background of the ongoing discussion about the role of preferences and orientations to work in women's participation in the labour market. Theoretically rooted in a Bourdieusian tradition, it investigates the patterns of association between resources available to women as well as their constraints at individual, household, as well as local authority levels and their expressed preferences for shorter hours.

The analysis relies on two-level logistic regression. Individual microdata was drawn from the Annual Population Survey, together with aggregated data about local labour markets and childcare places, drawn from the 2001 Census and the DfES.

Clear evidence of an association between preferences and constraints at these three levels was found. Among others hourly rate of pay and the number of hours actually worked appeared to be associated with preferences for less hours among both full-timers and part-timers.

Evidence of significant variation between local authorities in terms of the working time preferences of both full-time and part-time women was also found. However, if associations between some of the LA level variables and individual working-time preferences were detected in the model, caution is required when interpreting the substantive meaning of such cross-level variation.

Although not in itself an explanation of the actual causes of these variations in preferences, the existence of significant patterns of association between resources, places and working time preferences reinforces the idea that individual inclinations are influenced by their environment.

### Preferences vs Constraints Revisited: Modelling Women's Working Time Preferences in England using multilevel regression

#### Introduction

The research project presented in this paper is an attempt to contribute to the ongoing discussion about the role of orientations to work in the participation of women in the labour market from the angle of working time preferences. Using cross-sectional data from the Annual population Survey, I have been modelling the variability of these preferences among women working full time and part time in England and Scotland in 2005-2006, controlling for individual and Local Authority level resources and constraints using multilevel logistic regression.

Gendered differences in participation in the labour market have been widely described in UKbased and international literature. As far as the UK is concerned, there seems to be an agreement that its more prevalent patterns consist of a marked proportion of women working part time, together with a still significant gender pay gap and horizontal and vertical segregation. Reports of significant differences in activity rates -- even if decreasing -between men and women either from a cross-sectional or life-course perspective are also regularly made. This has been related to the declining tendency for British women to begin their career as full-timers, exit the labour market after the birth of children, then resume participation when children begin to reach school age. Instead a growing proportion remain in employment on a full-time basis, or switch to part-time employment.

However, if there seems to be a consensus about such a broad overview, there are apparently more disparities about the actual mechanisms through which these tendencies are actually produced, reproduced, and evolving. This lack of agreement was recently put under the spotlight in a lively discussion that took place among researchers during the nineties. This has been triggered by Catherine Hakim's (1998) presentation of her 'preference theory', a provocative account of women's behaviour on the labour market drawing on rational choice and revealed preferences approaches.

In line with Hakim's contention that women's orientations to work as measured by their preferences could predict their subsequent involvement in paid work, most of the discussion

that ensued focused on either the variability of preferences and their ambiguous relations to constraints, or whether or not these could match the actual behaviour of women.

Among researchers using quantitative methods, most of that discussion focussed on the nature of the link between preferences and participation in the labour market, with preferences usually measured through general attitudes. Less effort seems to have been dedicated to alternative ways of measuring women's inclinations to work, or to reflect upon the actual nature of preferences. Thus there is no record of recent research modelling preferences as the outcome to be explained rather than explaining other variables, such as the complex process leading to labour market transitions among women.

Against this background, the argument I will develop in this paper is that:

- Rather than an opposition between preferences and constraints, other conceptualisations of human agency, such as that of Bourdieu's capital, social practice and habitus could provide a more fruitful basis for developing an explanatory framework for women's labour market participation.
- Even if requiring inevitable simplifications, the use of statistical modelling might bring about promising evidence about the context relatedness of preferences, and hence give more ground to further questioning of individualistic interpretations of women's labour market participation.
- 3. A way to put this programme into practice is to attempt to model preferences as the dependent variable rather than independent one, but also to look simultaneously at how individual and area-level factors can be significantly associated with variations in preferences, with the latter being often overlooked in the literature.
- 4. During this process, however, one has to remain cautious about various methodological issues arising from the use of large scale public datasets, taking on board some of the criticism that has been addressed by qualitative research. This is particularly true of attitudes-related variables that are consistently used as a proxy for individual preferences, whereas it has been pointed out that they might only be loosely related to actual behaviour.

This paper will be following the following structure:

- In Section 1 I will present the main aspects of the academic debate in relation to preferences and constraints;
- Section 2 will detail the theoretical perspective adopted in this paper as well as the methodology and data I have been using;
- Section 3 will highlight the main empirical findings of the research project.
- Research prospects and conclusion will be presented in section 4.

#### 1. Preferences, constraints and labour market participation of women

A common definition of attitudes in quantitative social science and social psychology is that of 'clusters of beliefs or values that influence evaluations of persons or situations' (Calhoun 2002). Different approaches have either considered 'lighter' variants of the concept – equivalent to that of 'opinion' or other ones that are more deeply rooted in a person's emotions and beliefs. In the economic literature, if individual preferences are – at least implicitly -- at the core of the work of most researchers, many among them seem not to be interested in the actual nature of their link with behaviour as such, assuming instead that the latter reveals preferences (for an recent example of this approach, Van Ham 2006).

The interest in preferences and attitudes for labour market policy-oriented social science research could probably be partly attributed to the influence of economics in general and rational choice theory in particular in that field. As an example, Becker's (1975;1991) New Home Economics approach, combined with his human capital theory provided an influential framework whose main ambition was to explain men's and women's respective specialisation between paid employment, and domestic/care work within the household, relying mostly if not solely on individual anticipations.

Although not explicitly adhering to this approach -- and criticising Becker for his assumption that men and women form homogeneous groups -- Catherine Hakim's attempt at formulating a 'preference theory' seems to share a few significant assumptions with the former (Hakim 1996; 1998; 2002; 2003, 2006). Her view is that the gap between women's career aspirations and their actual position on the labour market is overstated by what she labelled as 'feminist myths' (Hakim 1995). In other words, women's preferences for either full or part-time domestic careers can account for their outcome on the labour market, rather than structural constraints or discrimination, at least in countries such as the USA and the UK, by contrast with Sweden where, according to Hakim, women are allowed a 'genuine' choice between

part-time and full-time work--. She further claims that women could be divided in three groups according to homogeneous lifestyle preferences. The majority belongs to a disparate group of *adaptive women*, who would rather work part-time or casually full-time when possible. This group would represent 40 to 80% of the working-age women in the UK. Work-centred women, described as '(...) focused on competitive activities in the public sphere' (career, sport, politics or the arts)' (Hakim 2003) would represent 10 to 30% of the female population; and finally home-centred women would amount to about 20% of women.

According to Hakim, the existence of three such groups could explain the high degree of job satisfaction expressed by women irrespective of their actual occupation and working time - homeworkers, part-timers and full-time working women. In her view, a majority of women would be satisfied with peripheral, low paid jobs, having low job expectations (Idem 1999).

Needless to say, these claims have been heavily criticised by the very sociologists Hakim targeted. She has been accused, among others, of oversimplifying their viewpoints as well as overlooking the complex interplay between social structure and personal preferences. Her depiction of classless women has been labelled as unrealistic (Ginn, Arber et al 1996; McRae 2003). Other researchers have condemned her essentialist views about women (Crompton & Lyonette 2005).

Among Hakim's most persistent critics, Crompton & Harris (1998) have argued that attitudes are as much shaped by behaviour as the reverse, and that women in higher occupations enjoy more options for reconciling work and care than the lower qualified (such as opting for a 'family friendly' speciality for doctors), and hence to realise their preferences. Ginn, Arber et al (1996) stressed how constraints arising from caring for dependent persons impact on women's future careers and opportunities, and hence on the space available in order to frame future preferences. In a later piece of research, Crompton, Brockmann et al (2005) showed that in Britain, Norway, and the Czech Republic, finding correspondences between gender role attitudes and the domestic division of labour was not necessarily easy. In line with this criticism, McRae(2003) proposed a dichotomy of constraints faced by mothers, being either *structural* (resulting from job availability, as well as the cost and the availability of childcare) or *normative*, that is related to women's identities and 'inner voice' but also to the balance of power with their partners.

However, not all reviewers were equally critical of Hakim's assertions. Walsh (1999) surveying – relatively low qualified – part-time female employees of an Australian bank,

highlighted the complexity of the link between part-time work and preferences. Half of the women she sampled declared having chosen part time work because of the presence of young children. However, a quarter did so without any children at all. Interestingly, a significant proportion of all part-timers signalled their inability to find suitable full-time jobs. She found a significant diversity of attitudes towards work, with about a quarter of the employees willing to take up full time work, whereas a significant number of childless women were happy with their working time. She supported Hakim's view that childless women not willing to take up full time jobs while being secondary earners were voluntary part-timers (Walsh, 1999:192).

Qualitative research carried out recently reinforced the idea that person-related factors - such as a woman's identity - or general and external constraints – social norms and peers/family expectations - are not easily distinguishable. For instance, Himmelweit and Sigala (2004) interviewing mothers in the Milton Keynes area found it hard to distinguish between an 'objective need to work', and these women's sensibility on general statements about what an acceptable standard of living should be. They also found that personal preferences kept changing over time - some women expressing the view that motherhood had changed their priorities - and also that identities can be adjusted, as a result of constraints not matching initial preferences. This is echoed in Walters (2005) proposal of modelling orientations to work and/or motherhood as landmarks on a continuous but also *mobile* scale of attitudes - for example according to the life stage. Her interviews with part-time checkout operators illustrated the fact that women could be at the same time 'satisfied with their employment' but 'dissatisfied with their job', especially among working class mothers (2005:211).

Mostly based on empirical research, this short review directs us to the conclusion that there does not seem to be a straightforward way to describe the relationship between preferences and behaviour. Instead, they seemingly influence each other in complex, iterative and path-dependent ways. In any case, constraints seem to be playing as much a role in predicting behaviour than 'pure' preferences.

In the particular area of working-time, the quasi universal gendered division of part-time work in Europe has traditionally meant lower wages and poorer working conditions for women, reproducing rather than transforming the balance of economic power between men and women within the household (Fagan & O'Reilly 1998). The fact that a large number of women continue to opt for part-time work is more likely to reflect the action of a vast number

of intertwined factors at individual, household, and institutional level ranging from economic motivation to social networks (Fagan 2001).

#### Geographies of gender

Another type of gender-related constraints mentioned in the literature -- in relation or not to attitudes and preferences -- are the ones deriving from geographies – that is, the influence of the place where one lives or works on her health, opportunities and attitudes to life. As a result it is expected that different areas would be characterised by different such 'opportunity structures' for women, and, in our case, significantly different female unemployment or inactivity rates (Van Ham 2006:348).

It is a known fact that there are regional variations in the characteristics of the labour markets in the UK, such as the importance of manufacturing industries or financial services in some areas, or sickness and unemployment levels in others, reflecting or not the 'North South divide' (Wiggins 2002; Beatty & Forthergill 2005; Webbster 2005). It would be surprising if these did not match differentiated patterns of participation in paid work among women and mothers. Or, as others have pointed out in an North American context, if 'social and economic geographies weren't one of the media through which the segregation of a large number of women into poorly paid jobs is produced and reproduced' (Hanson & Pratt:1995:1).

However, few researchers have tried to identify geographical patterns among these interplays between gender and places – apart from cross-countries comparisons, where 'regimes' or types of countries are seen as generating specific sets of constraints for women (Esping-Andersen 1990, Fagan & Rubery 1996; Lewis 2002). Very few are those who have tried to carry out comparable research at the sub-national level, even though the availability of local area data has significantly improved in recent years.

*The spatial mismatch* approach provides an example of such an attempt at looking at the uneven geographical repartition of resources. *I*nitially designed in the United States at the end of the 1960s, it was attempting to account for the embeddedness of social structures in labour markets and urban geographies, in the context of the barriers to employment for Black Americans. The latter resulted from the combined effects of residential segregation and the suburbanisation of job opportunities, out of reach for car-less jobseekers (Preston 1999).

With time, the initial focus on black men gave some ground to other preoccupations, such as gender inequality. The 'gendered' spatial mismatch hypothesis relies on the idea brought about

by feminist researchers that 'home' and 'work' are interconnected entities in several ways. Along these lines, studies have found that the mobility of men (in terms of travel to work distance) is less limited than that of women – especially mothers – owing to their domestic workload, although this has sometimes been questioned (Hanson & Pratt 1995, Kwan 1999). As a result, the range of jobs accessible to mothers might be smaller than that of men. Research has also shown that lower qualified women tend to rely on their *local* social network to find jobs (Hanson & Pratt 1991). Hence, women in households more remotely located from potential female employers (given the prevalent degree of gender segregation) and jobs would be more likely not to work (Van Ham 2006, Hanson & Pratt 1991; 1995).

Another angle under which the mismatch could be examined is the availability and localisation of affordable childcare facilities (Kwan 1999). Research about the availability, quality and price of childcare provision, the combined use of formal and informal care by mothers, has been carried out recently showing variations in the supply and demands of the various types of formal childcare (ie daycare versus nannies) according to UK regions (Paull 2002; Wheelock & Jones 2002).

#### Local gender cultures

Culturalist approaches provide another way to connect gendered individual behaviours and space (Pfau-Effinger 1998). As an example of this, the notion of *local gender cultures* has been put forward in Britain by Duncan and Smith (2002). Their starting point is that the traditional breadwinner model, although weakening, is not only a historical, but also a geographical construct. Similarly, conceptions of 'good' or 'bad' motherhood that are maintained through social networks vary from place to place, and bear consequences for the participation of women in the labour market. Using data from the 1991 Census, they mapped a 'motherhood employment' and a 'family conventionality' index related to these gender cultures at small area level. Whereas the former provides an overview of how long mothers' retreat from the labour market can be after childbirth, the latter describes the proportion of children born to unmarried couples. Among other substantial findings, these indexes give a portrayal of 'traditional' and 'non traditional' areas that does not follow the traditional North-South divide.

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#### 2. Framework and methodology

2.1 Theoretical framework

This paper will not attempt to take on preference theory claims by trying to test the validity of broad 'work orientation based' types of women, nor examine how well preferences can possibly predict their labour market participation. Instead, I am more interested in looking for factors reliably associated with preferences expressed by women over their working-time, given their actual patterns of participation in the labour market, that is whether they are working part-time or full-time, with a particular insistence on spatial factors. By doing this, I incorporate Hakim's assertion that a distinction needs to be drawn between *personal* preferences and *general social attitudes* with the latter, although the most commonly available in existing datasets, being less directly linked to actual behaviour (Hakim 2003:340). The former would instead measure the social tolerance over a given general issue or set of issues.

This research operates under a 'loose Bourdieusian' theoretical framework according to which individuals' behaviours are significantly constrained by the level of socially produced resources they possess. I broadly follow the idea proposed by Pierre Bourdieu (1980), according to whom these can be viewed as different types of 'capital' enabling individuals to retain socially valued positions and status in differentiated fields within society. According to this perspective also, rather than being mechanically constrained into specific behaviour by norms, women and men 'creatively' produce and reproduce practices within the boundaries set by social structures in what Bourdieu labelled 'habitus'. From a Bourdieusian perspective, the substantive behaviour that is the outcome of a habitus is not and should not constitute the focus of the analysis in itself; rather it is what it indicates in terms of an agent's position in a field. In other words, the 'typical behaviour' of the dominants and the dominated might change, but their relative position will remain supposedly constant within a field.

From a feminist perspective, Bourdieu's framework presents several shortcomings that have been repeatedly highlighted. One of the most common accusations directed at his work is that it is at best gender-blind, despite his late works on the Masculine domination. On the other hand, his account of agency as a creative cooperation between agents and social structure through social practice has also been retained by several feminist scholars (Adkins et al 2004). From this point of view, a woman's decision to take up part-time work could be seen as such a social practice: framed by her objective position in the social field, but at the same time also the product of her own unique agency. Arguably such a view seems more compatible with the account of dynamic and circular 'preferences shaping' processes highlighted above.

However, the type of data we are using, as well as the level of aggregation we are looking at does not easily lend itself to elaborate much further on Bourdieu's theoretical framework. Furthermore, some of the constraints experienced by women that are examined in this paper do not fit readily under a Bourdieusian framework, neither do issues such as disparities in economic regional development. As other researchers have pointed out, theories accounting for specificities of gendered power relations need to be brought in, such as Connell's concept of gender regimes (Connell 2002). This could offer a more useful framework to analyse the role of institutional arrangements and their spatial variations in the sexual division of labour.

At this stage, modelling of the contingency of preferences to women's circumstances was carried out by measuring the association between working-time preferences and three sets of factors:

- Individual-level factors accounting for a woman's set of resources economic, educational, or social -- the amount of which (such as age, income, social class or educational, social networks) may ease or make it more difficult to move from one scenario of participation in the labour market to another.
- Household level factors: following the broad assumption that it is also/mostly within the household that gender roles are re-enacted, we are interested in the degrees of freedom offered to women by these arrangements of 'men' and 'women' living together. In particular, we are looking at the presence of children of various ages, as well as the marital arrangements, or the balance of economic power within the household.
- Area-level factors broadening or decreasing the range of options opened to women in terms of their paid/unpaid work balance, such as the actual state of the labour market (number and range of job opportunities, women-friendly employers or industries), but also the outcome of public policies at local level, such as the provision of public transport or childcare places, as well as less tangible local gender cultures.

#### 2.2 Methodology and data.

Our population of reference is made up of women aged 16 to 59 who were employed parttime and full-time in England and Scotland between April 2005-2006. The total sample size was 40,980, among which 16,351 part-timers and 24,629 full-timers.

Individual microdata was drawn from the Special License Annual Population Survey (APS). The APS is a new dataset made available by the Office for National Statistics. It is made of two quarters of the Quarterly Labour Survey, together with the English, Welsh, and Scottish booster samples. Variables included are essentially the same as in the LFS. In addition to these, the Special License LFS also includes information about the Local Authority District of residence of the respondents. There were 408 local authorities in the British sample, and 377 for England and Scotland. Sample size within LAD ranged from 4 to 319 with a mean size of 87. The LFS is a quarterly random sampling survey of private households in the UK, geographically stratified by postcode. The response rate in 2002 was 81 percent over the 5 quarters (ONS 2003).

One of the main advantages of using the APS lies in its sample size that is significantly larger than other large scales datasets such as the British Household Panel Survey. On the downside, as the LFS, it includes mostly 'hard' data about labour market participation, with little or no information about a person's preferences or attitudes. In fact the only such question asked concerned working-time preferences.

#### Variables and controls

Two dichotomic variables were used as dependent variables, measuring whether the respondents wanted to work less hours or not, with 'no' as the base category, respectively for full-timers and part-timers, understood as any job with less than 30 hours per week This question was asked to all respondents who were not looking for another job

Women who would like to work more hours are included in the base category. By contrast with other studies, the full-time/part-time demarcation was carried out by using the *total numbers of hours actually worked* by respondents. This allows to avoid the erroneous classification of women who have two part-time jobs or a part-time job with a large amount of overtime as part-timers rather than full-timers. In our sample, about 11 percent of the women working full-time were considered as part-timers by traditional measures, whereas similarly 13 percent of actual part-timers were traditionally considered as full-timers.

The following individual, household and area-level dependent variables have been used:

- At the individual level, we have been controlling for age, hourly pay, highest educational achievement as proxies for cultural and economic capital, in the absence of a convenient indicator of wealth. Information about accommodation tenure was

available in the APS, but the number of non responses was too large in our sample to be considered. The LFS does not allow for any variable related to social networks, therefore we could not take this dimension into account.

- At the household level, we have used marital status as well as the age of the youngest child, banded, as indicators of the degree of constraints under which women could find themselves.
- At the institutional level, we controlled for a few job characteristics: the total number of hours actually worked, including overtime and a possible second job, as well as the company size. The latter variable was included as a possible indicator of the availability of work-life balance provisions – found to be more prevalent in larger companies by some researchers.

In addition, microdata from the APS was merged with aggregate estimates from other sources in order to provide level aggregate local authority level variables:

- A ratio of childcare places to the number of children under 10 was built using Childcare places statistics (including childminders, crèches, sessional day care, full day care, Out of School Care) drawn from Ofsted's 'Quarterly childcare Statistics'. These report the number of registered places available to children under 8. These figures are available as a mix of two levels of aggregation: NUTS3 Unitary Authorities, Metropolitan districts and London Boroughs, and NUTS2 county councils. Our ratio was built by dividing the total number of places by the number of Local Authorities, then by further dividing this average place number by the corresponding number of children under 10.
- Various labour market and population estimates from the Small Area Microdata from the Census 2001 – SAM such as the proportion of women employed in large companies, female ILO employment rate, and the proportion of household with at least one fulltime carer, and the proportion of married couples households were calculated and incorporated in our sample in order to test for either 'materialist' or 'culturalist' types of approaches to gender and spaces as introduced above.

The version of the SAM we have used is a 5% simple random sample drawn from the 2001 Census records. Overall sample size is about 2,96 millions individuals (ONS 2006), while in our case it was 961,058.

The model was fitted using 2 multilevel logistic regression in the MIWin software package whereas data manipulation and descriptive statistics were carried out in Stata. By contrast with standard one-level regression, multilevel modelling allows to account for the clustering of variance beyond the individual level. Individual women were the level one units, whereas local authorities were the level 2 units. Multilevel modelling was used in order to account for any local authority level variance that could not be accounted for by variation of either level one, or aggregated variables.

#### 3. Results

#### 3.1 Descriptive statistics

Table 1 Mean values of age, hourly pay and weekly hours worked of employed women aged 16 to 59, England & Scotland, 2005

	Part-timers	Full-timers	All
Age	39.57	39.62	39.6
Hourly pay (main job	8.29	10.47	9.6
Hours actually worked	18.52	39.11	30.9
N	14,569	21,941	36,510
C	A	1. 2006	

Source: Annual Population Survey April 2005-March 2006.

The mean age of the women in our sample was 39. There was hardly any difference between full timers and part-timers in terms of age. By contrast, as expected, the mean hourly rate of pay was significantly larger - £2.1 hours more for full-time working women than for part-timers. The mean number of hours worked by part-timers was 18.5 hours against 39 hours for full-timers. As already mentioned, these figures were significantly different from the ones computed when 'official' part-time and full-time status were used -- rather than based on the actual hours worked. In the former case the means were respectively 20.5 and 38 hours.

Table 2 Working time preferences of working women aged 16 to 59, England & Scotland, 2005, %

Would like to work:	Part-timers	Full-timers	All
Same number of hours or	81.82	51.03	63.31
more Less hours	18.18	48.97	36.69
Total	100	100	100
N	14,569	21,941	36,510

Source: Annual Population Survey April 2005-March 2006.

#### One half of full time working women would like to work less hours

The pattern of working time preferences across our sample was clearly different for part-time and full-time working women. When all employed women, irrespective of their working time

were taken into account, a little less than one third would like to work less hours, against 36 percent who would like to work less. However, when splitting women into 2 groups, one finds that almost one half of the full-timers would like to work less, against only 18.2 percent of the part-timers.

#### Part-timers have jobs from a lower social class

In terms of NS-SEC social class, our sample was composed of 25 percent of women whose most recent occupation was classified as routine or semi-routine, whereas 9 percent were in the social class I 'High managerial', and 33 percent in the lower managerial class. 4.9 percent were long-term unemployed or never worked. As we would expect from the result of toher studies, more than twice as many women working part-time – 37 against 17 percent -- were employed in routine or semi-routine occupations compared to full-timers. Conversely, the proportion of lower managers was two times larger among full-timers. Finally, as expected, there were three times as many managers working full-time -- 12 percent -- rather than part-time. The proportion of women from social class IV and V remained roughly the same across the two groups.

#### More full-timers are married/cohabitating, and tend to have older children

Approximately one third of the sample was married or cohabitating, against two thirds who were living alone. These proportions were slightly different between full-timers and part-timers: 36 percent of the former were married or cohabitating with a partner, against 29 percent of the part-timers. As far as children are concerned, again, there was a contrast between full-timers, 71 percent of which were childless and part-timers for which this proportion amounted to 43 percent only. Also, full-time working women tended to have older children than part-timers: for 31 percent of the latter, the age of their youngest child was between 10 and 15, against 18 percent of the part-timers.

#### Area-level variables

The level 2 variables we have been using showed little evidence of variation between women with different working-time arrangements. However, in terms of geographical spread, some patterns were visible. Figures 1 and 2 below provide an illustration of such variables. *Unemployment rates* among women seemed to reflect to some extent a 'North-South divide', with a large concentration of Local Authorities in the South experiencing unemployment rates below 2.5 percent– with the exception of a few pockets in the South-West and in the London

area. By contrast, from the middle of England northwards, unemployment rates are rising gradually. They are highest in Scotland, with more local authorities experiencing unemployment rates between 3 and 7 percent.





Source: Sample of Anonymised Records from the Census 2001. Boundaries are 2001 Local Authority districts for England and 2001 Scottish Council Areas.

In terms of the availability of *formal childcare*, as shown in figure 2, we have been using a measure of the total number of childcare places, divided by the population of children aged under 10 in 2001. Although more accurate than simply reporting on the total number of places, by definition it was not evident to discern whether changes in this ratio are due to a smaller population size or a larger number of places in the area. Approximately half of the areas have a ratio of childcare places to children comprised between .3 and .6. This is a very rough indicator, since it does not account for the population density in a given area and hence,

the concentration of childcare. Neither was it possible to reflect on the actual price of childcare places, nor on the propensity to use informal rather than formal childcare by women.

It could however be suspected that population density plays a role in the visible contrast between Scotland and England, with the ratio for the less populated areas of Scotland being clearly higher. Apart from this however, there does not seem to be an easily discernable divide between large regions in the country even though there seems to be more Local Authorities in the South West with higher values of the ratio, by comparison with the North of England.

Although not represented on this map, other indicators have been used, such as the proportion of women working in large companies (more than 500 employees), as well as the proportion of full-timer carers (between 20 and 49 hours a week), all of whom drawn from the SAM 2001.

Figure 2 Ratio of registered childcare places to the number of children under 10, England & Scotland 2001/2006.



Source: Sample of Anonymised Records from the Census 2001. Ofsted Quarterly Childcare Statistics 2006. Boundaries are 2001 Local Authority districts for England and 2001 Scottish Council Areas.

#### 3.2 The model

As introduced in section 2, two different models of working-time preference were to be tested: one for full-time and one for part-time working women. In addition a third model for all employed women was fitted as a 'control' group, in order to check whether once aggregated the trends specific to one group would remain perceptible. 'Random intercept' two levels logistic regression was used in order to fit this model. In this context, 'random' means that only the coefficient of the intercept was allowed to vary at level 2 – the level of Local Authorities. Results are shown in table 3.

Significant Local Authority-level residual variance

An initial finding is that *all three models have strongly significant level 2 variance* (the sigma U parameter). This means that besides the effect of the independent variables accounted for in the model, there remains significant local authority-level heterogeneity in the desire to work less hours. Even if not really surprising this substantiates the claims made by qualitative researchers about the existence of systematic differences between areas in the UK. This finding is important, in that it paves the way for further exploration of the cause of these variations across the UK. Preliminary exploration led us to examine interaction effects between some of the variables such as hourly pay and marital status, with some promising findings.

However, in terms of the area-level variables we also added to the model, our initial conclusion is that a number of them do not seem to be related to individual working –time preferences. This is particularly the case of the childcare variable that is definitely not significantly associated to working-time preferences. This might be due to an inadequate aggregation level, not reflecting the relevant differences between areas: Unitary authorities indeed constitute large areas and are likely to include several childcare markets, rather than just one. However, this absence of significance was also true of a number of other labour market indicators we attempted to fit in that model, such as the LAD –level female unemployment rates.

On the other hand, among alternative indicators fitted at level 2 in our model a few seemed to be *positively* associated with the likelihood of willing to work less hours, although the interpretation of these relationships might become complex. Such is the case of the area-level proportion of women employed in companies larger than 500 workers, that is significantly positively associated with the desire to work less hours both for full-time working women and all employed women, but not part-time women. By contrast, a positive relationship at individual level between company size and working time preference exists only for part-timers. In addition, the local authority level proportion of household whose person of reference is from an intermediary social class (ie NS-SEC 3, 4, 5) is positively associated with preferences for less hours, but only for part-time workers. This could be an indication of the existence of unobserved heterogeneity – ie other unmeasured factors also playing a role. Further investigation is required to analyse this finding.

		1. Part-time	2. Full-time	3. All employed
Age		.005 (.018)	.077 (.010)**	.056 (.009)**
Age squared		000 (.000)	001(.000)**	001(.000)**
Highest educational achievement (base: GCSE grades a-c or equivalent)	Degree	121(.079)	255(.046)**	261(.040)**
	Higher education	180 (.081)*	246(.049)**	234(.042)**
	A Level	134(.066)*	89(.043)*	101(.036)**
	Other qualifications	125(.08)	225(.054)**	191(.044)**
	No qualifications	184(.088)*	158(.063)*	168(.051)**
Log of hourly pay		.281(.06)**	.249(.041)**	.263(.034)**
Being single		.230 (.06)**	.147(.031)**	.147(.027)**
Age of youngest child in the household (base=no children)	Child<2 years old	105(.123)	.199(.120)	.198(.083) *
	he Child 2-4 years old	.248 (.101)*	.360 (.089)**	.165 (.063)**
	Child 5-9 years old	.285(.079)**	.133(.060)*	. 005(.046)
	) Child 10-15 years old	340 (.062)**	112(.039)**	164(.033)**
	Higher managerial	.372(.111)**	.115(.058) *	.182(.051) **
NS-SEC soc	Lower managerial	. 272(.069)**	. 064(.041)	. 131(.035) **
class, main job. (base= intermediary occupations)	b. Low supervisory - small ary owners	190 (.102)	211(.061)**	144(.052)**
	LTU	128 (.134)	299 (.135)*	.008 (.085)
	Routine/semi routine	431(.066)**	466(.049)**	479(.039)**
Size of the	he Size <25	052(.08)	. 013(.054)	. 033(.044)
workforce, ma	in Size 50-499	.251(.072)**	.083(.044)	.136(.038)**
job. (base=26-49	Size 500+	.294(.081)**	. 063(.048)	.13(.041) **
Total weekly hours actually worked		.055(.004**)	.043(.002)**	. 061(.001)**
LAD-level % variables cl:	% women in companies>500 employees	003(.007)	.015(.006)*	.012(.006)**
	% of households from social class 3, 4, 5	. 02(.01)*	. 013(.007)	. 016(.006)**
	Ratio of childcare places to children under 10	038(.049)	007(.039)	0022(.036)
Level 2 variance (sigma U)		.046(.016)**	. 054(.01)**	. 053(.008)**
Observations		14,477	21,776	36,253

Table 3 2 level logit model of women's working-time preferences, England and Scotland 2005-2006

\*\* Significant at .05 \* Significant at .01

Preliminary testing for the existence of significant random coefficients at level 2 - ie whether any of the independent variables was significantly differently associated with working time preferences between local authorities in England and Scotland, seemed indeed to reveal such a coefficient for marital status, at least for full-time working women. In other words, the effect of being married or cohabitating is itself significantly variable across Local Authorities in England and Scotland, beyond its average effect reported in the table. However, additional examination of this relationship is required.

#### Hourly pay, hours worked, marital status are strongly associated with preferences

A number of variables show a very significant association with the willingness to work less hours among women, irrespective of their working part-time or full-time. This association is positive for the log of hourly pay, for women living alone rather than cohabitating or being married, as well as the actual weekly number of hours worked. It is thus clear that women who earn more tend to want to work less hours. There could be different reasons for this in addition to a 'threshold effect' on the income (Fagan 2001 ). For instance, this could indicate that irrespective of whether they are full-time or part-time, women with a higher hourly wage experience more pressure in their attempt at reconciling family care and work, for example because higher paid occupations are also more demanding and stressful.

In a more obvious way, the same interpretation could hold for the strong association between the number of hours actually worked and the willingness to work less. Although trivial if we follow classic economic interpretations about the balance between leisure and income, this may also reflect another straightforward factor, that is the greater difficulty most women experience with combining full-time work with the care of children anyway, whatever the reasons might be.

In addition, it is likely that these two variables are not independent one from the other, since highly qualified – and better paid -- jobs are more likely to involve long hours. This hypothesis was proved right at a later stage although not in the fashion that was expected: introducing an interaction term between being in a higher managerial job and the log of hourly pay unearthed a significant (p<01) additional *negative* impact on the preferences for less hours. Interestingly, this additional impact is only present for the full-timers group. This shows that apparently, on top of an overall positive association between rate of pay and willingness to work less, there seems to be a threshold beyond which the additional burden resulting from working even longer can easily be offset by the additional income: since for that category of income flexible private care services are more affordable.

Not living with a partner/nor being married is positively linked to a greater likelihood of wanting to work less hours, with a slightly stronger coefficient for the group of part-time women. There can be different mechanisms simultaneously at work here. One could be a 'lone parent effect', with the pressure of balancing motherhood and work being more

difficult for women living alone, the preference for less hours showing this. Another potential effect could be the fact that in couples with lower incomes, there is an additional incentive for women to work, irrespective of whether gender roles are traditional or not. Even if we were unable to detect an interaction between income and marital status, however, a significant negative interaction was found between the hours worked and being married or cohabitating.

## Contrasted association between preferences, social class, and age of children across the groups

Other dependent variables tend to be associated in differentiated ways to working time preferences according to the group of women considered – i.e. full-timers or part-timers, although with a few nuances. For instance, educational achievement, NS-SEC social class of the last job, as well as the age of the youngest child in the household seem to have such contrasted impacts.

*Having no qualification* is negatively associated with the odds of being willing to work less hours across our 3 groups. Among women working full-time, this is likely to reflect the fact that lower qualifications yield lower incomes, to such an extent that some women simply cannot consider working reducing their hours. An additional candidate explanation could also be that lower qualified women, if cohabitating or married, are more likely to do so with somebody from the same social background, and hence, with low income prospects, and therefore would enjoy less margin for reducing their working time, would they dream to do so.

However, most other academic achievements also seem to be negatively associated with the willingness to work less hours, even if the coefficients seem to diverge according to whether women are working full time or part-time. This is likely to reflect the fact that the base category that was chosen in the model, GCSE with A-C grades, was the only one to be positively associated with the willingness to work less hours.

In general also, this association between education and working-time preferences seems to be stronger for full-time working women than for part-timers. This may simply reflect the fact that part-timers tend to be less qualified than full-timers, and hence their number too small to appear significant. Among the same group of part-timers, only those with an A level, or a non-degree higher education diploma – rather than a GCSE A-C grade - are more likely to be willing to work less, and this relationship is moderately significant. This

may also simply reflect the fact that there is a smaller number of part-timer who want to reduce their working time, as opposed to full-timers.

By contrast, full-time working women with a university degree or a higher education diploma are clearly less likely to be willing to work less by comparison with holders of a GCSE. In their case, the regression coefficient is larger and more significant than for part-timers and also than for other types of educational achievements. This could lead us to the conclusion that controlling for other variables, highly qualified women are more likely to be relatively happy with their hours of work. However, this hypothesis is weakened by the absence of a similar pattern among degree-holding part-time women, but again, some amongst them could be seen as having already opted out from long hours.

*The age of the youngest child in the household* has a differentiated impact on workingtime preferences. Whereas the impact of very young children is almost inexistent – it only becomes significant when full-timers and part-timers are grouped together, having children aged 10 or more is consistently associated with the likelihood of *not* willing to work less hours. This probably reflects the trend highlighted by previous research that once children reach school age, there is a gradual catch up effect among women in terms of their working time (Paull 2006). The coefficient is larger for part-timers, which might simply suggest that they are the most likely to be willing to increase their working time at that stage of their career – by definition.

Unsurprisingly also, women in households where children aged 2 to 9 are present are more likely to prefer working less hours. This relation seems slightly more prevalent when children are aged 2 to 4 rather than 5 to 9, and more so for full-time working women than part-timers, in terms of the significance and the value of the coefficient. A likely explanation for this is that children start school and therefore are supposed to represent less of a constraint to mothers. However, a more intriguing fact is that mothers of children aged 5 to 9 working part-time are more willing to work less than full-timers. This could be a consequence of the fact that part-time working women have more children that full-timers, this factor not being considered by our model. However we are unable to confirm this hypothesis at present.

*The social class of the main job is also associated*, although in contrasted ways, to working time preferences. An initial interesting finding is that for both categories of working women, the base category used -- intermediary class -- seem to constitute a 'cut-

off' point between positive and negative association between class and working time, with categories 'above' – ie the managerial classes – being positively associated with the willingness to work less, whereas the relationship is negative for the others categories, even when controlling for their actual working time and hourly pay.

Another conclusion, common to both groups of women is that *being employed in a routine/semi routine job is consistently negatively associated with the willingness to work* less. Again, this can be seen as a likely impact of the lower wage of these women, together with the likely low wage of their partner if they are cohabitating or married. However, additional patterns of association differ for full-timers and part-timers.

For part-time working women, being occupied in a higher managerial position is positively linked to the willingness to work less hours, and this relationship is strongly significant, whereas for full-time women this is only true as far as higher managerial positions are concerned. If the latter can be explained by the likely pattern resulting from longer hours/stressful and high qualified job, this is less likely to be the case for part-time women, especially now that their actual number of hours is taken into account, and this only prevails beneath some threshold, as a result of the interaction effect mentioned above. Another difference between full-time and part-time working women is the fact that women in lower supervisory jobs are less likely to be willing to work less.

Another pattern of association specific to women working part-time is that among them, those working in larger companies are also more likely to be willing to work less. This finding is more difficult to interpret than the previous ones, since recent research finding consistently found that bigger companies were offering more flexible job provisions than smaller ones. However, this can also reflect that for women not particularly willing to participate extensively in the labour market the most obvious jobs are ones that are offered by bigger employers, such as the retail trade companies. It is also likely that as such, company size is a poor proxy, and that a composite indicator made of company size and sector would probably be more appropriate.

#### Conclusion

Against the background of the discussions about the role of preferences, attitudes, and orientations to work on the participation of women in the labour market, the research presented in this paper constituted an attempt at taking part in this debate from another angle

-by modelling how systematically contingent working-time preferences could be to the amount of resources available to women. The latter were broadly defined as the amount of economic and cultural capital possessed by women in relation to specific – partially local -- gender regimes, setting the boundaries of gender roles at household and local levels. To some extent, this model showed that there is a consistent pattern of association between individual, household and institutional circumstances, although not necessarily where and how initially expected.

The main substantive conclusion is that there is evidence of significant association between preferences and the circumstances of part-time and full-time women, at the three levels that were considered. However, whereas some of the covariates such as hourly pay, actual working time or marital status are associated to working time preferences for both full-timers and part-timers alike, other covariates, such as NS-SEC social class, age of the youngest child in the household have their patterns of association differing between these two groups.

The second conclusion is that there is evidence of significant unexplained variation in working-time preferences between Local Authorities in England and Scotland. Some of this variation is 'fixed'in that it is the overall prevalence of the willingness to work less hours among some women that vary across Local Authorities. However, some of it is also 'random', in that at least one of the dependent variables was found to have a significantly different association with working-time preferences across the local authorities in the sample. However, further research is needed as for a more precise identification of both types of effects together with the local authorities representing these trends.

For the purpose of this paper, it was assumed that full-time and part-time working women should be treated as different groups, rather than just one, and some of our results vindicate this approach. However, another finding is that although noticeable, the heterogeneity of preferences among these two groups of women is limited. More evidence was found of similarities than dissimilarities between part-time and full-time women, at least as far as the major control variables – such as age, hourly pay, or hours actually worked -- were concerned whilst divergences seem to concern more 'peripheric' controls, such as company size. However, it would be interesting to test whether this still holds when the part-time/full-time status is defined according to traditional measures – ie only taking into account the main job rather than actual number of hours worked. Similarly, further investigation would be needed to test whether preferences for more hours also behave similarly across the two groups.

Finally, at a more theoretical level, and even though our purpose was not to directly confront the idea that preferences are the best predictor of individual behaviour among women, the evidence we found goes in the direction that there are patterns of association between constraints, resources and working time preferences, and therefore, reinforces the idea that individual inclinations are at least partly contingent to their environment.

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