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THE SCARCITY AND THE DUAL CAREER HOUSEHOLD: COMPETING PERSPECTIVES

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Time Scarcity and the Dual Career Household:

Competing Perspectives

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Abstract

Since 1997, until the present, UK Government policy has increasingly acknowledged the principle of work-life balance and problems of work-time excess. The present paper contributes to our understanding of these issues via a theoretically-informed longitudinal investigation of time-use among members of an increasingly important demographic group — dual career households. The seminal approaches to work-time offered by Gary Becker, Catherine Hakim, and David Laibman are outlined, then evaluated using data extracted from the 1996 and 2008 *British Household Panel Survey*. Our study identifies significant, unexplained dissatisfaction with working hours for many men and women in dual career households, and that women tend to have less pure consumption time than men. This pattern does not accord well with theories of time-allocation which place great weight on preferences.

Keywords: Work-Time, Household, Time-Use, Heterodox Economics

JEL Classifications: J22, R23, R41, O15

1. Introduction

In this paper we explore work-time and the household, paying careful attention to the constraints faced, and choices made, by individuals.[1] We focus on men and women in dual career households and examine their balance between employment and other aspects of time-use (including housework, caring and commuting). This holistic, theoretically-informed study of time-use is apposite because the UK government has adopted a range of policies targeting improvements in the duration and organisation of employment. It is our aim to contribute to this policy debate via a theoretically-informed analysis of time-use patterns within dual-career households.

This study targets households in which more than one member is a full-time employee in a managerial, professional or associate professional and technical occupation. In looking at the gendered distribution of time in such households we are looking at cases where both men and women have jobs with common characteristics. This group of occupations represent the "service class" (Goldthorpe, 1995) and they are of interest because members of this group have to balance household tasks with two separate work schedules and career trajectories. Combining these schedules makes family life complex and, potentially, difficult to maintain. Furthermore, this category of household is becoming increasingly common in the UK: according to the *Census of Population* SL-HSAR there were 2.23 million dual career households in 2001 whereas Green (1995) estimated that there were only 1.21 million dual career households a decade earlier.[2]

The growth in dual career households has been led by increasing female labour market participation, and the polarisation of work-rich-time-poor, and work-poor-

time-rich households. The nature of employment has changed for many such households, too, because of the rise of non-standard employment contracts and growing emphasis on various types of flexible working (Lewis & Plomien, 2009, Perrons, 2000, and Sennett, 1998). Accordingly, changes in time-use need to be seen in the context of this blurring of the household-workplace interface.

The regulatory framework has also changed in the last decade, with the introduction of the *Working Time Regulations* (WTR) in the UK in 1998. Prior to the election of the Labour government in 1997 a liberal supply-side approach had been adopted with regard to employment legislation. The WTR offered a limit on employed weekly working hours of 48 hours per week, but with a voluntary opt-out for employees who may work above this limit if they wish (BERR, 2008a). The Work-Life-Balance Campaign (WLBC), launched in spring 2000, also aimed to raise employers' awareness of the benefits to business from introducing policies and practices which help employees obtain a better balance between employment and the rest of their lives (BERR, 2008b).[3] The policy setting is thus now more sensitive to the problem of long hours than was the case in the 1980s and early 1990s.

In examining time scarcity and time-use conflict we structure our argument as follows: the next section considers the approaches to time-use and work-time offered by Becker, Hakim and Laibman respectively; thereafter, in Section 3, we use the 1996 and 2008 *British Household Panel Survey* (BHPS) to outline patterns of time-use by men and women in dual career households (the former *Survey* predates the relevant policy initiatives); in Section 4 we use the 2008 BHPS and look at the work and household determinants of preferences for reduced hours, evaluating the competing

theoretical perspectives in this light; Section 5 concludes. Our paper provides evidence that time-scarcity is a fundamental and ongoing problem faced by many men and women in dual career households and that gendered roles entail this is most acute for women.

2. Conceptual Framework: Time Scarcity, Constraint and Choice

In order to inform our empirical analysis of work-time patterns and time-scarcity in dual-career households we will begin by examining three important approaches to time-use advanced from mainstream economics, feminist sociology and Marxian political economy. These respective social scientific positions are themselves diverse and the intention is not to survey each paradigm; rather, we aim to outline and evaluate one theoretical perspective from each approach, thereby exploring a plurality of positions between (rather than within) these schools of social scientific thought.

2.1 Becker's Theory of the Allocation of Time

Gary Becker is a leading Nobel Memorial Prize winning economist who gained recognition for applying mainstream economic reasoning to a wide range of non-market behaviours. One of his most significant contributions was to the economic analysis of time-use (see Becker 1965, 1976). In this sense his work is especially relevant when looking at household time allocation. Although broadly mainstream in approach, his seminal paper takes the household — which is analogous to a 'small factory' in which capital goods, raw materials and labour are combined to 'clean, feed, procreate and otherwise produce useful commodities' (1976, 92) — as his unit for analysis. The household is assumed to maximise utility, subject to constraints.

The mathematical model of time allocation which Becker uses makes simplifying assumptions from which outcomes and predictions are deduced. In mainstream analysis it is not the realism of assumptions which establish the basis for verification, but how well the observed outcomes accord with what the model predicts (see Friedman, 1953).[4] In Becker's model of time allocation he builds and solves a constrained optimisation problem in which the household maximises its utility subject to (i) a budget, and (ii) a time constraint. The means of household satisfaction are *basic commodities*, which households derive utility from consuming.[5] Such commodities are produced by combining market goods (purchased from limited budgets) with household-time used in their production and consumption.

The model assumes the household must be able to afford the goods purchased and that time is scarce: time spent in employment is mutually exclusive from time spent engaged in household activity. The two household constraints — budget and time — are combined, via substitution, to provide a single constraint.[6] And, this single constraint is then interpreted by Becker in terms of actual and potential earnings, where the full price of a basic commodity comprises the market goods used to produce it plus the foregone earnings associated with the time used to produce and/or consume it in the household.

In equilibrium households will maximise utility, subject as they are to time and budget constraints. Becker also assumes that intra-household dynamics are harmonious. Based on this, if the dual-career households we investigate were single, coherent, utility-maximising entities (comprising altruistic agents) we might reasonably expect a "fair" distribution of activity which gave similar average amounts

of residual time, for activities such as pure consumption and sleeping, by gender. This will be examined in Section 3. Moreover, if institutional rigidities were minimal this rational-choice approach would predict that agents selected would be broadly satisfied with the hours they work, given the levels of hourly pay they receive. This will be investigated in Section 4. However, prior to this we will outline two heterodox perspectives on time-use.

2.2. Hakim's Preference Theory

The labour market has been of interest to economists and sociologists for many years. However, despite the etymological origin of the term "economics" (from the Greek, meaning household management, or administration), modern mainstream economics has not sought to explain, in any depth, the internal dynamics of the household. In contrast the sociology discipline has studied interactions within the household extensively. One important contribution to the analysis of the labour market and household has been provided by the feminist sociologist Catherine Hakim (2000). Her work — termed preference theory — is a significant departure for feminist sociology because she places conscious choice, rather than patriarchy and power, at the centre of her conceptual framework.

Methodologically, Hakim's approach asserts that it is the power to predict which forms the basis for assessing a contribution to social science. Preference theory 'is an empirically-based, predictive theory that tries to avoid and overcome the weaknesses of current theorising' (Hakim, 2000, 41). It begins by recognising the social and economic changes that have taken place in wealthy societies in the last fifty years, such as revolutions in contraception and equal opportunities. In addition

deindustrialisation, increases in part-time working, and greater emphasis on individual choice all entail that in affluent societies women are presented with genuine choices regarding their lifestyle. These forces have had a significant impact on the nature and extent of female labour market participation.

Hakim's typological approach distinguishes the heterogeneous work-preferences of women: 'Preference theory identifies three distinct "packages" of predispositions and work-lifestyle preferences which lead people to respond in different ways to the social, economic, and political environment they are born into, or migrate into' (2000, 189). Initially she assumes males display a strong preference for paid work.[7] In contrast women are considered to be heterogeneous, displaying a range of preferences for employment and family life. In particular, three types of women are observed: the home-centred; the adaptive; and, the work-centred. Hakim argues that home-centred women represent approximately one-fifth of the female working age population, comprising women who prefer not to sell their labour and for whom children and family are the main priorities throughout life. In contrast adaptive women are a diverse group whose preference is to combine employment with family-life. Hakim suggests that they comprise approximately three-fifths of the female working age population, and that they are the group most responsive to social and employment policy. Adaptive women want to engage in some employment but they are not overly committed to their careers. The final category of women are work-centred, comprising the remaining one-fifth of the female working age population. Qualifications represent investments in human capital for work-centred women, and their main priority is their job (or equivalent activity). Childless women are concentrated in this group; and, where work-centred women do choose to have

children, their care is often delegated. On the basis of these preferences Hakim draws parallels between the employment patterns and career trajectories of such women and the patterns associated with the stereotypical male.

This sociological approach, unusually, bears comparison with mainstream economics (with its emphasis on preference and prediction). In order to illustrate this let us consider how the heterogeneous preferences of agents, drawn from Hakim's typology, can be reconciled with Becker's utility-maximising approach. If we take Becker's integrated budget and time constraint — defined in terms of actual and potential earnings — we can superimpose it on three mainstream economics utility maps, reflecting preferences for work (*W*) and household activity (*H*) respectively. In Figure 1 these preference maps correspond to what we would expect if agents had work-centred, adaptive or home-centred preferences.

INSERT FIGURE 1 HERE

The Becker-constraint assumes that there is an achievable income, *a*, which can be realised if an agent devotes all of their time to paid work. Work can be combined with household activity to provide an associated level of utility, given by our indifference curves $U_1 \prec U_2 \prec U_3$. Each curve reflects combinations of work and household activity which give agents equal levels of utility. Dependent on the nature of the indifference curves we can illustrate work-centred, adaptive or home-centred agents. In the first case we can see that the preferences of work-centred agents are such that their utility maximising solution is a 'corner solution' where they devote all of their time to paid work, realising the greatest achievable income. The preferences of

adaptive agents are such that they select a combination of work and home-based activities (*w,h*), altering the balance of this dependent on the constraint (which may shift because of changes in the benefit or taxation regime). The final case, depicted at the bottom of Figure 1, is of agents with home-centred preferences. The preference maps for these agents are such that they exhibit lexographic preferences, manifest in a 'corner solution' associated with maximum time being allocated to the household (and maximum foregone income). Of course, the preference maps can be rendered more complicated, as can the nature of agents' budget constraints (for example by incorporating benefit payments). This notwithstanding, it is clear that Hakim's typology can be reconciled with Becker's treatment of time-use, albeit Becker takes the household as his unit of analysis whereas Hakim considers the individual.

2.3. Laibman, Labour and Household Production

Marxian political economy has traditionally viewed labour-time as an essential element in evaluating distribution in capitalist economies. As such the focus on work-time is clear in such an approach. However, though Marxian political economy can be used to analyse contemporary patterns of work-time, it has had less to say about time-use in general. One eminent Marxist — David Laibman — has sought to address this conceptual weakness and to unify Marxian exploitation theory with the analysis of time-use and inequality within the household.

In the Marxian theory of capitalist exploitation the length of the working day is divided between the time required to produce profit, interest and rent, and the time during which workers produce the equivalent of what they consume. The ratio of the former (surplus labour time) to the latter (necessary labour time) is the rate of

capitalist exploitation. This is a measure indicating distribution by class — defined by income source — in work-time terms. Marxian political economists, following Marx, decompose the exploitation rate to show how it is directly affected by various forces, specifically: (i) the real wage; (ii) the productivity of labour; and, (iii) the length of the working day. This third element — which reflects the duration of work in general — provides an analysis of extensive labour utilisation which can be used to explain work-time patterns in different periods of capitalist development. In this approach conflict arises over the length of the working day, with structural and social forces playing a major role in determining work-time patterns.

It is this theory of conflict over work-time which Laibman seeks to connect to intra-household conflict. Production in the economy as a whole (i.e. including household production) involves two sub-processes (1992, 59-61):

1. In the household sector the time taken to produce wage goods is added to household labour to produce total social labour.

2. In the capitalist sector "current" labour — i.e. labour employed by capitalists — is combined with raw materials to produce the capitalist sector output.[8]

In order to integrate the analysis of intra-household conflict with the theory of absolute surplus-value it is important to recognise that the household and capitalist sectors are interconnected and that there are flows between them. The outcome of conflict over work-time (i.e. positive or negative absolute surplus-value) is manifest in the amount of current labour supplied to the capitalist sector. Likewise, the flow of goods to the household sector is a further point of conflict, as employees bargain over

real wages. Thus, the distributive conflict between the household and capitalist sectors is reflected in the flows of current labour and wages (Laibman, 1992, 61).

In considering time-use within the household Laibman considers the elements of social labour which comprise household labour and the value content of goods purchased by the household. In order to derive a common denominator the latter element is re-expressed as the work-time used to produce the wage bundle (necessary labour time), measured in *household labour-time equivalent* (HPTE) units. This would allow us to re-express the rate of exploitation in HLTE terms, and measure the distribution of household labour (e.g. housework, caring etc.) in the same units as we consider the distribution of work-time output in the classical Marxian formulation of exploitation. And, from this '[w]e can see the outlines of a theoretical treatment of the length of the working day … also, of the long-awaited joining, *on the plane of theory*, of the analysis of gender oppression and the theory of capitalist society' (Laibman, 1992, 69-70). The common elements in such an analysis are the units of time and associated time constraints faced by individuals and households.

There emerge, in Laibman's reformulation of the Marxian theory of exploitation, two aspects which are especially relevant for present purposes. First, he suggests that hours worked are an outcome of conflict and structure rather than individual preference. The flows of current labour and wages are also elements in this conflict-process and the structural forces are only likely to give a balance of each which reflects the desires of employees by chance. Secondly, the flows of household labour and labour supplied to the capitalist sphere may not be equal for men and women, generating inequality and reflecting gender oppression.[9]

2.4. Discussion

The models of Becker, Hakim and Laibman reflect three distinct approaches to work-time and household time-use. Becker's approach derives from mainstream economics with its deductive method and associated closed assumptions. Hakim adopts an empirically-driven approach which also emphasises individual choice and preference in contemporary society. Finally, Laibman's model sees (class and gender) power relationships and the structure of capitalist society as integral in explaining patterns of work-time and household activity.

In comparing the assumptions of each perspective we can note that the approaches of Becker and Hakim both tend to treat preferences as static, or given, for particular individuals or households. In the context of Becker's work this assumption has attracted criticism from heterodox economists; for example Hodgson (1988, 117) has suggested the assumption of permanent preferences produces outcomes of questionable worth. Likewise, other feminists have been critical of Hakim's preference theory for failing to analyse the emergence of preferences and for failing to acknowledge their (sometimes) contradictory nature (Lewis, 2008).

A second element which warrants comparison is the relationship between time-use and the market economy. Becker expresses work-time in terms of the wages earned during a period and time spent outside of employment in terms of wages foregone. The concept of forgone earnings is more important than the concept of leisure-time rendering investigation of the latter — for Becker — unnecessary (1976, 100). The approach of Laibman differs fundamentally. He examines the household and, in particular, HLTEs. The time spent at work is analysed using a conflict-model.

Likewise, the *distribution* of time within the household is explicitly considered. In using an extended form of value analysis, Laibman treats "time" as the common denominator in the capitalist and household sectors; in contrast, for Becker, it is wages foregone which are used to express household activity.

Thirdly, for utility maximisation models to be meaningful (given the preference maps of agents) institutional rigidities need to be slight enough so that effective choices are open to agents. For example, if excessive full-time hours are the dominant norm for professional jobs, the choice, in many instances, is between employment with long hours, significantly inferior employment, and unemployment (for a similar point see Mackie et al 2001, 92-3). In such cases Becker and Hakim's preference theories are capable of explaining the outcome, but at a trivial level: they would not offer any insight — normative or positive — into the constraint itself. Of course, if there is a degree of flexibility within employment, the utility-maximising equilibrium prediction of Becker would produce households which are broadly satisfied with their time-allocation vis-à-vis work-time and income. If significant dissatisfaction is manifest then either individuals or households are not maximisers in the sense suggested by Becker or Hakim, or institutional rigidities are such that preference theories are profoundly limited. This will be discussed in Section 4.

A final consideration concerns intra-household dynamics. The three approaches we have identified adopt different positions regarding the household. Becker treats the household as a unified entity and its internal dynamics, which may generate conflict and contradictions, are not explored or acknowledged in his theory. Hakim moves away, somewhat, from the traditional feminist focus on patriarchy, generating

explanations more focussed on individual choices made by women (and men). Finally, Laibman (1992) argues that capitalist exploitation is at the core of market-based socio-economies and that the household sector, too, can generate an oppressive outcome which can be conceived of in value terms.

3. Patterns of Time-Use in Dual-Career Households

The approaches of Becker, Hakim and Laibman all recognise that individuals or households are time-constrained, and each examines the split between time spent at work and time spent in the household. In the example of dual career households we are considering a situation where two or more members of a household are engaged in full-time employment. This implies that a significant portion of their constraint is devoted to work and work-related activity (e.g. commuting). A large number of such households will conform to the 'adult worker model family' (Lewis, 2001, Lewis & Giullari, 2005). Others may be childless. However, since both partners are full-time career workers the distribution of other elements of time-use — specifically household production time — becomes especially interesting because there is not an obvious lead and secondary jobholder in such households.

In order to evaluate the theories selected, and provide insight into time allocation in dual career households, we will, in this section, analyse work-time patterns using the 1996 and 2008 BHPS. The first date predates the election of the New Labour Government in 1997, which represented a watershed in recent UK government policy on work-time. The latter date is the most recently published BHPS. We define career employees as those working in managerial, professional, associate professional and technical employees. The 1996 BHPS provides a sample of 546 individuals who are

full-time members of dual-career households, and the 2008 sample comprises 999 workers. Average total hours for those in employment are summarised in Table 1.[10]

INSERT TABLE 1 HERE

The features which are particularly noteworthy, for present purposes, are:

1. Average hours tend to be longer in the private sector, with the exception of male professionals in 2008, and female professionals in 1996 and 2008.

2. Hours tend to have fallen, with the exception of male associate professional and technical employees (whose hours are below the average for our group anyway).

The discrepancy between the private and public sector is noteworthy. It may be the preference structure of agents in the respective sectors is different. For example, private sector incentive systems may reward those who work longer hours, attracting those with a preference for higher income. Alternatively, the economic structure in the public sector may impose different constraints on these groups of workers, which are reflected in the hours they work. The underlying distribution of preferences, in such circumstances, may be remarkably similar.

The second pattern in the data — of falling average total hours — is also interesting. Such a pattern represents a return to the long-run secular trend in working hours, which had been arrested in the UK in the 1980s and early 1990s. A mainstream economic interpretation of this is that hours have fallen because time spent in the household is a normal good; and, as average hourly incomes have risen, people have foregone some increase in monthly income in favour of increased non-work activity (e.g. leisure). However, such substitution — of income towards time away from work

— requires flexibility in structural or institutional work-time patterns. The approach of Becker assumes that the household can substitute income for non-work time, as would be consistent with this explanation. But, the logical extension of this is that we would also predict people would be relatively satisfied with the hours they work, given hourly remuneration. As we will show in Section 4 this is not the case.

An alternative explanation is that government policy has had some bearing on this change. This may operate in two ways. First, policy may — via the WTR — enable employees to refuse to work excessive hours, thereby allowing them to diminish their work-time via newly established legal rights. Secondly, initiatives like the WLBC may actually influence employer and employee attitudes to work-time, i.e. preferences shift in response to policy initiatives. The former approach is consistent with changing constraints with given preferences, whereas the latter implies changing preferences. Both mechanisms are consistent with Laibman's approach, which emphasises structural and social forces as determinants of the duration of work-time, whereas the latter runs counter to the fixed-preference approaches of Laibman and Hakim.

Sectoral distribution and trends in work-time are only one concern, however. In this paper we are also especially interested in the household distribution of time-use and the BHPS allows us to consider work-time alongside other elements. Data on male and female time-use has been extracted and collated from the 2008 BHPS for full-time managers, professionals, associate professional and technical employees, and is presented in Figure 2.[11] It is a central tenet of our paper that work-time should be studied holistically, alongside other aspects of time-use such as the commute, housework and caring. By subtracting all these elements of time-use from the total

time constraint we can derive a residual which will substantially comprise pure consumption time and the time we need to sleep. The size of this residual, for full-time workers in dual career households, is one indicator of well-being.

INSERT FIGURE 2 HERE

The data summarised in Figure 2 shows that full-time male managers are involved most extensively in employed work (comprising working hours and overtime), working an average of 46.2 hours per week. Female associate professional and technical employees average the shortest work-week, at 39.4 hours. The other four categories of full-time workers average between 41.9 and 43.7 hours per week. Men tend to spend more time commuting than women, but, as a proportion of time available, the differences are not particularly great. Average differences in the time spent caring for ill or elderly relatives are relatively slight, too, as a proportion of time available. However, the distribution of housework is particularly asymmetric, with full-time female employees performing more (on average) in all occupation groups.

This pattern may reflect a greater predominance of adaptive preferences among females than males. If full-time career employees include a group with work-centred preferences, and others with adaptive preferences, then the empirical pattern — where full-time career women, on average, tend to perform more housework and have reduced working hours — would be consistent with Hakim's theory. However, once overtime is taken into account hours of employment for professional females exceed those for professional males, and the housework asymmetry implies a considerable inequality which it is difficult to justify for this category of worker. Moreover, once

we examine the aggregate of our time-categories for men and women (in Figure 2) it is apparent that, for each employment category, females have less pure consumption time than males, and for female professionals this is especially pronounced.

These results accord with those of McDowell et al (2005), who have argued that career women often have to undertake significantly greater responsibilities within the household. And, the claim that professional women undertake a "double-shift" is given credence by our data (Jones, 2003). Finally, although the reduced average commuting times for women may be viewed as something positive (if commuting is deemed an economic 'bad'), an alternative interpretation may be that they are symptomatic of greater domestic responsibilities, imposing significant spatial limitations (Dobbs 2007, 95; Hanson and Pratt 1995).

The inequality highlighted does not seem to justify Becker's categorisation of the household as a harmonious entity, and one must treat the hypothesis that gender oppression lies behind this inequality seriously. In the case of Hakim's work-adaptive preference typology it accords well with the patterns we observe vis-à-vis men and women. However, the inequalities observed in the time residual require more extensive explanation. In the next section we shall do so, considering stated preferences and attitudes to reduced hours of employment.

4. Preferences for Work-Time Reduction

The analyses of Becker and Hakim both attach considerable weight to the preferences of agents in determining patterns of time-use. Of course, both theorists recognise that agents face constraints, and these frame the choices individuals make. However,

'Affluent and liberal modern societies provide opportunities for diverse lifestyle preferences to be *fully realised'* (Hakim, 2000, 273: emphasis added). Laibman's model can be contrasted with such preference-based approaches; it examines flows of wage-goods and work-time which are determined by the power structures of capitalist society. Moreover, this structure also influences patterns of household time-use. In the context of these conceptual frameworks it therefore becomes important to consider whether individuals are satisfied with the hours they work, i.e. whether their preferences are being fully realised.

The BHPS is useful in this context because it explicitly asks individuals about their preferences for reduced work-time. The relevant question on the 1996 and 2008 BHPS asks: *Thinking about the hours you work, assuming that you would be paid the same amount per hour, would you prefer to work fewer hours than you do now?*[12] Summary data on the responses to this question from members of dual-career households is presented in Table 2.[13] Three striking features emerge in this summary:

1. There is considerable dissatisfaction with work-time, with high proportions of workers in each occupation group expressing a desire for reduced hours.

2. The overall proportion of full-time dual-career household members stating a preference for reduced hours has diminished between our two reference points. However, for some categories of workers (highlighted in grey), preferences for hours reductions have increased.

3. In the 2008 BHPS a higher proportion of females report a preference for reduced hours than do males. This is the case for every occupational group and is especially pronounced among private *and* public sector female professionals, and among private sector female managers.

INSERT TABLE 2 HERE

These stylised facts provide some support for differentiating the work preferences of men and women (as Hakim does). However, these figures also indicate a considerable mismatch between preferences and outcomes, suggesting either profound institutional rigidities, significant disequilibrium in labour-leisure preferences, or fundamental problems with preference-based explanations of working hours. If institutional rigidities are the cause this entails that the choices people can make in the labour market are trivial, and preference theory is irrelevant. If large-scale disequilibrium is prevalent this implies that work-lifestyle preferences are not being fully realised. Finally, if people are not rational optimisers in the sense suggested by preference theory this indicates that other behavioural processes, of a different order, are at work.

In order to examine dissatisfaction with work-time more deeply we will now apply logistic regression to the 2008 BHPS in order to ascertain the statistical relationships between preference for work-time reduction, denoted P, and various employment (E) and household (H) characteristics. Recognising the time-constraint acknowledged by Becker, Hakim and Laibman respectively, preferences for reduced hours are likely to be influenced by non-work factors. Thus, for an individual i, we hypothesise that:

$$P_i = f(E_i, H_i) \tag{1}$$

The employment variables we consider are working hours (*HOURS*), overtime hours (*OVER*), commuting time (*COMMUTE*), job satisfaction (*JOBSAT*), employed as a female manager (*FMAN*), male professional (*MPROF*), female professional

(*FPROF*), male associate professional and technical (*MAPT*), female associate professional and technical (*FAPT*), employed in the private sector (*PRIVATE*) and gross annual labour income (*INCOME*). The household characteristics are hours spent caring for the ill or elderly (*CARE*), hours of housework (*HSWORK*), age (*AGE*), and the number of dependent children (*DEPCH*). Note, gender is integrated with the occupational classifications and male managers and senior officials are the reference group. The variables *HOURS*, *OVER*, *COMMUTE*, *CARE* and *HWORK* comprise the elements in our time constraint.

Formally, for agent i, we categorise their characteristics as follows:

$$E_i = \{HOURS_i, OVER_i, COMMUTE_i, JOBSAT_i, FMAN_i, \\ MPROF_i, FPROF_i, MAPT_i, FAPT_i, PRIVATE_i, INCOME_i\} \tag{2}$$

$$H_i = \{CARE_i, HSWRK_i, AGE_i, DEPCH_i\} \tag{3}$$

Using these variables we can derive the following estimation equation, the results of which are summarised in Table 3:[14]

$$P_i = \alpha_0 + \beta_1 HOURS + \beta_2 OVER_i + \beta_3 COMMUTE_i + \beta_4 JOBSAT_i + \beta_5 FMAN_i \\ + \beta_6 MPROF_i + \beta_7 FPROF_i + \beta_8 MAPT_i + \beta_9 FAPT_i + \beta_{10} PRIVATE_i + \\ + \beta_{11} INCOME_i + \beta_{12} CARE_i + \beta_{13} HSWRK_i + \beta_{14} AGE_i + \beta_{15} DEPCH_i + \varepsilon_i \tag{4}$$

INSERT TABLE 3 HERE

The results presented in Table 3 confirm the evidence in our descriptive statistics. The parameter estimates indicate that preferences for reductions in hours are greatest among females. Females in managerial, professional, and associate professional and technical occupations are all more likely than male managers and senior officials to state a preference for reduced hours. Moreover, the preferences of service class men

— other than managers — are not significantly different from this reference group. The relative size and statistical significance of these parameter estimates highlight the stark contrast, for all our occupation categories, between the preferences for reduced hours for males and females, employed full-time, and living in dual-career households

Time-use variables also influence preferences for reduced hours. The extent of working hours (in this case without overtime) is positively and significantly related to preferences for work-time reduction. The same is true of overtime hours. Time spent commuting, however, is statistically insignificant. Among household time-use variables we find a positive, but insignificant relationship between housework hours and a desire for reduced work. However, for the variable *CARE* — time spent caring for the ill or elderly — we find a negative relationship between it and a preference for reduced working hours.

The final variables which are statistically significant are: (i) age categories (which suggest older respondents are more likely to desire reduced working hours than younger respondents); and, (ii) the number of dependent children. As we would expect there is a positive relationship between the number of dependent children and a desire for reduced working hours. This pattern would accord with what we would expect were there to be individuals with work-centred and adaptive preferences in our sample since the former are more likely to be childless and the latter have a preference for a combination of work and home-lifestyles.

Overall, the essential point — that there is profound dissatisfaction with work-time among full-time members of dual-career households — was established by our

descriptive statistics. In examining the characteristics of respondents who expressed a desire for reduced hours it was apparent that individuals with children were more likely to desire a cut in hours than childless respondents, and women had a greater stated preference for hours-reductions than men. Taken as a whole, this empirical evidence seriously undermines preference-based explanations of working-hour determination. The flow of labour, in exchange for wage goods, seems to be governed by other forces. Only Laibman's approach, from those selected, is logically consistent with these empirical patterns.

Finally, the empirical part of our paper in Section 3 and 4 has focussed on large-scale government datasets; we have derived findings from examining the descriptive statistics associated with time-use for men and women, in dual-career households, and we have used logistic regression to establish how the complex work-household characteristics of individuals shape their preferences for reduced hours. Of course, this is only one research strategy, and qualitative and case-study research should be used to triangulate research findings on these matters (for example Hardill and Watson 2004, James 2008, Wheatley 2009). Nevertheless, while acknowledging alternative methodological strategies, it is apparent that our results cast fundamental doubt over preference-based explanations of such outcomes.

5. Conclusion

Since the late 1990s there has been increased policy focus on work-time and the problems households face in trying to balance work commitments with other demands. In the UK work-time has been subject to regulation for more than a decade, while increased feminisation of the workplace makes distribution of time especially

important. Historically, there has been a great deal of discussion about wage inequality between the genders. Our study, drawing inspiration from the concerns of three major thinkers, focused on work-time and other time constraints, positing this as the conceptual locus for the decisions and constraints of dual-career households.

One of the innovations of the present paper was the concurrent evaluation of three conceptual approaches — from mainstream economics, feminist sociology and Marxian political economy — using the empirical case of dual-career households. Initially we established a conceptual framework which outlined and discussed the contributions to the theory of time allocation from Becker, Hakim and Laibman respectively. Preference-based approaches, typified by Becker and Hakim, were compared with Laibman's approach which focussed on distribution and power. In the subsequent sections our empirical analysis of managerial, professional, and associate professional and technical workers, highlighted the complexity of time-use for men and women in dual-career households. Long hours of employment remain a particular concern for many individuals in such households. Although hours, generally, have fallen, profound dissatisfaction remains. The distribution of free-time within the household is also often unequal; this was clear even in our case where the members of households selected exclusively comprised full-time career employees. Although average hours have fallen between 1996 and 2008 for the vast majority of our occupation categories, there remaining significant discrepancies between time-use preferences and outcomes. This suggests that UK government policy targeting work-life balance and flexibility still has some way to go.

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Major Occupation group		BHPS, 1996				BHPS, 2008			
		Public	Private	All	n	Public	Private	All	n
Managers and Senior Officials	Male	44.7	52.3	50.8	112	43.9	46.6	46.2	228
	Female	41.4	50.1	48.5	58	39.7	43.0	42.2	115
	Total	**43.6**	**51.6**	**50.0**	**170**	**41.8**	**45.5**	**44.9**	**343**
Professional Occupations	Male	46.8	48.0	47.4	113	43.1	42.1	42.5	160
	Female	46.5	43.2	45.8	99	44.0	42.7	43.7	149
	Total	**46.7**	**46.7**	**46.7**	**212**	**43.7**	**42.2**	**43.1**	**309**
Associate Professional and Technical	Male	39.7	44.2	43.0	84	40.4	42.9	41.9	174
	Female	39.5	44.0	41.4	80	39.3	39.5	39.4	173
	Total	**39.6**	**44.1**	**42.2**	**164**	**39.8**	**41.4**	**40.7**	**347**
Total (all occupations)		**44.1**	**48.0**	**46.3**	**546**	**41.8**	**43.5**	**42.8**	**999**

Table 1: *Average total hours for full-time employees, BHPS*

Major Occupation group		BHPS, 1996				BHPS, 2008			
		Stated preference for shorter hours (%)				Stated preference for shorter hours (%)			
		Public	Private	All	n	Public	Private	All	n
Managers and Senior Officials	Male	45.0	55.2	53.3	107	43.3	44.8	44.6	222
	Female	36.4	59.6	55.2	58	44.8	57.0	53.4	115
	Total	**41.9**	**56.7**	**53.9**	**165**	**44.1**	**48.6**	**47.6**	**337**
Professional Occupations	Male	36.0	50.9	43.9	107	36.8	36.8	37.2	155
	Female	61.3	54.5	59.8	97	60.2	62.5	60.0	148
	Total	**51.2**	**51.9**	**51.5**	**204**	**51.1**	**44.9**	**48.4**	**303**
Associate Professional and Technical	Male	37.8	33.3	37.3	83	25.4	35.9	32.2	170
	Female	48.9	45.5	47.4	78	46.0	41.0	43.3	170
	Total	**48.5**	**37.6**	**42.2**	**161**	**37.0**	**38.2**	**37.7**	**340**
Total (all occupations)		**49.1**	**49.7**	**49.4**	**530**	**44.4**	**44.5**	**44.4**	**980**

Table 2: *Preferences for shorter hours, BHPS*

Parameter Estimates	B	S. E.	Wald	p-value
Constant	-1.158	0.620	3.484	0.062
Working hours	0.072	0.011	42.995	0.000
Overtime hours	0.058	0.013	20.601	0.000
Commuting hours	0.000	0.018	0.001	0.979
Satisfaction with job	-0.419	0.064	43.462	0.000
Major occupation group: reference is male managers and senior officials				
Female managers and senior officials	1.029	0.272	14.292	0.000
Male Professionals	0.004	0.246	0.000	0.988
Female Professionals	0.991	0.267	13.798	0.000
Male associate professional and technical	-0.063	0.251	0.062	0.803
Female associate professional and technical	0.907	0.265	11.686	0.001
Private sector	0.033	0.158	0.043	0.837
Income (£)	0.000	0.000	2.883	0.090
Caring hours	-0.022	0.016	2.000	0.157
Housework hours	0.009	0.012	0.480	0.488
Age: reference is 55+				
16-24	-2.382	0.632	14.228	0.000
25-34	-0.739	0.274	7.302	0.007
35-44	-0.773	0.277	7.793	0.005
45-54	-0.413	0.272	2.313	0.128
Number of dependent children	0.276	0.162	2.888	0.089

Table 3: *Preferences for reductions in hours, BHPS 2008*

Work-Centred Preferences

W

a

U_3

U_2

U_1

a' H

Adaptive Preferences

W

a

w

U_3

U_2

U_1

h a' H

Home-Centred Preferences

W

U_1 U_2 U_3

a

a' H
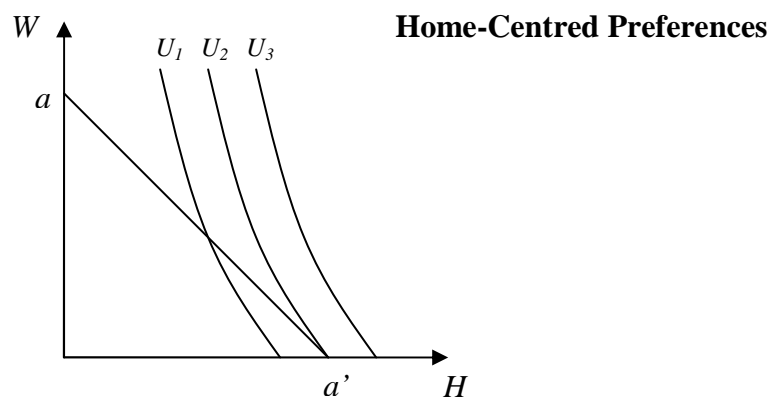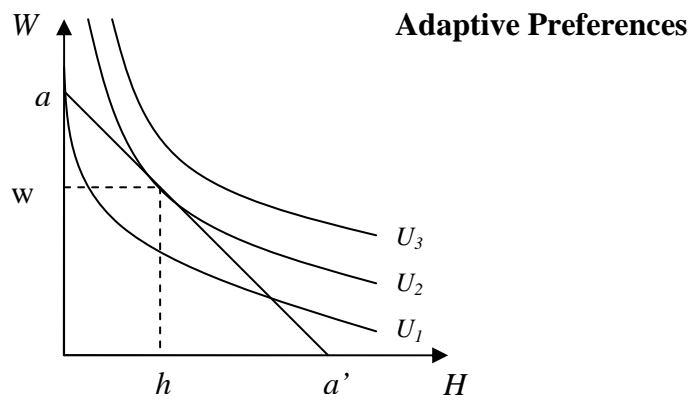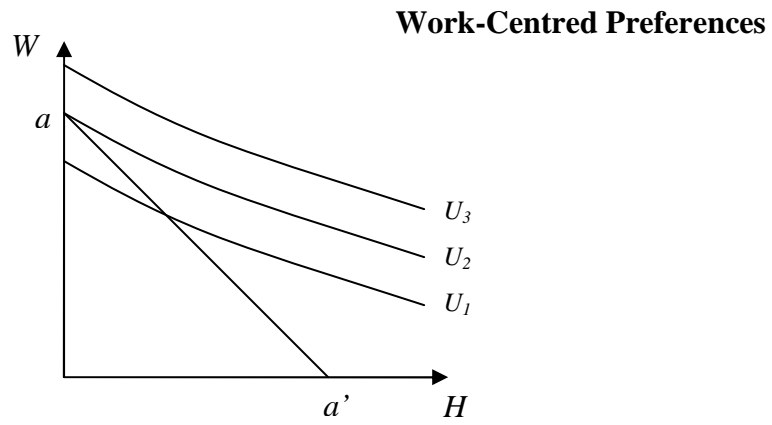
Figure 1: *An Economic Interpretation of Hakim's Preference Theory*

30
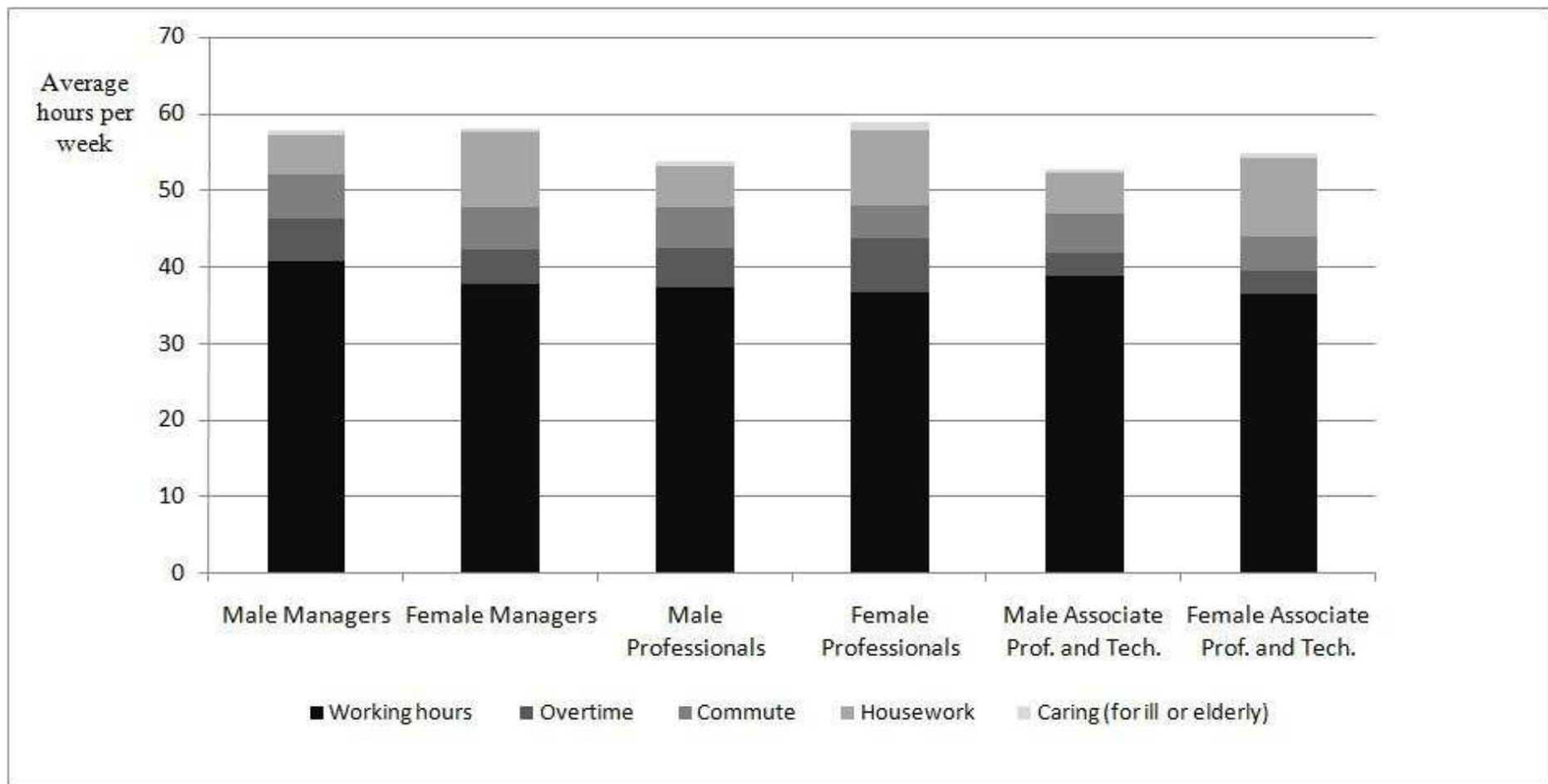
Figure 2: *Time-use among full-time managers and professionals, BHPS 2008*

Endnotes

[1] In this paper we will use the term work-time to describe time spent doing a paid job, including paid and unpaid overtime. Household production time includes housework and caring. We will treat commuting as a work-related activity, but we separate it from work-time in our data.

[2] These data are Crown Copyright and are reproduced with the permission of the Controller of HMSO.

[3] Interestingly, work is counterpoised with "life", rather than "family". Lewis and Campbell (2008) suggest this may be because of a desire to present such conflicts in gender-neutral terms.

[4] Our paper, too, will focus on how well the outcomes predicted accord with the empirical evidence, though we do acknowledge there is validity in evaluating the realism of assumptions.

[5] This is not to be confused with the definition of basic commodities in Sraffa (1960).

[6] Utility in Becker's model is derived from the household's consumption of basic commodities (denoted Z_i for the ith commodity) which are themselves produced using market goods and household labour. The household utility function is therefore:

$$U = U(Z_i,...Z_m) \equiv U(x_1,...x_m;T_1,...T_m) \qquad (1.1)$$

Becker assumes the household's objective is to maximise utility, subject to two constraints. If p_i is a vector of prices, x_i a vector of goods, and I is money income, we can derive a budget constraint:

$$\sum_1^m p_i x_i = I = V + T_w \overline{w} \qquad (1.2)$$

Money income comprises non-wage income (V) and wage income which is the number of hours in employment (T_w) multiplied by the hourly wage rate ($\overline{w}$). The

time input used in the production of the ith commodity is T_i and total time, T, is divided between work and consumption time (T_w and T_c respectively). Formally:

$$\sum_1^m T_i = T_c = T - T_w \tag{1.3}$$

By rearranging (1.3) and substituting into (1.2) we may derive the combined time and budget constraint:

$$\sum_1^m p_i x_i - \sum_1^m T_i \overline{w} = V + T_w \overline{w} \tag{1.4}$$

[7] Hakim's preference theory is principally concerned with women's preferences. She has acknowledged that men, too, display heterogeneous preferences, though to a lesser extent than women (2000, 254-272).

[8] We can therefore derive two production functions. Capitalist production involves transforming labour employed in the capitalist sector (l_c) and the commodities used in the production of commodities (x_c) to produce the output of the capitalist sector (x), i.e. $x = f(x_c, l_c)$. Likewise, for the household sector, production combines household labour (l_h) and market goods (x_h) to produce social labour (l), i.e. $l = f(x_h, l_h)$.

x is the output of commodities from the capitalist sector, there

[9] Laibman has little to say about preferences, though he does discuss utility maximisation in consumption (1992, 62-63). Elsewhere, work in the Marxian political economy tradition has more explicitly engaged with issues of work time and preferences (Philp 2001; Philp et al 2005).

[10] F-tests confirm the statistical significance of the differences in average total working hours for the occupational groupings identified in Table 1, both for the 1996 (p-value 0.000) and 2008 (p-value 0.000) BHPS.

[11] F-tests cast some doubt over the statistical robustness of the variations found in caring hours between different occupation groups (p-value 0.610) in Figure 2. The differences in reported mean overtime hours (p-value 0.000), commuting hours (p-value 0.008), and housework hours (p-value 0.099) are statistically significant.

[12] This question is derived from a set of possible responses, 'work shorter hours than you do now', work more hours than you do now', and 'carry on working the same number of hours'.

[13] χ^2 tests were conducted on the data presented in Table 2 to confirm that the preferences for shorter hours observed between occupation groups in the UK BHPS sample are representative of the wider population, and as such are statistically significant. The results confirm preferences for shorter hours in 1996 as statistically significant for male private sector workers (p-value 0.028), but cast some doubt over results for male public sector workers (p-value 0.579) and female private (p-value 0.458) and public sector workers (p-value 0.179). χ^2 tests confirm preferences for shorter hours in 2008 as statistically significant for female private (p-value 0.036) and public sector workers (p-value 0.094), but cast some doubt over results for male private (p-value 0.239) and public sector workers (p-value 0.164).

[14] The logistic regression model, summarised in Table 3, is confirmed as statistically significant (p-value 0.000). R^2 equivalents of 16.0 (Cox and Snell R^2) and 21.5 (Nagelkerke R^2), and a Hosmer and Lemeshow test ($x^2 = 5.940$, p-value 0.654) reflect a reasonable explanatory power and model fit.

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