

## EXECUTIVE SUMMARY

### Introduction.

The 1990s was a decade of work intensification in many industrialised countries – most notably in Australia, Belgium, Britain, France, Ireland, Italy, Luxemburg, The Netherlands, Spain and Sweden. Workers in other countries, including the United States and New Zealand, are also likely to have experienced rising work effort in the 1990s, though the evidence is somewhat weaker. This widespread intensification has laid a significant foundation for increased stress in the workplace. The same decade also saw, however, a countervailing tendency towards a reduction in average hours of work in most countries.

This paper aims, first, to provide an update on work intensification and on the trend in working hours up to the middle of the 2000s. Second, I deliver detailed analyses using British data of how levels of required work effort and long hours are distributed across industries and occupations, and asks whether high work loads are being concentrated in specific sectors of the economy. These analyses are then put into perspective through my third objective, the provision of new estimates of the association between work effort, hours of work, and employee well-being. The distinctive feature of the analysis here is that it derives from an exceptionally rich nationally-representative data set, which provides benchmarks for the distribution of required effort and subjective well-being in the 2000s decade.

Europe-wide evidence so far points to a continued process of work intensification in the 2000s. Thus, according to evidence from The Fourth European Working Conditions Survey, the proportion of employees in all the EU15 countries who were “working at very high speed” more than half the time rose from 43.3% in 1995, to 44.4% in 2000, then 48.5% in 2005; similarly, the proportion who were “working to tight deadlines” rose from 45.9% in 1995 to 48.3% in 2000, then 50.0% in 2005.<sup>1</sup>

However, the picture varies across countries. While the 1990s trend towards intensification in Belgium and Spain continued during 2000-2005, several countries which had not, during the 1990s, shown evidence of work intensification now did so, including Denmark, Germany, Greece and Portugal. Only one European country – The Netherlands – is recorded to have experienced a retreat in work effort over 2000-2005. Effort was stabilised, however, in several other countries, including Austria, France, Ireland, Italy, Luxemburg, Sweden and the UK. Work effort in Britain had in fact reached a plateau by the late 1990s – there being little evidence of work intensification in the latter few years of the decade according to three separate sources. In addition, recent evidence from the Workplace Employee Relations Surveys implies neither work intensification nor a decline in effort over the period 1998 to 2004 within establishments having at least 10 workers. Thus, although there remains considerable concern that effort levels were noticeably higher in 2005 than at the beginning of the 1990s, there is at least some relief, from the point of view of employees in Britain, in the finding that matters were not getting still worse.

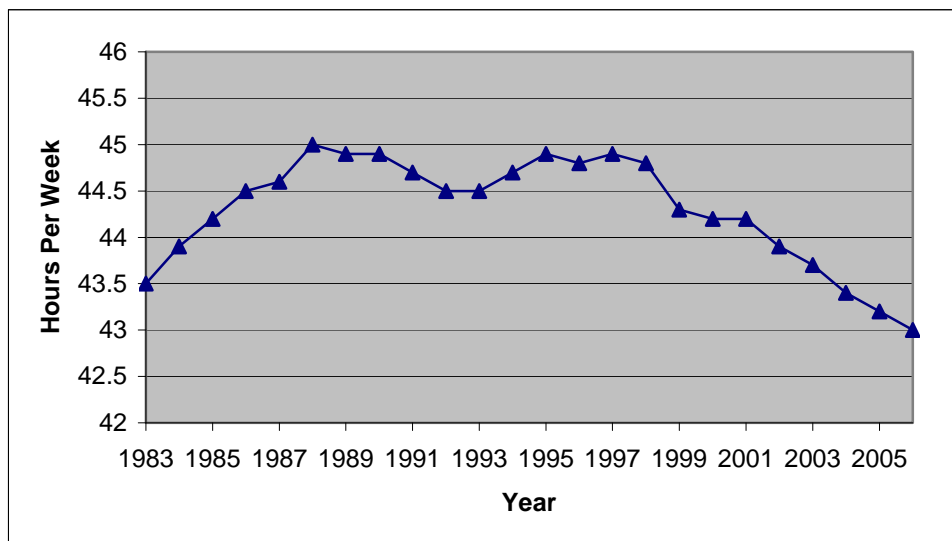
On top of this partially optimistic finding for Britain comes another welcome development, namely the continued (if slow) decline in weekly work hours (see Figure). As can be seen, the average hours of full-time workers peaked in 1988, then again in 1997, at 45 hours per week, and thereafter steadily declined to 43 hours in

---

<sup>1</sup> These data are in a forthcoming report on working intensity and working time for the European Foundation for Living and Working Conditions.

2006. A similar decline is found in the proportions working long hours; among males, the proportion working more than 45 hours a week peaked at 39.6% in December of 1996, then fell steadily by more than 10 percentage points to 29.3% in March of 2007. This fall in working time may be seen as the resumption of a historical tendency, borne of increasing affluence, that began at the height of the excesses of the industrial revolution in the mid-19<sup>th</sup> century and has continued ever since, though with several periods of stagnation.

**Figure Average Hours Worked Per Week of Full-Time Employment.  
UK 1983-2006.**



Source: European Commission, Eurostat Website (<http://epp.eurostat.ec.europa.eu/portal>).  
Data derived from Labour Force Survey.

Explanations for work intensification in modern economies during the 1990s have centred on the role of technology. In previous work I have proposed the concept of “effort-biased technical change” to describe how prevailing technologies have enabled work to be redesigned in ways that facilitate hard work. In formal analyses work intensification is found to be correlated with organisational and technical innovations, while case studies abound which describe how the process occurs. New technologies can also be designed to heighten surveillance techniques on workers in what has been referred to as a modern “panoptikon”. Since the new computerised technologies are found across most sectors and occupations, it is not surprising that work intensification is a pervasive phenomenon.

Many of these factors apply across all sectors, though there is in principle scope for quite some differentiation. Yet analyses to date have shed no light on whether the intensification of work has been stronger in some sectors of the British economy, or indeed whether there were some sectors that escaped the trend. One aim of this article is to examine the differences across industries and occupations.

Work intensification and trends in work hours matter, because long hours and high work effort are generally thought to be detrimental to the health and well-being of workers. The putative effect of long hours on health has normally had the most

purchase on policy. Indeed, the politics that enabled the passing of the European Union Directive on Working Time was that excessive work hours was a health and safety issue, and hence was a requirement that could be voted through without unanimity among countries. Direct legal restraints on work intensification are more difficult to devise.

However, the associations between effort and well-being, and between working time and well-being, are not thought to be linear. Employees require some stimulation from external goals, and hence at low levels their well-being can be raised by extra effort and hours. Beyond a certain point the link between effort and well-being becomes first flat then negative. In practice, numerous studies find that high job demands are associated with lower job satisfaction, and lower levels of well-being, while many others find that there is a very low correlation between job satisfaction and effort. The mixed nature of findings is attributed to different studies operating at different points of the curve: some at the point where extra work effort has a neutral impact on well-being, others at the point where overload has a negative effect. Studies are scarce that span the whole range of jobs and therefore capture the putative overall non-linear link between effort and well-being.

An additional factor is that the impact of effort on well-being is found, in line with the “Demand-Control” model, to be moderated by the extent to which workers have autonomy. The impact of high effort on stress and related health disorders is greatest when workers have little control over their work, and are not involved in the organisation.

If a negative association between work effort and well-being prevails, a period of work intensification would lead, other things equal, to a decline in worker well-being. In earlier work I have shown that just such a decline is found, if one looks at the period 1992 to 2001. During this time there was a rise in Britain in a measure of work strain; at the same time, there was a fall in recorded overall job satisfaction, attributable in part to rising work effort and in part to declining task discretion. However, neither overall job satisfaction, nor work strain, can be regarded as comprehensive measures of worker well-being. A more complete picture of subjective well-being at work is provided by the two axes: Enthusiasm-Depression and Contentment-Anxiety developed by Warr. High job demands are typically found to be strongly negatively correlated with the Contentment-Anxiety scale, but the correlation with the Enthusiasm-Depression scale is small, of varying sign, and frequently insignificant. The reason for the latter finding may be that while high effort goes along with “feeling bad” it can also be associated with feelings of arousal. Evidence on the level and change of these measures of well-being is only available on a consistent, representative basis for the 2000s decade, during which time one might expect to find little change, if it is confirmed that effort has continued on a relatively high plateau, and if other determining variables have also remained stable.

The preceding discussion has thus raised three main questions in need of further investigation. First, can it be confirmed that effort reached a plateau in Britain in the first half of the 2000s decade; and, even if this is the overall verdict, are there specific sectors or occupations in which work intensification has continued or retreated during this period? Second, what has been happening to the various dimensions of worker well-being in Britain during the period, both overall and within the different sectors? Third, in the context of the full range of jobs across all of Britain, is there an overall negative relation of work effort with well-being, and is that relationship non-linear? In

particular, do any detrimental effects of work effort on well-being become greater at higher effort levels? And, is any negative effect on subjective well-being stronger according to the Contentment-Anxiety axis than it is according to the Enthusiasm-Depression axis?

These questions are addressed using data drawn from four nationally-representative British surveys: the Employment in Britain Survey of 1992, and the Skills Surveys of 1997, 2001 and 2006.

## **Findings.**

A summary of my findings is as follows:

### *a) Effort Trends and Variation.*

The analysis re-confirms that there was a substantial work intensification between 1992 and 2001, approximately to the same extent for males and females. Moreover, the table indicates that there was no significant change in the proportions experiencing high work effort in the 2001-6 period. It is thus confirmed, and consistent with previous findings on other data sets though covering a somewhat earlier period, that work effort reached a plateau in the first part of the 2000s decade.

The decline in long hours working during the 2001-6 period was entirely felt by males, who are in any case far more likely to be working long hours than females. For males, the fall in long-hours working was from 30% to 22%, a substantial drop in just five years.

The intensification of effort during the 1990s took place within each industry and occupation, with the single exception of Skilled Trades, wherein work effort increased only minimally in the 1990s but substantially in the 2001-6 period. Intensification was strongest by far in the Education sector, where the share of high-effort jobs soared from just 7.3% to 29%, that is, from the lowest-ranked to the highest-ranked industry. A more-refined analysis is possible within this sector, which shows that the greatest intensification was experienced by school teachers during the 1990s, and that effort for this group has remained exceptionally high. The proportion of teachers in high-effort jobs rose from 10.0% in 1992 to 42.3% in 2001 and to 44.2% in 2006. The Hotels and Restaurants industry experienced the second largest intensification. Among occupations, the largest rises in work effort took place among Managers, Professionals and Associate Professionals.

Cuts in long-hours working during the 2001-6 period are found for most groups, especially among those most prone to working long hours in the first place, such as Managers and Professionals. But, the cuts in long hours working were not universal: they did not occur either in Manufacturing or in Hotels & Catering.

### *b) Well-Being Trends.*

Average well-being, measured along both the Contentment-Anxiety axis and the Enthusiasm-Depression axis, remained stable between 2001 and 2006. There were also no significant changes within individual sectors or occupations, with one

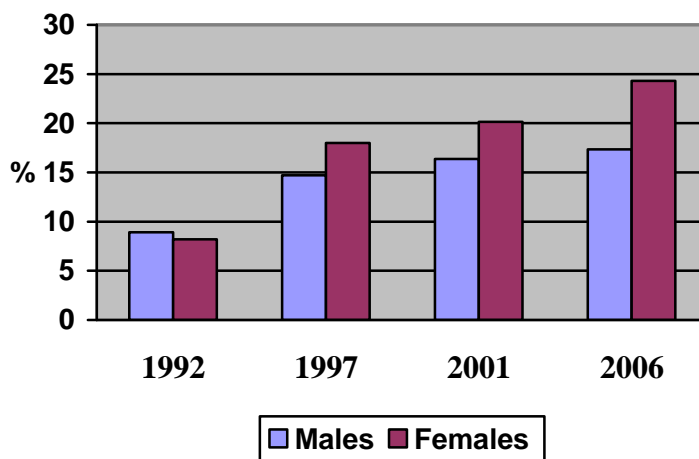
exception being the Transport industry, where the proportions with low well-being fell from 20% to 11%.

c) *The Association Between Effort and Well-Being.*

The association between effort and both measures of well-being is negative throughout the range of jobs. In the case of Enthusiasm-Depression, the magnitude of marginal increases in effort on well-being increases as effort becomes higher. The effect of effort on both dimensions of well-being is alleviated in jobs where there is high task discretion. Taking effort and task discretion together, the estimates suggest that the design of a job as a high-strain job, compared with a low-strain job, would make a big difference to the well-being of the job-holder, relative to the existing distribution of well-being. This effect is substantively larger than would be predicted by a large cut in work hours, for example from 40 to 30 hours a week.

This estimate puts into perspective the finding that the proportion of workers in “high-strain” jobs continues to rise, especially for women, and calls for a greater national emphasis on improved job design.

**Figure Proportion of High-Strain Jobs , by Sex**



Note: A high-strain job is defined as having high required effort and low task discretion. See text of full paper.