

# Working time in the United Kingdom: evidence from the Labour Force Survey

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*This article examines the evolution of working time from a macroeconomic perspective using data from the Labour Force Survey. Its main findings can be summarised as follows:*

- *Once one abstracts from the effects of overtime, average hours worked are still falling. This can largely be accounted for by the rise in the proportion of part-time workers (though recent changes in full-timers' and part-timers' hours remain puzzling).*
- *Above and beyond the full-time/part-time split, changes in employment composition by industry, gender, occupation, employment status and age explain little of this downward trend.*
- *Overtime has shifted from being paid towards being unpaid. Changes in the occupational mix can account for some of this shift.*
- *Paid overtime is the only component of hours that exhibits strong cyclicalities. All other components lag GDP and in some cases lag employment too. This is consistent with aggregate changes in hours being the result of compositional effects (for example, changes in the shares of long-hours and short-hours workers), rather than those in the same job changing their hours.*

## Introduction

There are two principal reasons why the behaviour of working time is of macroeconomic interest. First, hours worked per person are one of the margins along which labour usage can expand and contract, and therefore form part of the economy's productive inputs. Knowledge of the longer-run trend in average hours is useful in judging the supply potential of the economy. Similarly, actual output may be less than potential because average hours worked are below their trend level. Establishing how often this occurs, how long it persists and how it interacts with other variables may help to understand the business cycle. Second, economic theory suggests that average hours worked may be one of the first observable variables to react to shocks—if there are costs to reducing employment, a firm's initial response to adverse operating conditions may often be to decrease the hours worked by existing staff. Movements in average hours could then contain information about the future evolution of employment and, by extension, of other macroeconomic variables.

With these two applications in mind, this article examines hours worked in the United Kingdom along a number of dimensions. After looking briefly at the

available data and what insights they can offer, the next section examines the time-series behaviour of average hours at an aggregate level. Particular attention is paid to cyclical patterns but with some regard also to structural trends. The article then looks at more disaggregated data (by gender, industry, occupation, etc). Though macroeconomists may have no inherent interest in the working practices of individual occupations, movements in a small number of categories may be driving aggregate trends. Alternatively, hours worked by the same individuals in the same jobs may not vary much, with aggregate movements being largely determined by changes in composition.

Consistent data on working time are available from the Labour Force Survey (LFS) since 1984 on an annual basis and since 1992 on a rolling-quarter basis. Though some authors have attempted to construct longer-run time series for average hours (most notably O'Mahony (1999) and O'Mahony and de Boer (2002)), and there are other sources of hours data at a lower frequency, the LFS remains the most comprehensive and most timely source of data on working time. In the survey, respondents are asked a series of questions on their working patterns, including their basic hours,

whether they work overtime and, if so, whether it is paid, and on hours worked in second jobs. The survey also distinguishes between hours actually worked in the previous week and hours 'usually' worked. This enables us to decompose the headline average hours figures published each month by the ONS (the average hours actually worked by respondents in the previous week in both main and second jobs) into their components (shown in Table A). By combining these responses with information on gender, age, occupation, etc, it is possible to account, at a quite detailed level, for movements in the aggregate variables. Though only a limited selection of data is published regularly by the ONS, all these characteristics can be extracted from the underlying micro data to give time-series and cross-sectional information from 1984 on an annual basis and from 1992 on a seasonal quarter basis (spring, summer, autumn and winter).<sup>(1)</sup>

**Table A**  
**Components of working time available from the LFS**

	Average hours worked per week in Winter 2001–02 (a)	
	Actual	Usual
Basic hours, main job only	30.0	34.9
+ Paid overtime hours, main job only	1.1	1.4
+ Unpaid overtime hours, main job only	1.1	1.4
<b>= All hours worked, main job only</b>	<b>32.2</b>	<b>37.7</b>
+ Hours worked in second job	0.4	n.a.
<b>= All hours worked, main and second job</b>	<b>32.5</b>	<b>n.a.</b>

n.a. = not available.

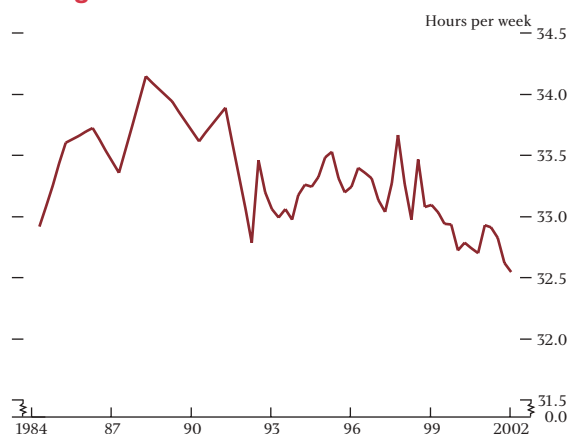
(a) Seasonally adjusted by the author.

## Working patterns over time

### All hours worked in main and second jobs

Chart 1 plots the headline average hours series from Spring 1984 to Winter 2001–02. Though we may think of the normal working week as being 40 hours long, sickness, holidays and part-time work mean that it is on average considerably shorter. Those in employment worked just over 32.5 hours per week on average in Winter 2001–02, down from a recent peak of 33.7 hours per week four years earlier. There is some evidence that hours worked are procyclical: the average rose during the mid-1980s as the economy expanded, reaching a peak in 1988, before falling back sharply in the early 1990s. The recovery of the mid-1990s was accompanied by a much less marked recovery in hours worked, however, which may indicate a dampening of their cyclical response.

**Chart 1**  
**Average actual hours worked<sup>(a)</sup>**

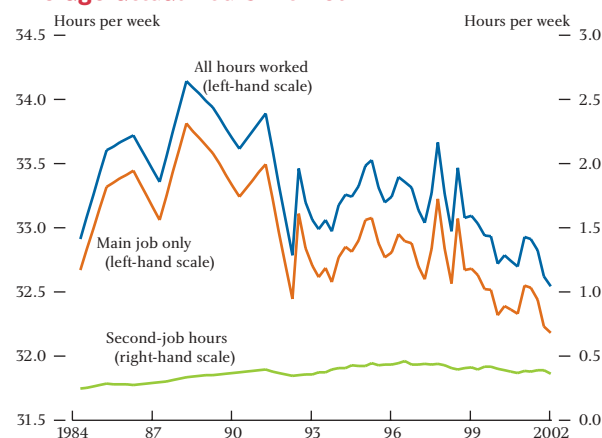


(a) Main and second job.

### Main and second job hours

Chart 2 plots the headline hours measure alongside average hours worked in the main job only, and average second-job hours. The profile of main job hours is virtually identical to that of the headline variable: peaks and troughs occur at the same points, and the series are equally volatile. Second-job hours form just over 1% of all hours worked and show much less variation in absolute terms. It is unlikely therefore that they are a significant factor in aggregate movements. Indeed, most of the movement in average hours worked in second jobs has been a result of movements in the share of second jobs in total employment, rather than movements in the hours worked in those jobs, though they usually move in tandem.

**Chart 2**  
**Average actual hours worked**



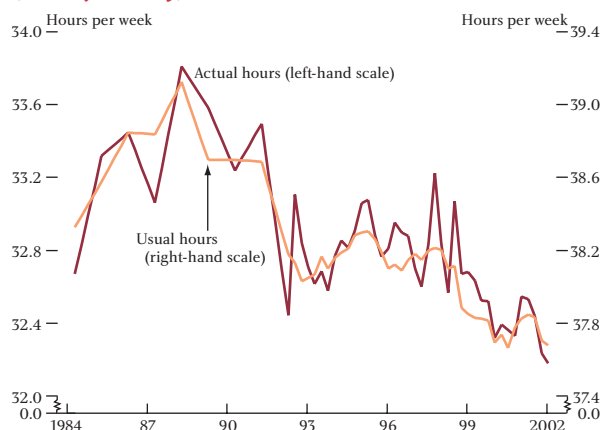
### Actual versus usual hours

For the main job, the LFS also distinguishes between hours actually worked in the previous week and hours

(1) Data from the quarterly CDs have been seasonally adjusted using the US Census Bureau's X12 seasonal adjustment program in *EViews*. For this reason they may not match precisely the aggregate series published by the ONS.

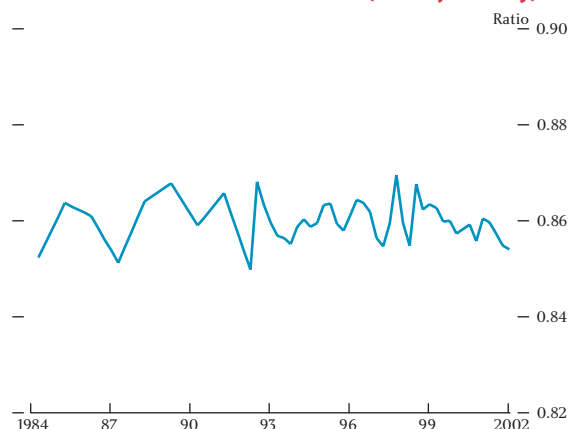
'usually' worked. The questionnaire does not give a definition of 'usual' hours, so it is not immediately clear how respondents interpret the term. One would expect average usual hours to exceed average actual hours, if only because the latter would include absences from work (holidays, sickness, etc). Chart 3 shows that actual and usual hours track each other quite closely once allowance is made for this difference in levels.

**Chart 3**  
Average actual and usual hours worked (main job only)



In fact, the ratio of actual to usual hours has varied within a remarkably small range around 0.86 (see Chart 4) and it has little discernible pattern, be it secular or cyclical. Conceivably this could be due to recall or proxy-response bias: respondents may be more certain of the hours they work in a normal week than the hours they actually worked last week. It may well be the case that actual hours worked provide little or no useful information about the current state of working time above and beyond that contained in usual hours.

**Chart 4**  
Ratio of actual to usual hours (main job only)

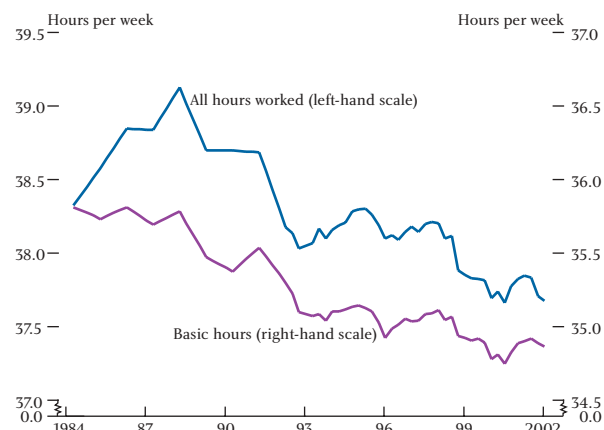


At the very least, movements in usual hours worked should help to interpret movements in actual hours since usual hours seem much smoother.

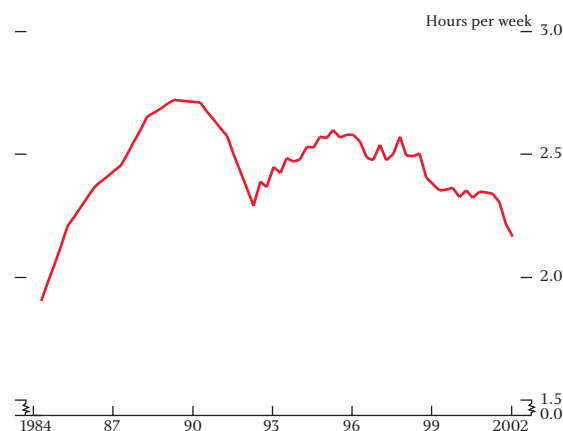
**Basic versus overtime hours**

It is clear, though, that there is some cyclical pattern in both usual and actual hours. The LFS allows us to go a step further in identifying the source of this cyclicity, by distinguishing between basic hours and overtime hours (both usual and actual). Chart 5 plots all usual hours in the main job and basic usual hours.<sup>(1)</sup> The gap between the two—usual overtime hours—is shown in Chart 6. There is less—if any—cyclical variation in basic hours, while overtime hours exhibit significant variation (this will be tested more formally later). Moreover, focusing on basic hours highlights the downward trend in the average working week. In contrast, there is no obvious trend in overtime.

**Chart 5**  
Basic and all usual hours worked



**Chart 6**  
Usual overtime hours worked

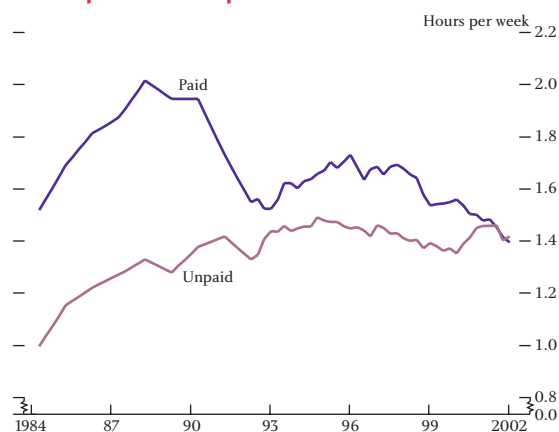


Overtime can in turn be decomposed into paid and unpaid hours (see Chart 7), and though there may be

(1) Since the difference between actual hours variables and their usual hours counterparts seems to reflect little more than spurious volatility, the remainder of this article focuses on usual hours concepts.

little evidence of an aggregate trend, this masks offsetting movements: average unpaid overtime is increasing over time, while average paid overtime may, if anything, be declining. Indeed, in Autumn 2001, average unpaid hours exceeded average paid hours for the first time.<sup>(1)</sup> Paid and unpaid overtime also differ in their cyclical pattern. Paid overtime is strongly procyclical, while unpaid overtime is only weakly so, if at all.

**Chart 7**  
Usual paid and unpaid overtime hours



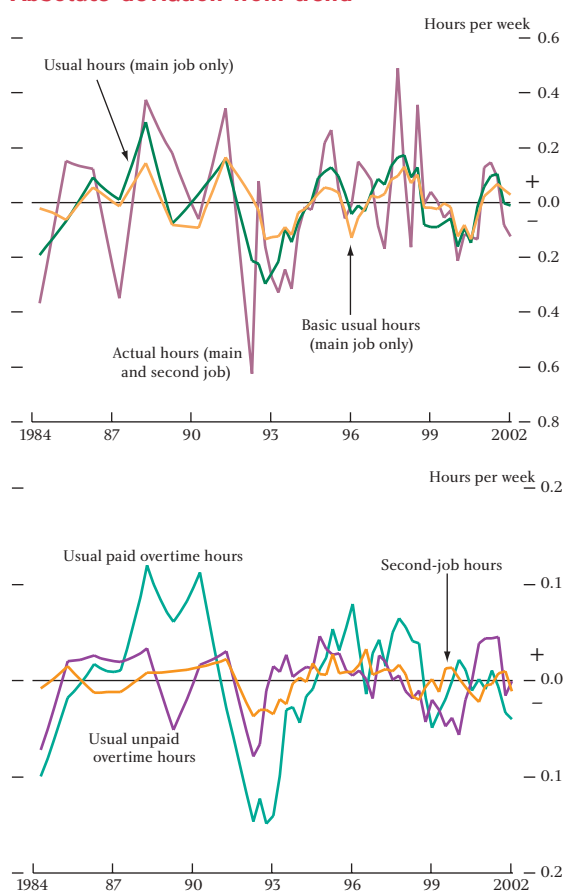
### Average hours and the business cycle<sup>(2)</sup>

The previous section has focused solely on descriptive analysis of the data. This is sufficient to form a general picture, but distinguishing cyclical movements in hours from trend movements may provide additional insights. The conventional way to do this is to pass the data through a statistical filter. The filtered series captures longer-run patterns; deviations around this represent cyclical movements. This section reports the results of such a process performed on the series described previously. To maximise the sample period, seasonally adjusted quarterly data from 1992 to 2002 have been spliced on to interpolated, non-seasonally adjusted, annual data from 1984 to 1991.<sup>(3)</sup>

Chart 8 contains the cyclical analogues to the unfiltered series shown previously. The principal differences between the deviations from trend of actual hours and usual hours lie in their amplitude and their persistence

(particularly over the period for which quarterly data are available). Consistent with Chart 3, short-run movements in actual hours tend to be large, but often change sign from one quarter to the next. Usual hours behave in a more regular fashion, with recognisable peaks and troughs. Peaks and troughs are also discernible in the deviations from trend of (usual) paid overtime hours. Their amplitude is greater than that of either unpaid overtime hours or second-job hours, neither of which ever deviate more than 0.1 hours from their respective trends.

**Chart 8**  
Absolute deviation from trend<sup>(a)</sup>



(a) Trend based on a Hodrick-Prescott filter of data from Spring 1984 to Winter 2001-02 ( $\lambda = 1600$ ).

Table B makes the same point in a more formal fashion. Usual hours have a much lower percentage standard deviation than actual hours and a higher first-order autocorrelation coefficient. In other words, though

(1) The term 'unpaid overtime' may be slightly misleading. The employer and employee may well have an implicit contract that says that the employee will on average work a certain number of hours beyond his or her basic hours. Or those hours may be reflected in larger bonus payments.

(2) This section follows the approach of Blackburn and Ravn (1992).

(3) Using the quarterly data only (from 1992 onwards) would limit the time span to barely one business cycle and, since the filtering process used here (the Hodrick-Prescott filter) has a greater margin of error at the beginning and the end of the sample period, would leave us particularly uncertain about movements around the end of the early 1990s recession. It is possible that the use of interpolated data for the pre-1992 period may affect the filtering process, but the trends derived by filtering only the annual data are very similar. A smoothing parameter ( $\lambda$ ) of 1600 was used for the quarterly data, following standard practice.

usual hours are subject to smaller movements, these are more likely to persist. Overtime seems more persistent still: the first-order autocorrelation coefficient for paid overtime is 0.91. And though its absolute deviation from trend is quite small, its percentage deviation is much greater. Table B also shows the same statistics for several other macroeconomic variables. Average hours (whether usual or actual) are considerably less variable than output (though overtime is more variable) and are also less variable than heads employed. It is likely that more of the variation in total hours worked comes from changes in heads employed than from changes in average hours (this would especially be the case if total hours were calculated from a usual hours measure). The relative persistence of average hours varies with the choice of variable, but in all cases average hours are less persistent than both output and employment.

**Table B**  
Cyclical properties of detrended variables<sup>(a)</sup>

Hours variables	Standard deviation (per cent)	First-order autocorrelation
All actual hours	0.61	0.58
Actual hours (main job)	0.59	0.56
Usual hours (main job)	0.31	0.86
Basic usual hours	0.21	0.80
Usual paid overtime	3.63	0.91
Usual unpaid overtime	2.31	0.79
Average second-job hours	3.93	0.78

Memorandum items	Standard deviation (per cent)	First-order autocorrelation
GDP	1.26	0.92
Investment	4.45	0.78
Employment	1.18	0.97
Labour productivity	1.04	0.78
Real earnings per hour	0.99	0.63
TFP (b)	0.74	0.85
Total hours	1.56	0.90

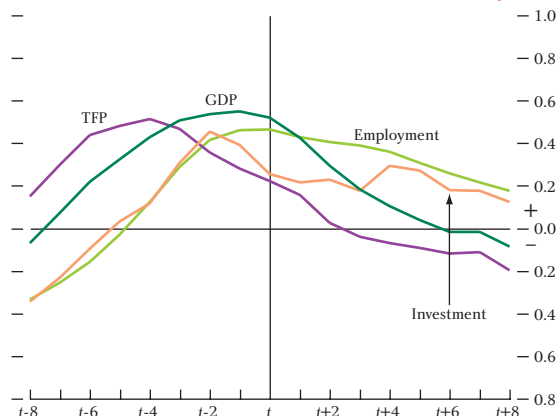
(a) Calculations based on filtered logarithms of data.  
(b) Total factor productivity—author's estimate.

**Co-movements with other variables**

However, demonstrating that certain components of hours can manifest significant and prolonged deviations from trend does not establish whether these components are pro or countercyclical. Charts 9 to 12 plot the co-movement of the average hours series and its main components with a selection of macroeconomic variables, where natural logarithms have been taken of all variables, and trends calculated using the filter described above. Each figure plots how the correlation of the relevant hours variable changes with different lags of the comparator variable. For example, the first point on the dark green line in Chart 9 (-0.07 at  $t-8$ ) is the correlation between the headline actual hours series and GDP eight quarters earlier, over the sample 1984 Q2 to 2001 Q4. The period of peak correlation will give us some indication whether

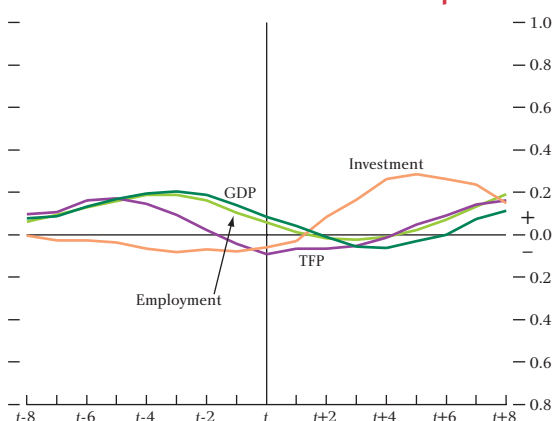
movements in average hours lead or lag movements in other variables: if the peak comes at  $t-2$ , say, it means that average hours lag that variable by two quarters.

**Chart 9**  
Correlation between average actual hours at  $t$  and macroeconomic variables at different periods



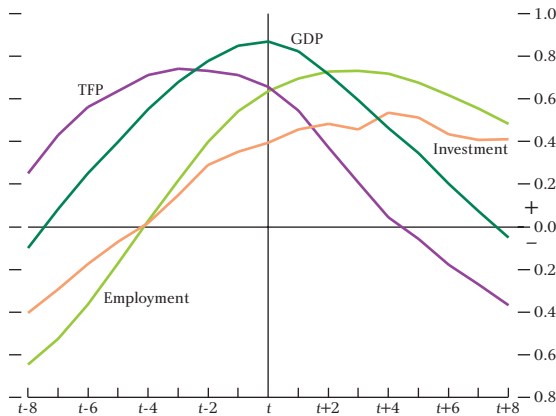
Though the peak correlations of average actual hours with other variables are easy to spot (see Chart 9), none of them are particularly strong (the highest is about 0.6), and not all of them conform to the notion that hours move early in the cycle. If movements in detrended output are taken as a measure of the cycle, then average hours seem to be broadly procyclical, being positively correlated with GDP. The peak correlation occurs at  $t-1$ , which suggests that rather than being a leading indicator of cyclical movements, detrended average hours lag detrended GDP by one quarter. If there are lower costs to adjusting working times than there are to adjusting employment or the capital stock, average hours would be a leading indicator of firms' hiring and investment decisions. In fact, average hours lead neither investment nor heads employed.

**Chart 10**  
Correlation between basic usual hours at  $t$  and macroeconomic variables at different periods

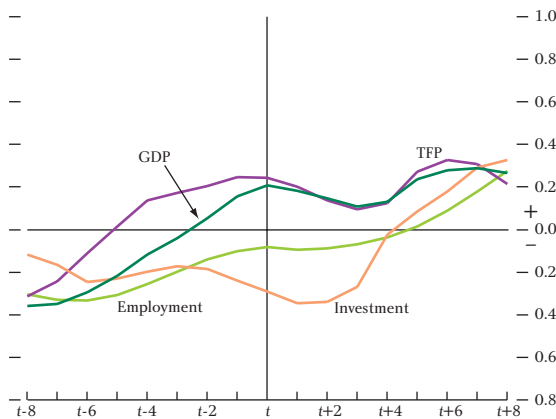


Looking at the subcomponents, basic usual hours (see Chart 10) are much less correlated with other variables. The same is true for unpaid overtime (and indeed for second-job hours). Paid overtime (see Chart 11) is the only component of average hours that moves with output in the cycle. The peak correlation with GDP of almost 0.9 is contemporaneous (see also the

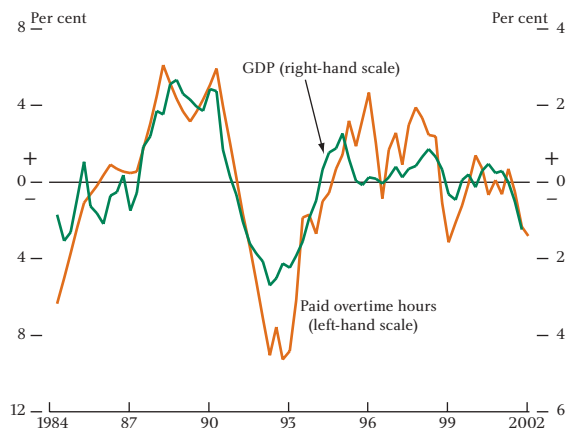
**Chart 11**  
Correlation between usual paid overtime at  $t$  and macroeconomic variables at different periods



**Chart 12**  
Correlation between usual unpaid overtime at  $t$  and macroeconomic variables at different periods



**Chart 13**  
Deviation from filtered series



coincidence of peaks and troughs in Chart 13) and its correlation with detrended employment three quarters later is also quite high at 0.75. This is consistent with firms initially responding to productivity shocks by adjusting paid overtime hours and only later (perhaps because of adjustment costs) heads employed, with implications for average basic hours.

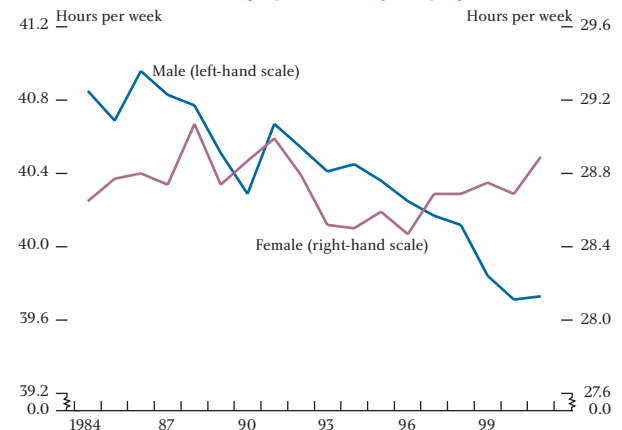
**Cross-sectional analysis**

The Labour Force Survey contains detailed information on various characteristics of its respondents, some of which may be relevant in the determination of working times. This section breaks down the data along those dimensions that may have a significant bearing on aggregate movements: gender, age, employment status, occupation, industry, and full-time and part-time employment.<sup>(1)</sup>

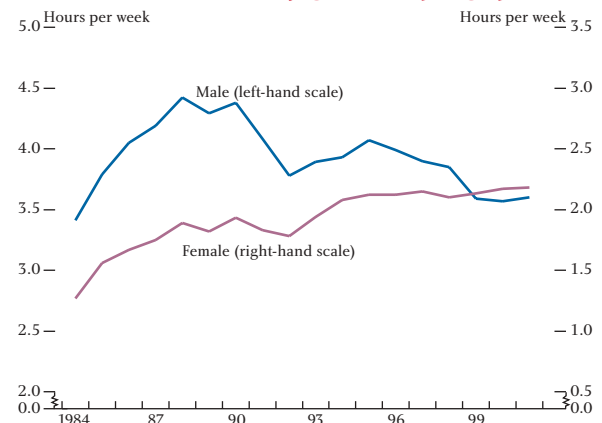
**Average hours by gender**

Chart 14 plots basic usual hours worked by gender. Apart from the fact that men work longer basic hours in paid employment than women, what is most striking is

**Chart 14**  
Basic usual hours by gender (spring quarters)



**Chart 15**  
Usual overtime hours by gender (spring quarters)



(1) There is very little regional variation in working times.

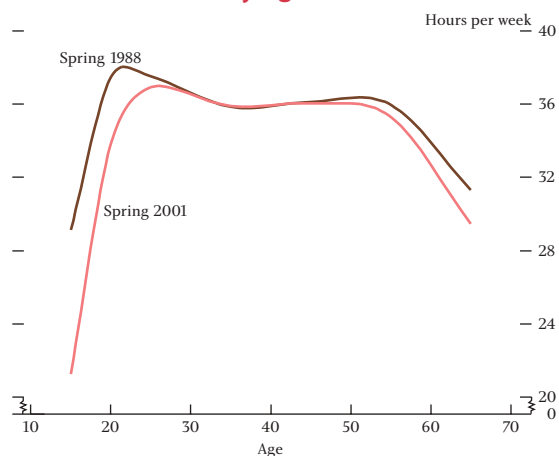


the difference in the trends of the two series. Female basic hours are roughly stationary (though they have risen over the past five years), while basic hours worked by men seem in trend decline. Chart 15 shows how usual overtime (aggregating paid and unpaid hours) has evolved for men and women. Again, abstracting from the difference in levels, the trends diverge. Female overtime hours also seem to exhibit less cyclical variation.

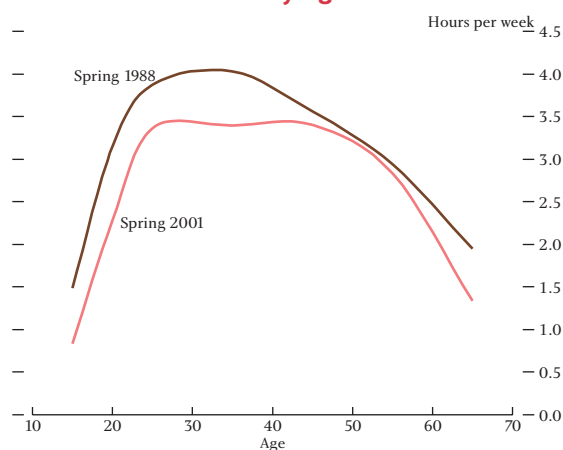
### Average hours by age

Charts 16 and 17, respectively, plot basic and overtime hours by age. Though the broad pattern of hours worked by age has not changed much compared to the 1988 peak, the distribution tails off more rapidly at both ends. While the increasing numbers in higher

**Chart 16**  
Basic usual hours by age



**Chart 17**  
Usual overtime hours by age



education are a likely explanation for the change at the bottom of the age distribution, it is not clear what is driving the change at the top of the distribution.<sup>(1)</sup>

### Average hours by employment status

Employment status is one of the more stark examples of a dimension along which the component categories exhibit differing trends. As shown in Chart 18, basic usual hours worked by employees have generally fallen over time (though they show signs of stabilising since 1997).<sup>(2)</sup> But the fall in employee hours is small in comparison with that in self-employed hours. In 1984 the self employed worked on average 46 basic hours per week (overtime is not a very meaningful concept for this category); by 2000 this had fallen to 41 hours per week. Though they are a relatively small fraction of total employment (around 12%), over 40% of the decline in average basic hours since 1984 can be accounted for by the decline in hours worked by the self employed.

**Chart 18**  
Basic usual hours worked by employment status (spring quarters only)



### Average hours by occupation<sup>(3)</sup>

Basic hours by occupation have also shown diverging trends. The basic usual hours of both managers and professionals, and clerical, personal and sales occupations have declined steadily over the sample period, albeit from different starting-points. In contrast, craft, plant and machinery workers' hours have increased steadily, as Chart 19 shows. Overtime hours have

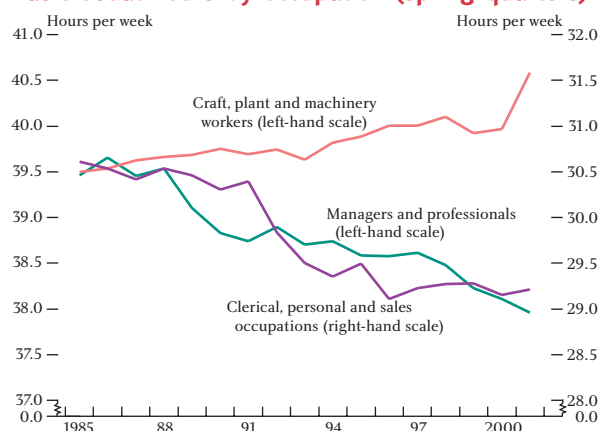
(1) McGrattan and Rogerson (1998) find evidence of a cohort effect for working time in the United States, namely that those who began their working lives in the 1960s and 1970s have worked longer hours at any given age than those who began their working lives in the 1980s and 1990s. Unfortunately we do not have the same time span of data to investigate whether this is also true for the United Kingdom.

(2) This stabilisation may reflect reclassification of jobs from self employed to employed on the back of the IR35 tax change and other regulatory interventions.

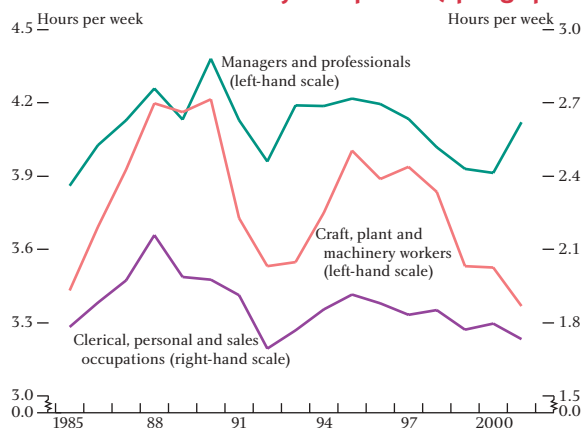
(3) Only a broad categorisation is possible because the classification scheme for occupations has changed twice since the start of the Labour Force Survey, most recently in 2000. All series, particularly for 2001, should be treated with caution.

followed a similar pattern for all three categories (see Chart 20). Though clerical, personal and sales occupations work less overtime in general, and the overtime of craft, plant and machinery workers shows more variation, all three show evidence of two cycles, with peaks in the late-1980s and mid-1990s. Nevertheless, the proportions of paid and unpaid overtime vary significantly across category. 80% of the overtime worked by managers and professionals is unpaid (and is perhaps less cyclical as a result), while the share is 25% for clerical, personal and sales occupations and 10% for craft, plant and machinery workers.

**Chart 19**  
Basic usual hours by occupation (spring quarters)



**Chart 20**  
Usual overtime hours by occupation (spring quarters)

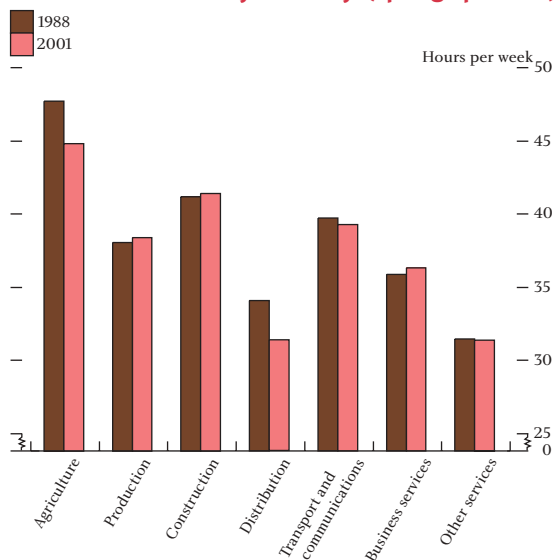


**Average hours by industry**

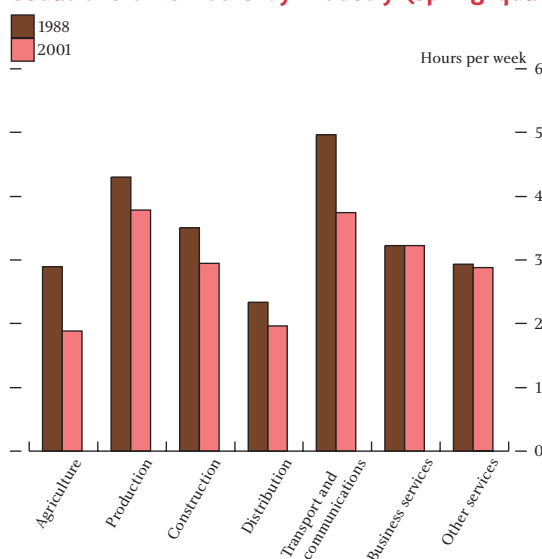
Though the period from 1988 to 2001 has seen a large fall in basic usual hours at an aggregate level, Chart 21 shows that the variation is greater between industries. The average working week in the ‘other services’ and ‘distribution’ sectors is around 30 hours long, while it is over 45 hours long in agriculture. The aggregate decline

in basic hours is concentrated in two sectors, distribution and agriculture;<sup>(1)</sup> hours worked in other sectors have changed very little. Overtime has declined since 1990 in all sectors except business services (see Chart 22).

**Chart 21**  
Basic usual hours by industry (spring quarters)



**Chart 22**  
Usual overtime hours by industry (spring quarters)



**Full-time and part-time hours**

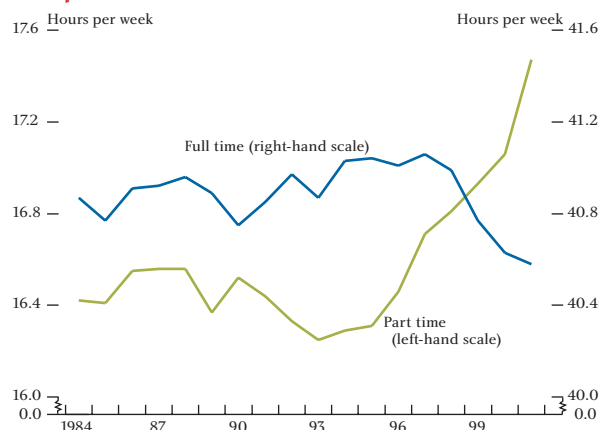
Chart 23 shows basic usual hours worked by full timers and part timers. Though they show a similar cyclical pattern initially, they diverge markedly from the mid-1990s onwards. Since 1995, the average hours of part-time workers have increased from 16.5 hours per week to 17.5 hours per week, a large rise when compared with previous patterns. In contrast, the average hours of

(1) The decline in average working time in agriculture must in part be a corollary of the decline in hours worked by the self employed (about 90% of those working in this sector are self employed).



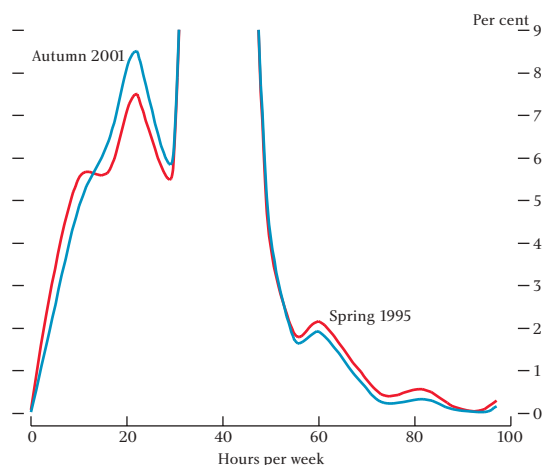
full timers have fallen quite sharply, though this fall only began in 1998.<sup>(1)</sup>

**Chart 23**  
Basic usual hours worked by full timers and part timers



Though these two trends are clear, that does not necessarily mean that they are distinct. If part-time workers' hours increase over time, these employees may at some point reclassify themselves as full time (thus lowering the full timers' average), while remaining in the same jobs. But evidence from the distribution of hours worked shown in Chart 24 suggests that this is unlikely to be the principal explanation. There is a peak in the distribution at 20 hours per week, which indicates that the full-time/part-time distinction is a meaningful one. Moreover, much of the increase in part-timers' hours is due to a decrease in the proportion working very low hours (less than 15 per week), and an increase in the proportion working around 20 hours per week. In

**Chart 24**  
Distribution of basic usual hours worked<sup>(a)</sup>



(a) Vertical axis of this chart is truncated so as to make the tails of the distribution more visible.

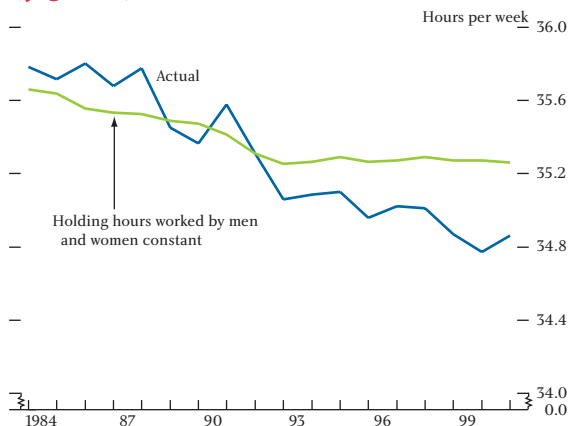
contrast, the decline in full timers hours is due to a general reduction in the proportion of the population working long hours (more than 50 hours per week).

**The effects of compositional change**

The previous section has shown that some individual categories (be they men, the self employed, the young, etc) have shown much greater trend or cyclical movements than others. But even if a specific category's hours have not changed, there could still be an effect on the whole-economy average. For example, with a couple of exceptions, basic hours worked within industries have been stable over the past 15 years, even though they vary quite considerably across industries. But we know that the employment shares of different sectors have changed quite dramatically. These compositional shifts may themselves be enough to account for changes in the whole-economy average.

Comparing the actual average for a specific variable with the average that would have prevailed if within-category working times had been held fixed gives a good first pass at the extent of compositional change. The blue line in Chart 25 shows average basic usual hours, while the green line shows the average obtained by holding the average hours of men and women unchanged (in this case, at their 1992 level). Any movement in the green line is due to compositional change, ie changes in the shares of men and women in total employment. The closer the green line is to the blue line, the greater the influence of compositional change; if the green line were flat, then compositional change would explain none of the change in hours. Changes in the gender mix of

**Chart 25**  
Average basic usual hours worked (aggregated by gender)

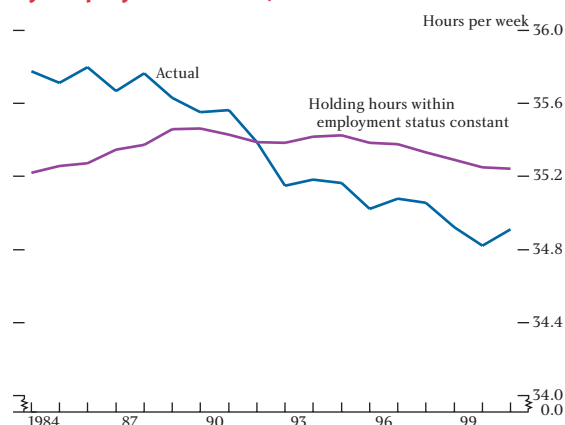


(1) Whether someone is considered full time or part time in the LFS is up to the individual respondent, so it could be that the implicit 'border' between full time and part time has changed (which would have no implications for aggregate hours). But using a fixed cut-off point of 30 hours per week does not change the picture.

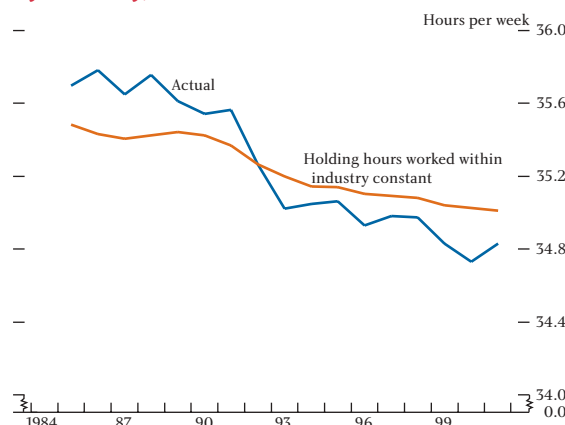
employment seem to have had some effect during the 1980s. Since the early 1990s, though, the share of women in total employment has changed very little, so compositional change along this dimension has not been important in recent years.

Charts 26 to 28 repeat this exercise for some of the other dimensions analysed in the previous section. There is not much evidence that changes in the occupation or age shares of the working population have affected average hours and the same is true for employment status during the 1980s. Changes in the composition of industries and, since the 1990s, in the composition of employment statuses may have contributed to the decline in basic hours but, as shown in Chart 28, the evidence is most stark for full-time and part-time workers. The increase in the part-time share has almost exactly mirrored the decline in average basic hours since the beginning of the sample period.

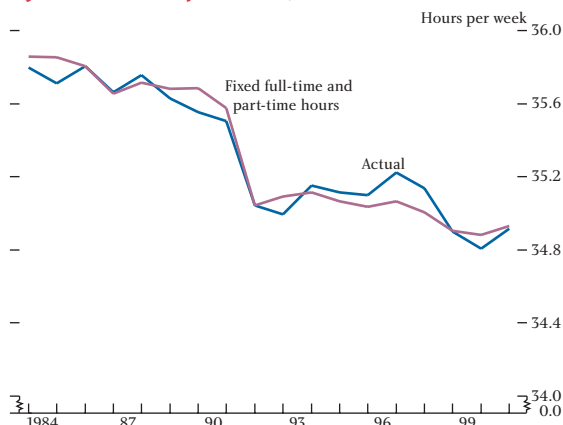
**Chart 26**  
Average basic usual hours worked (aggregated by employment status)



**Chart 27**  
Average basic usual hours worked (aggregated by industry)



**Chart 28**  
Average basic usual hours worked (aggregated by full time or part time)



Moreover, this is still the case when also controlling for changes in industry or employment-status composition. Changes in the part-time share seem, on the face of it, to be the driving force in the evolution of basic usual hours worked, with only a small additional effect from changes in industry composition and very little effect from compositional change along any other dimension.<sup>(1)</sup>

In contrast, there is no evidence that compositional change along any dimension can explain how overtime as a whole has behaved. There is, though, support for compositional change as a determinant of the paid/unpaid mix of overtime. Charts 29 and 30 show that both the declining trend in paid overtime (though not its cyclical pattern) and the increasing trend in unpaid overtime can be accounted for by changes in the occupational mix, even though they cannot explain movements in overtime as a whole.<sup>(2)</sup>

**Chart 29**  
Average usual paid overtime hours (aggregated by occupation)



(1) Though compositional change along other dimensions explains little of the aggregate movement in hours, it might explain either the recent decline of full-time hours or the recent increase in part-time hours individually. That is not a question that this article addresses, though both phenomena remain a feature of the data even after controlling for changes in the industry mix and employment status of workers.

(2) There is little evidence for compositional change along any other dimension explaining the paid/unpaid overtime mix.

**Chart 30**  
**Average usual unpaid overtime hours (aggregated by occupation)**



## Conclusions

This article has examined the time-series and cross-sectional behaviour of average hours worked using data from the Labour Force Survey with a view to establishing some stylised facts about their trend behaviour and their relationship with the economic cycle. Focusing on ‘usual’ hours worked rather than ‘actual’ hours worked, a reasonably coherent picture emerges. Across time, over the cycle, and across

dimensions such as gender, age, employment status, occupation and industry, there is little systematic variation in the basic hours worked by full-time and part-time workers (though the recent evolution of full timers’ and part timers’ hours remains puzzling). The share of part-time workers has risen (particularly in the early 1990s) and it is this that has driven down the aggregate basic-hours average.

In addition to their basic hours in their main job, individuals may work overtime and may also work some hours in a second job. Overtime hours are not trended, though they have nevertheless shifted from being paid towards being unpaid (perhaps as a result of changes in the occupational mix). Paid overtime is the only component of hours that exhibits strong cyclicity. It follows detrended GDP closely and leads changes in employment. All other components lag GDP and in some cases lag employment. This suggests that when firms are confronted with adverse trading conditions, their first response is to reduce paid overtime, rather than any other component of hours or labour input. Most of the aggregate variation in these other components may be due to compositional change, rather than those in the same job changing their hours.

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