

Teleworking in the UK

By **Ulrike Hotopp**, Employment Relations Directorate, Department of Trade and Industry

Key points

- The total number of teleworkers in the UK in spring 2001 was 2.2 million, or about 7.4 per cent of all in employment. Of these teleworkers, 1.8 million could not perform their job without the use of both a computer and telephone.
- The number of teleworkers has increased dramatically in the UK and other countries. The total number of teleworkers in the UK has increased by between 65 and 70 per cent over the period 1997 to 2001 depending on the measurement. Academic researchers predict further growth in the future.
- About two-thirds of all teleworkers are men. This compares with just over half of all employees. The difference in the distribution can largely be explained by the fact that a high proportion of teleworkers are self-employed, and most self-employed workers are men.
- Around three-quarters of all teleworkers work in the private sector. Most teleworkers are in the occupational groups: professional, managers and senior officials, and associate professional and technical.
- There are large differences between industries. About 25 per cent of teleworkers work in real estate, renting and business activities, and only a small proportion work in the energy and water industries.
- International comparisons show that teleworking in the UK is just above the average for ten EU countries covered by a recent survey. Germany and France have the smallest proportion of employed people working as teleworkers, while Finland has the highest proportion.

The trends and characteristics of teleworking in the UK, as well as comparisons with other countries, are presented in this article.

Introduction

MODERN INFORMATION and communication technologies (ICT) mean that many workers can work outside traditional workplaces. The increase in the number of people working as teleworkers in the future will be closely related to developments in the ICT area. This article presents the characteristics of today's teleworkers and outlines some possible future developments.

One aim of this article is to compare all teleworkers with TC teleworkers (see *Box 1* for the definitions of the two types of teleworking). Questions to answer include whether there are differences between the two groups by industry, occupation, sex and employment status. If there are differences, any discussion about the labour market effects of increased use of teleworking will have to use the two definitions in a considered way. A second aim is to

look at the pattern of teleworkers by sex and establish whether this pattern can be explained by the industrial and occupational structure of teleworking. The use of teleworkers depends, to some extent, on the availability of information and communication technology (ICT) infrastructures. The final aim, therefore, is to compare the use of teleworkers in different countries with different ICT infrastructures. The last section of the article looks to the future and includes a prediction for the development of teleworking within Europe.

The characteristics of teleworkers in the UK

In spring 2001, 2.2 million people in the UK (7.4 per cent of the total labour force) worked from home at least one

day a week and used both a telephone and a computer to do their work. Of these teleworkers, 1.8 million could not have performed their job without the use of both a computer and telephone (TC teleworkers).¹

The majority of teleworkers worked in the private sector: around 74 per cent of all teleworkers and 88 per cent of TC teleworkers. *Figure 1* illustrates the difference between all teleworkers and TC teleworkers.

Figure 2 shows the distribution of all teleworkers and TC teleworkers by occupational group. The occupational pattern of teleworkers shows that professionals, managers and senior officials, and associate professional and technical occupations dominate teleworking. This occupational pattern is closely correlated in the two groups.

The distribution of men and women working as teleworkers differs substantially from the pattern for all employees. In 2001 just over half of all employees were men (53 per cent). In comparison, two-thirds (67 per cent) of all teleworkers were men, with the ratio being fairly constant for both types of teleworking (see *Figure 3*). For all teleworkers, a larger proportion of men than women needed both a telephone and computer to enable them to do their job: 82 per cent, compared with 77 per cent respectively.

Men and women teleworkers predominate in different occupational groups. *Figure 4* shows the proportion of all teleworkers and TC teleworkers in different occupational groups by sex. Almost all teleworkers in the group of skilled trade occupations were men (95 per cent of all teleworkers and 97 per cent of TC teleworkers) and in the managers and senior officials group, three in four teleworkers were men. In contrast, around one in seven teleworkers in the personal service group and less than one in five teleworkers in administrative and secretarial work were men. This seems to imply that men predominate in groups which contributed the largest share to the total number of teleworkers, while women predominate in occupational groups where teleworking is not as common.

The distribution of teleworkers within industries may, to some extent,

Box 1 Definition of teleworkers

All teleworkers

A precise definition of teleworkers is essential in order to ensure that analyses of labour market effects, future developments and international comparisons are consistent and informative. The Labour Force Survey (LFS) defines teleworkers as people who do some paid or unpaid work in their own home and who use both a telephone and computer. It includes people who:

- mainly work from home in their main job, 'teleworker homeworkers';
- work from home in various locations but use their home as a base, 'home-based teleworkers'; and
- do not usually work at home or use home as a base but did so for at least one day in the reference week, 'occasional teleworkers'.

People in the above groups make up 'all teleworkers' in this article and include those who could work without a telephone or computer.

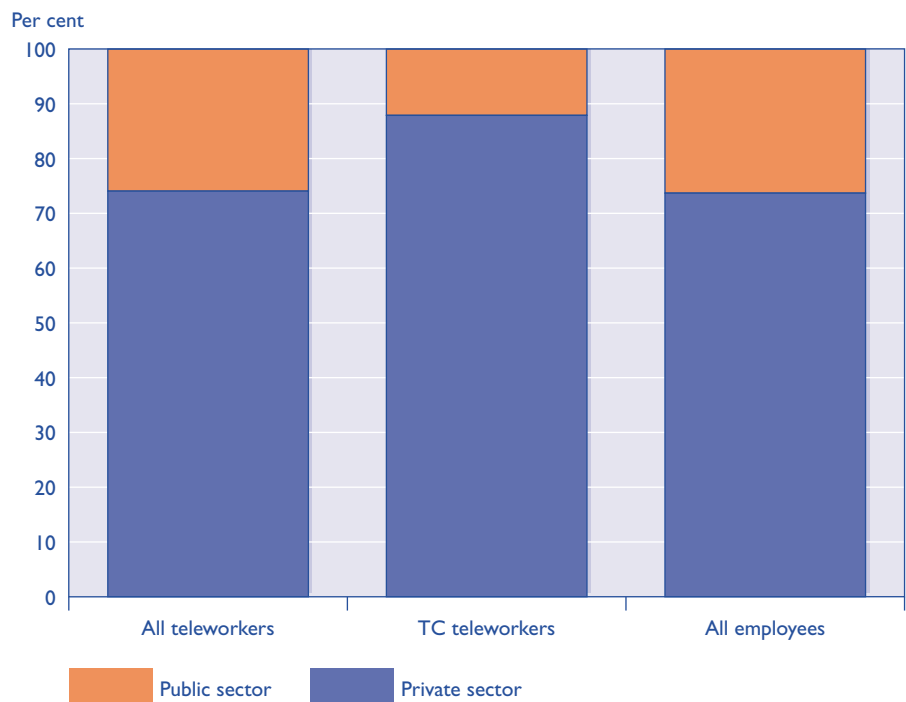
TC teleworkers

A second, narrower, definition includes only those workers for whom both a computer and a telephone are essential for them to be able to perform their job. This second group is therefore a subgroup of 'all teleworkers'. In this article this group will be called 'TC teleworkers'.

The LFS data used are from spring 2001. For the main part of the descriptive analysis, comparisons are made with all employees and the self-employed.

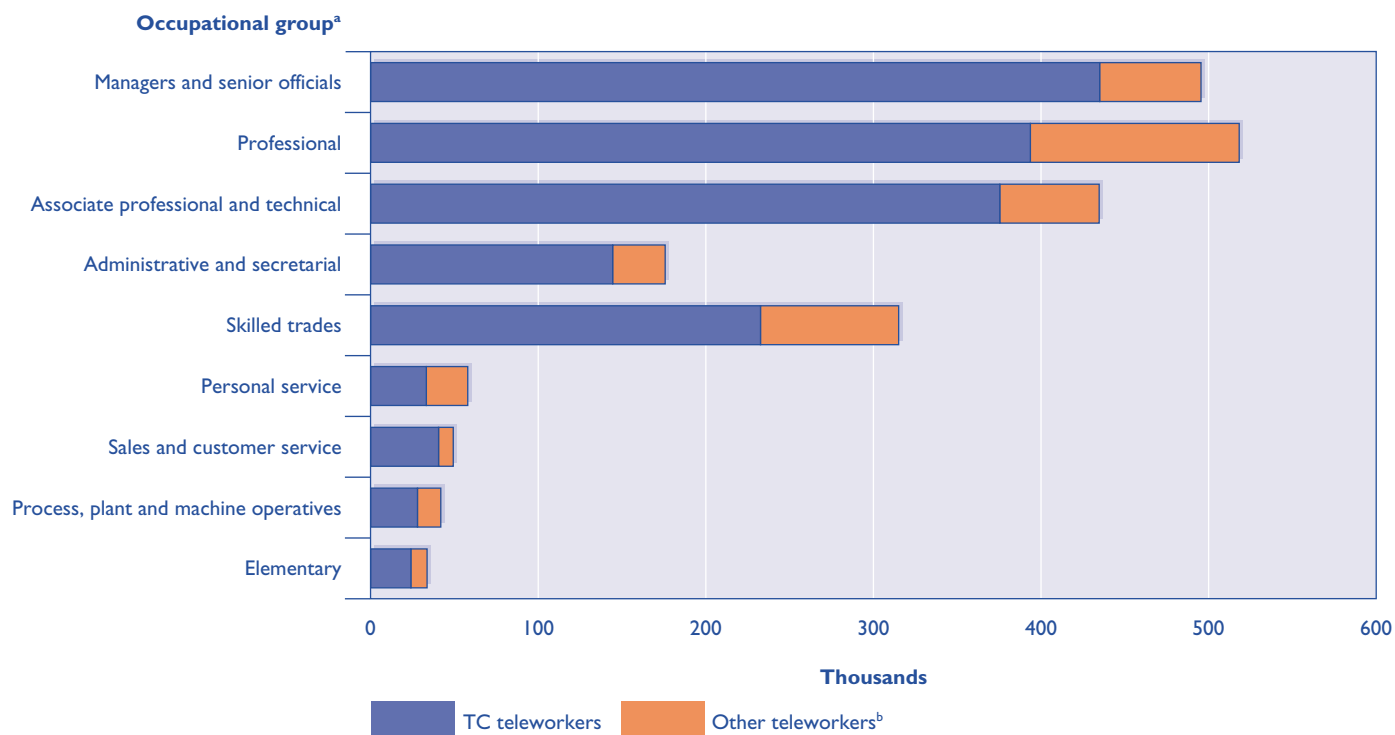
Both definitions of teleworkers include occasional teleworkers. They are included in the international comparison below and will also be of interest when considering the potential extension of teleworking in the labour market.

Figure 1 Proportions of teleworkers in the public and private employment sectors; United Kingdom; spring 2001, not seasonally adjusted



Source: Labour Force Survey

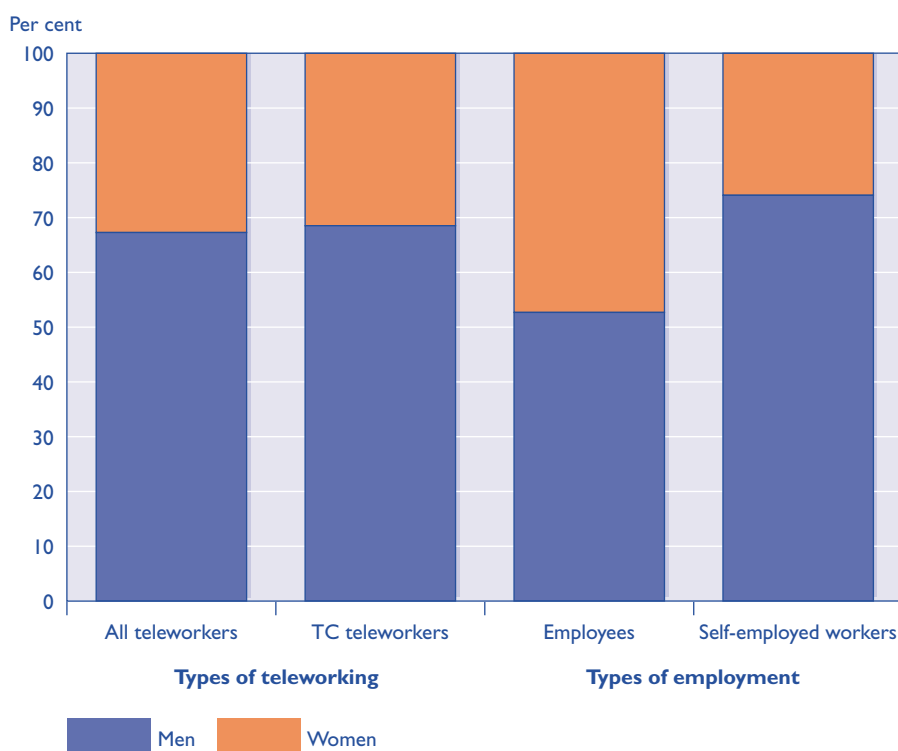
Figure 2 People employed in teleworking by occupational group; United Kingdom; spring 2001, not seasonally adjusted



Source: Labour Force Survey

a Occupations are coded according to the 2000 Standard Occupational Classification.
 b The 'other' portion of the bar represents the remainder who are not 'TC teleworkers'. The total of the bar equals to 'all teleworkers'.

Figure 3 Proportions of men and women by type of teleworking and type of employment; United Kingdom; spring 2001, not seasonally adjusted

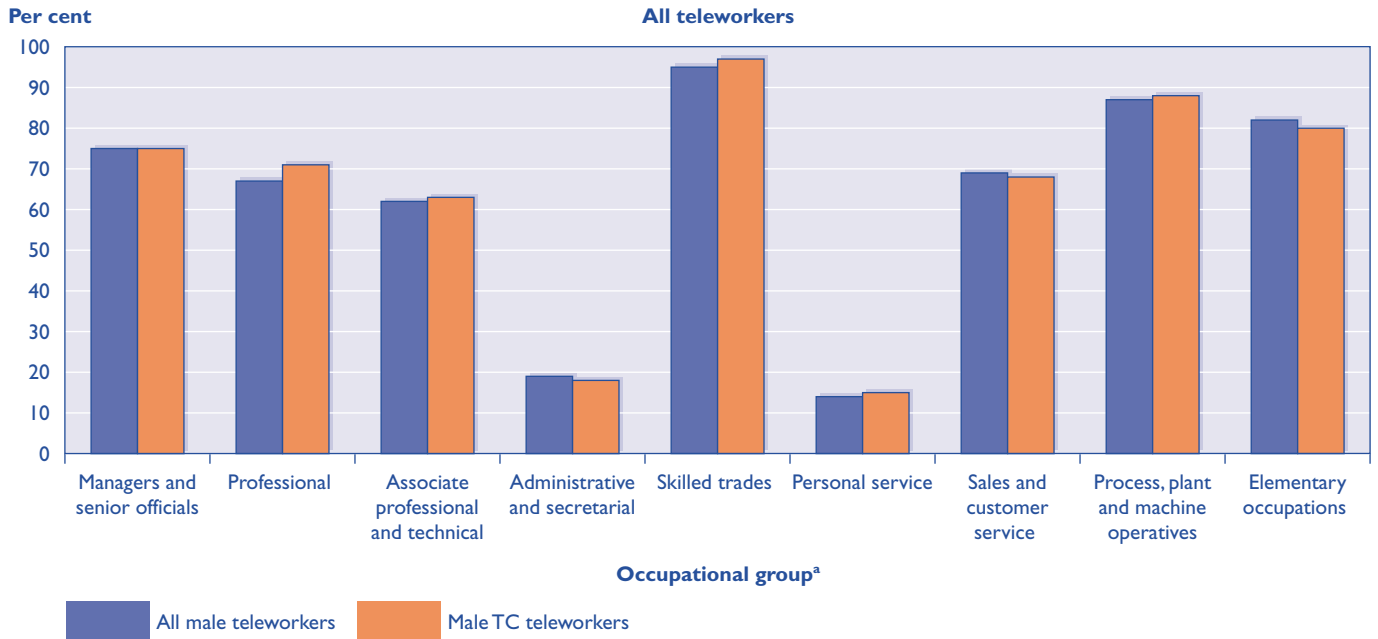


Source: Labour Force Survey

reflect the distribution among occupational groups. Around a quarter of all teleworkers and TC teleworkers (24 and 26 per cent respectively) work in real estate, renting and business activities (see *Figure 5*). Other main industries are construction (14 per cent and 13 per cent respectively) and manufacturing (11 per cent and 12 per cent respectively). The distribution of teleworkers among these industrial groups does not differ much between the two types of teleworkers.

The last characteristic to consider is the employment status of teleworkers. The majority of all teleworkers are employees. In 2001, 55 per cent of TC teleworkers were employees, 43 per cent were self-employed and the rest were unpaid family members. When looking at the distribution of these three employment types compared with the labour force as a whole, it is apparent that the proportion of self-employed workers is far greater among teleworkers (self-employed workers made up just 11 per cent of the total labour force). *Figure 6* shows the dif-

Figure 4 Proportions of all teleworkers and TC teleworkers employed who are men by occupational group; United Kingdom; spring 2001, not seasonally adjusted



Source: Labour Force Survey

^a Occupations are coded according to the 2000 Standard Occupational Classification.

ferences between TC teleworkers and all employees.

Summary

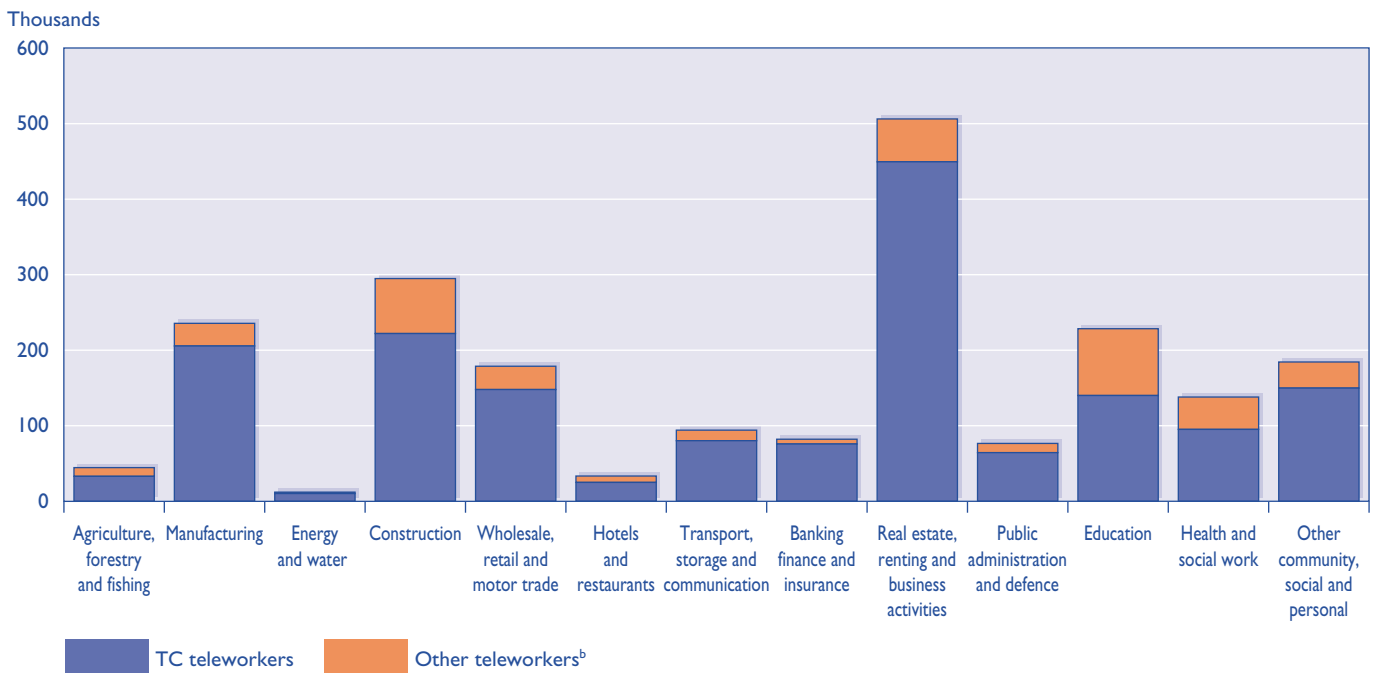
The distribution of individual characteristics of people (occupation,

industry and employment status) does not differ much between the two definitions of teleworkers. The absolute number differs, however, as the group of teleworkers who have to use a telephone and computer (TC teleworkers)

is about 20 per cent smaller than the all teleworkers group.

Two-thirds of teleworkers are men. Teleworkers are concentrated in the managers and professionals, associate professionals, and skilled trades

Figure 5 All teleworkers and TC teleworkers by industry;^a United Kingdom; spring 2001, not seasonally adjusted



Source: Labour Force Survey

^a Industries are coded according to the 1992 Standard Industrial Classification.

^b The 'other' portion of the bar represents the remainder who are not 'TC teleworkers'. The total of the bar equals to 'all teleworkers'.

Table 1 Occupational distribution of women in employment by type of employment and type of teleworking; United Kingdom; spring 2001, not seasonally adjusted

Occupational group ^a	Teleworkers		All employees	Per cent All employees and self-employed
	All	TC teleworkers		
	Managers and senior officials	18	20	8
Professional	25	21	10	13
Associate professional and technical	24	26	13	20
Administrative and secretarial	20	22	24	10
Skilled trades	2	*	2	7
Personal service	7	5	13	18
Sales and customer service	2	2	12	3
Process, plant and machine operatives	*	*	3	2
Elementary	*	*	13	5
Total	100	100	100	100

Source: Labour Force Survey

a Occupations are coded according to the 2000 Standard Occupational Classification.

* Sample size too small for reliable estimate.

occupations, and in real estate, renting and business services, construction and manufacturing industries. Most teleworkers are employees, but the proportion of teleworkers who are self-employed is about four times the proportion in the labour force as a whole.

Why are more teleworkers men?

In looking for an explanation for the comparatively small representation of women among teleworkers a number of factors can be ruled out. For example, *Table 1* shows that there is no clear relationship between the occupational distribution of female employees, self-

employed women and the two groups of teleworkers. Neither can the explanation be found in the varying distribution of men and women across industrial groups.² Instead, it is clear that the dominant factor is the high share of self-employed people among teleworkers. Men are more likely to be self-employed than women (almost three-quarters of all self-employed workers are men). This corresponds fairly closely with the proportion of self-employed teleworkers that are men (72 per cent).

Teleworking trends

The total number of teleworkers has increased over time. A study for the

former Employment Department showed that, in 1993, telework accounted for about half a per cent of the workforce (approximately 130,000 individuals).³ A survey for the European Telework Organisation conducted in 1994/95 showed that over a year later this had increased to 560,000.⁴ However, definitions used in obtaining these two results differ and the figures should therefore be interpreted with caution. Questions enabling teleworkers to be measured on a consistent basis were introduced to the LFS in 1997.

Since 1997 the number of teleworkers has increased, on average, by 13 per cent a year (see *Figure 7*). *Table 2* shows annual increases, average annual increase and total increases over the past five years. From 1998 onwards, growth rates have been highest for TC teleworkers. The total number of employees has also increased over this time but by less than the number of teleworkers. The average annual growth rate for all employees is 1.6 per cent.

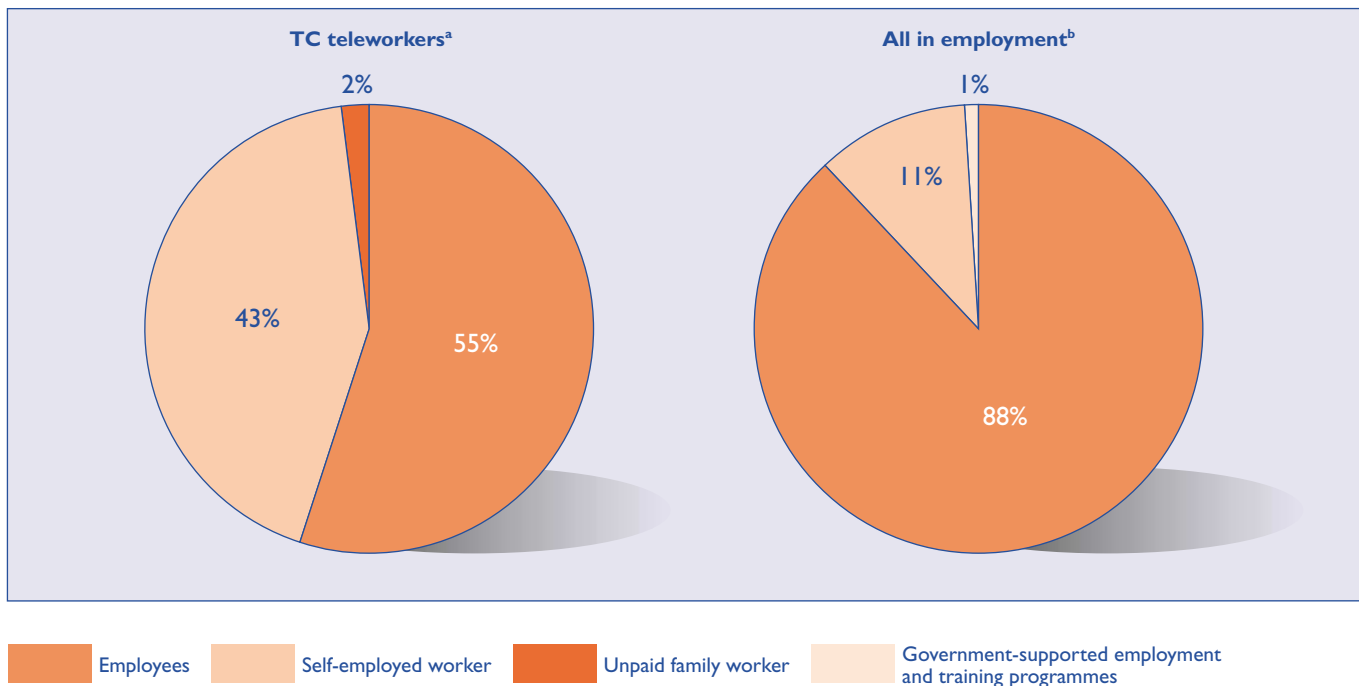
Comparing developments over time for the different employment statuses shows that although the self-employed are strongly represented among teleworkers their share is decreasing; employees as a group now account for the largest share of the increase. For employees, the growth rates from 1997

Table 2 The proportional increase in number of teleworkers between spring 1997/spring 2001; United Kingdom

	Per cent	
	Teleworkers	
	All	TC teleworkers
Spring 1997 to spring 1998	12	9
Spring 1998 to spring 1999	14	17
Spring 1999 to spring 2000	17	19
Spring 2000 to spring 2001	10	12
Average annual increase	13	14
Overall increase between 1997 and 2001	65	70

Source: Labour Force Survey

Figure 6 Employment status of TC teleworkers and all in employment; United Kingdom; spring 2001, not seasonally adjusted



Source: Labour Force Survey

^a There are no teleworkers on government-supported employment and training programmes.
^b Unpaid family workers made up 0.34 per cent of all in employment.

to 2001 were 82 per cent for teleworkers and 88 per cent for TC teleworkers. For the self-employed, growth rates were 48 per cent and 52 per cent respectively. This indicates a shift in the type of work carried out at home, as well as an increase in flexibility of the employment relationship.

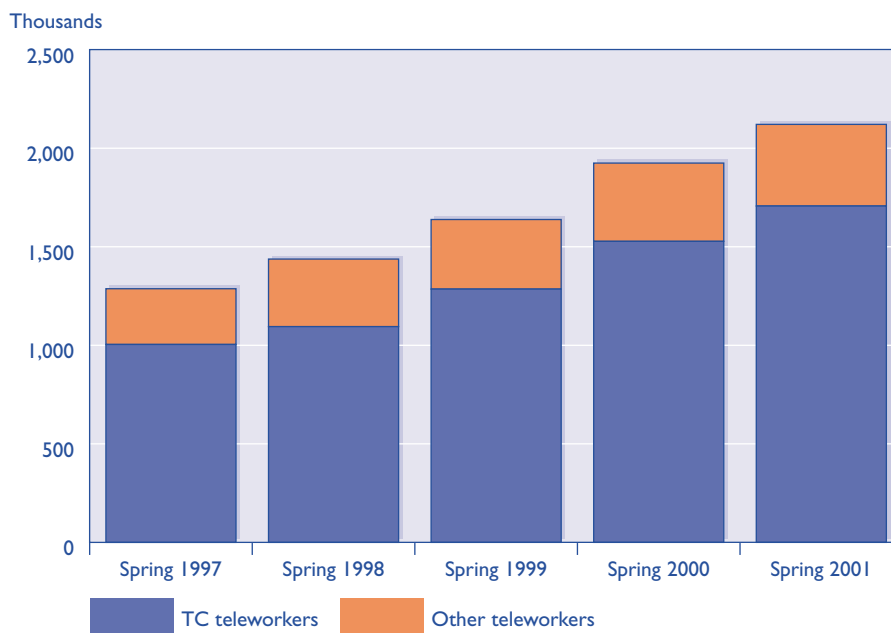
International comparisons

The employment aspects of teleworking have been the subject of recent discussion at the European Union level. It is important to have some comparative measures to ensure that effects on the European Union (EU) member states can be assessed accordingly. There is no directly comparable data on teleworking in the European Labour Force Survey. Comparisons with other industrialised countries are also interesting, particularly in the case of the USA where it is generally recognised that teleworking developments are some years ahead of the UK and the rest of the EU.

The USA

There is some evidence to show that there has been an even higher growth

Figure 7 Number of all teleworkers and TC teleworkers; United Kingdom; spring 1997 to spring 2001, not seasonally adjusted



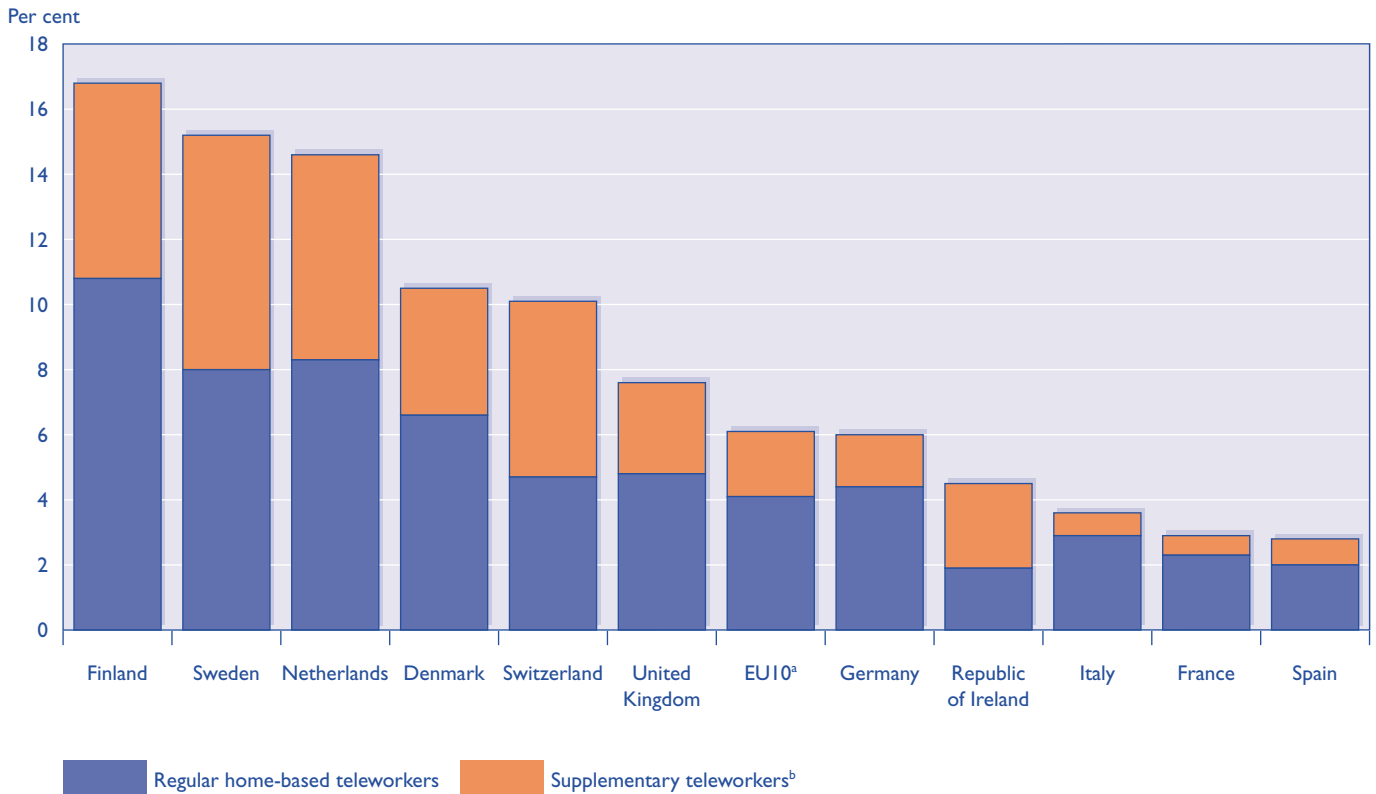
Source: Labour Force Survey

rate in teleworking in the USA than in the UK. A study in 2001 by the International Telework Association & Council (ITAC)⁵, sponsored by AT&T, found that there were around 28 million teleworkers in the USA (about 21

per cent of the labour force), up around 18 per cent on the previous year.

The 2000 ITAC survey⁶ found most teleworkers worked on the road (24.1 per cent) or from home (21.7 per cent). A smaller proportion worked at telework-

Figure 8 Proportion of all in employment in teleworking in selected European countries; 1999



Source: Electronic Commerce and Telework Trends

a The EU10 figure is an average of the ten EU countries represented in the chart. It does not include Switzerland.
b Home-based teleworkers who spend less than one full day teleworking from home a week.

Box 2 Definition of teleworkers (ECaTT)

Home-based teleworkers are those who:

- work from home (instead of commuting to a central workplace) for at least one full working day per week;
- use a personal computer in the course of their work;
- use telecommunications links (telephone/fax/e-mail) to communicate with their colleagues or supervisor during work at home; and
- are either in salaried employment or self-employed, in which case their main working place is on the contractor's premises.

Supplementary teleworkers are those who:

- fit into the home-based category described above except that they spend less than one full day teleworking from home a week. They are called 'occasional teleworkers' to distinguish them from regular teleworkers.

ing centres (7 per cent) or at satellite offices (4 per cent). The average teleworker (defined as someone who is home-based and teleworks regularly one full day a week) worked at least one day a week away from their traditional office environment, lived in the north-east or western regions of the United States, had

a university education, was 35 to 44 years old and married. More than two-thirds of teleworkers expressed greater job satisfaction as a result of teleworking. An overwhelming majority (almost 80 per cent) felt a greater commitment to their organisation, and most said they planned to stay with their employer.

Notably, almost three-quarters of 'home-based teleworkers' reported a major increase in productivity and work quality.

The European Union

The data available are from the Electronic Commerce and Telework Trends (ECaTT) study⁷ carried out in 1999. This study used both a wide and a narrow definition of teleworking. 'Home-based teleworkers' are those who work from home at least one full day a week using a personal computer and telecommunication links. 'Supplementary teleworkers' can spend less than a full working day as a teleworker. They are also called 'occasional teleworkers' (see *Box 2*). Neither definition matches the LFS definitions. *Figure 8* shows that the UK is just above the average for the ten EU countries (EU-10) represented. The proportion of employees working as home-based teleworkers and supplementary teleworkers was highest in Finland (10.8 per cent and 6.0 per cent respectively) and low-

est in Spain (2.3 per cent and 0.6 per cent respectively). Other large economies such as Germany and France were well below the EU-10 average.

The future

A few researchers have attempted to estimate the future development of the role of teleworkers in the labour market. A report by the Institute of Employment Studies (IES)⁸ attempted to estimate the potential for teleworking in the economy (see *Table 3*). These estimates were based on occupations considered suited to teleworking, for example managers, computing professionals, teaching professionals, writers and creative performing artists, and administrative associate professionals.

The IES estimates might be regarded possibly as overestimates. Not everybody in an occupation which is suitable for teleworking will necessarily take up the opportunity to do so. There are a number of drawbacks to teleworking such as the perceived risk of social isolation.

Nevertheless, the study appears to demonstrate that the UK only uses 30 per cent of its teleworking potential.

Conclusion

Teleworking has been on the increase in each of the countries for which data were available. Despite this general increase, teleworking is not evenly distributed over the workforce. Men are more likely to be teleworkers than women, and some occupations and industries are also more likely to offer telework. The self-employed are particularly well represented among teleworkers, although growth rates for teleworking are now higher among employees than the self-employed.

Very high rates of teleworking are thought to be possible based on the existing ICT infrastructure. New technologies are expected to make it even easier to work remotely and will increase the number of occupations and industries which are able to offer teleworking opportunities.

Table 3 Proportion of men and women in employment that could potentially telework, by selected EU countries;^a 2000

			Per cent
	Men	Women	All
Austria	17.3	15.2	16.4
Belgium	16.2	12.8	14.7
Germany	16.9	24.0	20.0
Denmark	23.0	16.4	19.9
Spain	12.8	14.6	13.5
Finland	18.3	19.5	18.9
France	14.7	18.4	16.3
Greece	8.8	13.6	10.6
Italy	16.1	20.0	17.5
Luxembourg	20.7	19.7	20.3
Netherlands	21.4	22.8	22.0
Portugal	11.9	15.2	13.4
Sweden	21.3	19.6	20.4
UK	21.4	24.0	22.6

Source: Institute of Employment Studies

a The Republic of Ireland is not included as the occupational codes that they use are not comparable with the codes used by ISCO.

Notes

- 1 The LFS datasets were regressed in April 2002. This article uses the pre-regressed figures. Non-responses to the questions about teleworking in the LFS have been pro-rated across the valid responses, using the method described in the *Labour Force Survey User Guide Vol 1*. This increases the estimate for all teleworkers from about 2.1 million to 2.2 million and increases their proportion of all in employment from 7.1 per cent to 7.4 per cent. For the narrow definition of teleworkers (TC teleworkers) the estimate increases from 1.7 million to 1.8 million. All other data used in this article are unadjusted.
- 2 This was further shown to be the case when tested using a Chi-square test. The hypothesis tested was that the distribution of all women in employment by occupation/industry is similar to the distribution of female teleworkers by occupations/industries.
- 3 Huws H., (1993), *Telework in Britain*, Employment Department.
- 4 *Actions for stimulation of transborder telework and research cooperation in Europe*, 1996, European Telework Organisation. The definition used in the ETO report differs from the LFS definition. It recognises the fact that telework increasingly involves the use of mobile and data communications as an integral part of a person's work, rather than as a specialist function. The report also states that no 'attempt has been made to impose a single definition of 'telework' in the development and implementation of these actions.
- 5 Davis D. and Polonko K.A. (2001), *Telework in the United States: Telework America Survey 2001*, ITAC.
- 6 ITAC (2000), *Telework in the United States: Telework America Survey 2000*, ITAC.
- 7 ECaTT, (2000), *Benchmarking progress on new ways of working and new forms of business across Europe*; Empirica.
- 8 Huws H., Jagger N., and Bates P., (2001), *Where the Butterfly Flights, The Global Location of e-Work*, Institute of Employment Studies, Report 378.

Further information

For further information, contact:
Ulrike Hotopp,
Department of Trade and Industry,
UG/97,
1 Victoria Street,
London SW1H 0ET,
e-mail ulrike.hotopp@dti.gsi.gov.uk,
tel. 020 7215 5975.