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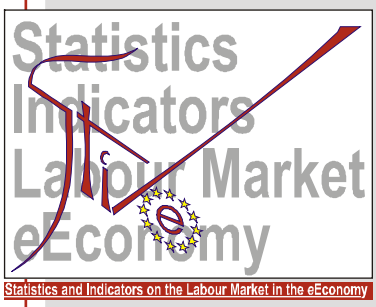

Working at a distance

How to know about it?

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WP5 partners

Workpackage 5
D5.3: Final report

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Chapter
1

Objectives of the work

One important aim of the STILE project consists in the identification of comparable indicators, useful to measure and monitor the development of telework practices in employee surveys. The consortium opted for the 'piggybacking method', as this method is already experimented successfully in the USA. By attaching a limited module to an existing questionnaire, the method makes it possible to gain a richness of information in a large population. The focus was mainly on the development of a module of indicators that can be attached to the Labour Force Survey (LFS). This survey was selected as the most appropriate carrier for the test of the STILE telework module because it is the most important European survey on the labour force. It includes questions on the core characteristics of the respondent (age, gender, number of children, etc.) and on the core characteristics of the main and second job (employment status, working hours, permanency of contract, job, sector, etc.). Nevertheless, during the work other applications of the module were taken into account and discussed.

The first step of the STILE consortium was to discuss a set of indicators to be inserted within the statistical inquiries on European labour forces. The involvement of future users in that discussion was of special importance.

Indicators in a module that is to be attached to existing questionnaires need to be able to identify teleworkers in the population. Therefore, the selection of the indicators started with the development of a definition of telework. The STILE consortium opted for an extended and rather generally formulated definition. Telework is conceived as 'all types of work that have become possible using a new technologies, which take place outside the traditional workplace, and which is carried out with a certain intensity'. This definition includes work that is performed at the worker's *home* (home based), as well as work that is carried out from a *location belonging to a third party* (as such customer premises) or from a *mobile station* (mobile telework).

To detect the quota of teleworkers, two main strategies are generally pursued: on the one hand, an exact definition of telework can be supplied and the respondents are then asked whether they consider themselves to be teleworkers, or some indicators can be pinpointed, whose combination can supply a typology of the various forms of telework.

The STILE consortium didn't want to use a strict definition of telework because there is no general agreement on a definition and because new forms of work at a distance can emerge in an ever-evolving organisation practice. Moreover, as the STILE work want to reach a broad applicability, it is useful to give data users the freedom to use more or less rigid definitions of telework to quantify the phenomenon.[1] The method of a deductive definition can guarantee this flexibility.

In a second step the commonly agreed list of indicators has been operationalised in a module of survey questions. The STILE consortium pilot tested these questions to assess their usability, validity and reliability to measure telework. The pilot testing of the telework questions was carried out by compiling the questionnaire module with a selected number of core questions

1 See Table 7.1, Chapter 7 for examples.

from the Labour Force Survey (LFS). The results of this pilot test were translated into recommendations concerning the module, the analysis opportunities the module can offer when it is combined with core characteristics of the working population, implementation strategies of a module, etc. The most important findings are collected in this final report of the work.

Chapter
2

Pilot testing the list of indicators

2.1 The list of indicators

The multidimensionality of the phenomenon clashes with the need for 'parsimony', typical or vast statistical inquiries like European surveys on the labour force. Given that there might only be very few questions added to the questionnaires, the partners' decision is that the output of the work package will be a list of indicators. The *core indicators* are indispensable to detect teleworkers, the *additional indicators* are useful to describe teleworkers and the work environment.

The core indicators (four questions) are related to the essential dimensions of the phenomenon and measure the *place* where the worker performs his/her working activity, the degree of importance of information use and telematic *technology* (quota of time that the worker uses a PC and is on-line, kind of technologies used, who provides technologies) and the *quota of working time* spent on work at a distance.

In addition to these three dimensions, several additional indicators on the 'work environment' of telework were selected in order to describe the phenomenon. The most relevant additional indicators are:

- kind of activity done from a distance (open question with list);
- motivation for teleworking (finish or catch up with work; to avoid interruption; because of a bad working environment or bad working relationships; required by job or employer; to coordinate your work schedule with personal or family needs; experimentation; reduce commuting time or expense; health reasons; for greater autonomy or independence);
- initiator of the arrangement (employer, worker, both);
- level of formality of the arrangement;
- reversibility (to have the opportunity to interrupt the telework experience);
- assessment on health and safety of work;
- assessment on work pressure after starting to telework.

Apart from indicators on telework (core questions) and the additional indicators, the main indicators (basic data) commonly contained in LFSs were inserted to ensure the comparability of the data.

The following table illustrates the entire list of indicators on telework that was agreed on by all partners. Given the different working conditions, there are some differences between the self-employed and employees. In fact, many of the indicators that are comprehensible for employees are meaningless for the self-employed, as for example the agreement on telework or its level of formality. In the list of indicators this difference is included.

Table 2.1 Indicators common to all partners

Indicators	Respondents
Core indicators	
Place worked at in reference week for main activity	All people
Place worked at in reference week for second activity	Only employees
Main place of business	Only self-employed
Usage of desktop when working at a distance	All people
Provision of desktop	Only employees
Usage of laptop when working at a distance	All people
Provision of laptop	Only employees
Usage of telephone when working at a distance	All people
Provision of telephone	Only employees
Usage of a mobile phone when working at a distance	All people
Provision of the mobile phone	Only employees
Usage of a fax when you working at a distance	All people
Provision of the fax	Only employees
Usage of email when working at a distance	All people
Provision of email	Only employees
Access to the organisation's computer network when working at a distance	All people
Provision of access to the organisation's computer network	Only employees
Usage of a dial-up internet service when working at a distance	All people
Provision of the dial-up internet service	Only employees
Usage of a high-speed internet link when working at a distance	All people
Provision of the high-speed internet link	Only employees
Usage of software for remote collaboration when working at a distance	All people
Provision of software for remote collaboration	Only employees
Usage of other kinds of ICT when working at a distance	All people
Provision of the other ICTs	Only employees
Frequency of phone connection	All people
Frequency of telematic connection	All people
Percentage of time worked at a distance, using a PC	All people
Hours a week spent on distance work in main job	All people
Hours a week spent on distance work in second job	All people
Additional questions	
Activity carried out at a distance	All people
Initiator of the distant working arrangement	Only employees
Level of formality of arrangement	Only employees
Reversibility of the distant working arrangement	Only employees
Main reason for working at a distance	All people
Wish to continue working at a distance	All people
Subjective assessment of impact on health and safety	All people
Subjective assessment of impact on the level of work pressure	All people

Considering the nature of the pilot inquiry, some control indicators were inserted in the questionnaire to check the reliability of the indicators. In particular, it is asked whether there are unknown terms, ambiguous or irrelevant questions or missing questions in the questionnaire.

2.2 Translation into various national questionnaires

2.2.1 Various methods

On the basis of these indicators, a questionnaire was put together which was tested on 600 workers in three European countries (Belgium, Italy and Great Britain) during the pilot inquiry. In Ireland and Hungary some of the questions, in accordance with the partners, were directly inserted in the current LFSs (see D5.1 report).

In Hungary, the pilot survey has been carried out as an ad hoc module of the quarterly Labour Force Survey in the period July-September. This is an important test, because in this case the module was not ‘pilot’ tested, but indeed included in the Hungarian LFS.

The STILE partners decided to support the Irish STILE partners (CTC and CSO) to make a considerable contribution to the Ireland's Quarterly National Household Survey (QNHS), where a limited and adapted version of the UK LFS questions on telework was going to be included in the third quarter of 2002. The Irish STILE partners finalised these telework questions in close interaction with, in particular, the UK STILE partner. The consortium decided that this contribution of the Irish partners was very important and proposed that they feed in information from issues found during this process as an alternative to carrying out the 200-person pilot questionnaire. The idea was further that, given the long lead-time for LFS questions and the short duration of the STILE project, it was important to run parallel investigations on appropriate questions, and the practicalities of including them in LFSs. The Irish case is described in detail in Chapter 7.

2.2.2 National features of the pilot questionnaires

In addition to the commonly agreed indicators, each country involved in the project was free to insert indicators on the qualitative aspects of telework. Such considerations were based on the contribution of the national user groups. The following paragraphs illustrate the particular features of the individual questionnaires.

2.2.2.1 The Belgian questionnaire

The difference in the Belgian survey (cf. annex 2, D5.1 report) is that some questions are worded slightly differently. Some questions are nested questions, which means that they are explored in more detail after the general question. Other questions are related to a specific issue in the Belgian questionnaire, such as the quality of working life.

The functionality of ICT

Because the role of ICT in work is conceived as being very important, the Belgian questionnaire added a short question to the question on the activities that are carried out from a distance.

For each task name, we also ask whether you make use of an ICT link. With an ICT link we don't mean just a telephone or a computer. We mean at least a combination of both, for example a connection to the internet, the organisation's network or another network.

	Which task is carried out at a distance?	Is an ICT link used? Yes (1), no (2)
Act. 1	Code Or Open answer	1 2
Act. 2	Code Or Open answer	1 2
Act. 3	Code Or Open answer	1 2
Act. 4	Code Or Open answer	1 2

The interviewers are asked not to read the different answering alternatives (international agreed list of activities). Only if the respondent does not answer spontaneously, they can help the respondent by reading the different activities. If the open answer of the respondent can be summarised in an activity of the list, the interviewer can notice the code instead of the open answer.

Quality of work indicators

Given the importance attributed to the quality of working life, certain questions from existing surveys were included in the questionnaire; questions on autonomy, flexibility, teamwork and contact opportunities, work-life balance. This resulted in a list of short yes-no questions.

- Can you decide yourself the order in which you carry out your tasks?
- Can you decide yourself how you carry out your work?
- Can you decide yourself when you work?
- Can you decide yourself the place of work?
- Do you discuss the planning of your work with other people?
- Are you often confronted with unforeseen problems?
- Can you rely on colleagues when you experience a problem in your work?
- Do you often make use of, for example, databases, manuals or the internet when you want to find a solution to a problem?[2]
- Can you show what you can in your work?[3]
- Do you feel you can still learn in your work?
- Do you have enough time to finish work?
- Do you feel you have enough time to take up your responsibilities in your family-household?
- Do you feel you have enough time for hobbies, sports or participation in clubs?
- Can you have a talk with colleagues during the normal working hours?
- Do you have enough opportunities to meet colleagues out of the working hours?

Training opportunities

Moreover, in the Belgian questionnaire, the question on training was conceived as a nested question. In addition to the question whether one has followed training during the past year, more specific information was gained on the contents of the training.

Control and assessment of work

With the introduction of ICT, organisations have more opportunities to control and assess work. If people work at a distance, however, employees can no longer be assessed and controlled by direct observation. The choices organisations make concerning control and assessment are partly determined by the form of work and have an impact on the 'quality of working life'. Insights into the basis for control and assessment can not only give information on the impact of telework, they can also be a valuable basis to differentiate various forms of telework. The question that must collect data on this indicator is a list of statements that has to be assessed by the respondents.

2 This question is not from an existing questionnaire. It is taken up because the introduction of ICT changes has enabled new ways of structuring available information. Workers have to turn more and more to electronic information. It can be suggested that people working at a distance are more dependent on this kind of information, as they lack the proximity of knowledge centralised in colleagues.

3 This question tries to find out whether the respondent thinks he/she can make use of (all) his/her competences, qualifications, etc. It is a question on the challenging character of the work.

Are the following statements true or not for you? If one is not applicable to you, you can say that too:
- My manager supervises my work every day
- My performance is registered automatically[4]
- My performance is compared to measurable standards
- I have to comply with time limits in my work
- What I do is difficult to translate into measurable terms
- Together with colleagues I work on a common objective

Working time

The question concerning working at atypical moments, is asked in the Belgian Labour Force Survey. Firstly, it is asked whether the respondent has worked in the evening (between 7 p.m. and 11 p.m.), at night (between 11 p.m. and 5 a.m.), on Saturdays and on Sundays during the reference month. For the moments worked, it is asked whether this was for less than half of the working days, more than half or always. Thirdly, it is asked whether this is contractually agreed on or not.

Table 2.2 Example of working time

During the past 4 weeks, did you ever work:	Was that for more than half the time (1), less than half the time (2) or always (3)?			Is this contractual agreed on? Yes (1), no (2), don't know (3)		
in the evening (7 p.m.-11 p.m.)	1	2	3	1	2	3
at nights (11 p.m.-5 a.m.)	1	2	3	1	2	3
on Saturdays	1	2	3	1	2	3
on Sundays	1	2	3	1	2	3

Source: NIS, questionnaire of the Belgian Labour Force Survey (Q3, Q4, 2000)

The question on how the starting and ending hours are determined is also important within the framework of differentiating various forms of *e*Work and assessing the impact of new forms of work on the quality of work (autonomy in filling in time, finding a work-life balance).

Because the questions are asked in a telephone interview, the LFS questions were turned into statements to be assessed.

Do you agree with the following statements on how working hours are determined?
- I work in a shift system
- I have a fixed work schedule so the employer establishes when I start and stop working
- I can start between certain time limits and I can stop working between certain time limits
- I don't work in a fixed work schedule, but the employer establishes when I start and stop working
- I can autonomously decide when I work
- I work in another system, namely: .....

4 This refers to opportunities ICT offer to register the prestations, for instance the number of calls or the sum of the prices of the saled products in a call center, or in a production context; the number of pieces produced.

2.2.2.2 Italian questionnaire

The Italian questionnaire was made compatible with the new LFS questionnaire that will be used from January 2003. However the questions that permit the identification of those that worked in the reference week, the reasons for any absences from work, the position in the profession, type of occupation and the possible second activity are the same as those in the LFS questionnaire.

The basic data were requested in a similar way, especially those on flexitime and working conditions of the so-called 'atypical workers' such as temporary workers, fixed-term or free-lance work with only one contractor.

In relation to indicators on telework, as well as those agreed on with the other partners, a control question was inserted in the Italian questionnaire for respondents who claimed to work exclusively in a traditional location. This question asked whether the respondent ever worked at home. Furthermore, the question on activities conducted at a distance was formulated and recorded as an open question.

The specific questions of the Italian questionnaire on telework were five in all. Eight questions contained in the ISTAT LFS questionnaire are also to be added to this.

Telework specific questions

First of all a 'control' question was inserted in the questionnaire. This question was put to respondents who provided the answer: 'only in traditional locations' to the question on workplace. The question was as follows: 'do you ever work from home?'. If the answer was negative the other questions on telework were not asked. An affirmative answer would mean continuing with the administration of the questions of the core indicators:

- ICT equipment;
- who provides technologies;
- frequency of ICT connection;
- time spent working at distance.

Those who declared working from home were asked to specify which room was used for teleworking. In fact the quality of teleworkers' work depends on the level of the station's autonomy. It is quite different if the station is located in a common room (e.g. living room or bedroom) or in a specific room, like a study.

Targeted at employees only, the Italian partners inserted a question to determine whether there is a plan to develop telework in the company or if telework is conducted only occasionally or informally by the worker.

Another specific question on teleworkers was aimed at surveying payment modalities, distinguishing between workers who are paid by the hour or according to 'performance'. Existing research states that it is more likely that for teleworkers there are forms of payment linked to results rather than time-based. In fact, the pilot test found that this kind of payment is prevalent among telehomeworkers. The last question was related to the control of work performance in the case of *e*Work (how is your work controlled when you work at a distance?), distinguishing between the supervision of performance and the definition of deadlines or individual targets.

Table 2.3 Section specific for teleworkers in the Italian questionnaire

Questions	Note
Control question on working at home	Only respondents that claim to work from a traditional location
Room used for teleworking (study, living room, bedroom, kitchen or hall)	All people
Existence of a plan for the development of telework in the company	Only employees
How salary is calculated (hour or project based)	Only employees
How work is controlled	Only employees

Source: IRES, questionnaire for the STILE pilot test of a telework module, 2002

LFS questions

The questions borrowed from the questionnaire on the labour force refer to the particularities of the Italian labour market and are aimed at detecting and characterising the typologies of atypical workers.

Employees were asked if their work was short-term or permanent. In the former case, the length and type of contract was asked (short-term, temporary, training, apprenticeship). It was also asked whether their working hours were rigid and what restrictions there were.

Self-employed were asked the following: number of contractors, level of autonomy for the worker to decide where and when to work.

Table 2.4 Section specific to the Italian LFS questions

Questions		Note
Question a20:	'Does your job have an expiry date or is a permanent job?'	Only employees
Question a20.1:	'If your job has an expiry date, how many months will you remain in office?'	Only employees
Question 20.2:	'If you have a non-permanent job, which kind of arrangement do you have?'	Only employees
Question 23:	'Do you have rigid working hours?'	Only employees
Question 24:	'If no, does your working time have some performance requirements (?)'	Only employees
Question 23.1:	'Do you work for one or more customers?'	Only self employed
Question 23.2:	'Usually, do you have the autonomy to decide where you work or must you work at your customer's or client's offices?'	Only self employed
Question 23.3:	'Usually, do you have the autonomy to set your time work or not?'	Only self employed

Source: ISTAT, questionnaire of the Italian Labour Force Survey

2.2.2.3 UK questionnaire

The UK Labour Force Survey has collected data on teleworking since 1997: asking whether respondents do some work from home with the use of a computer and a telephone (cf. D5.1; Jagger, 2003).

Even for this reason, the UK questionnaire is almost entirely in line with the questionnaire common to all partners. The only differences with questions on telework regard the distinction between general technological equipment (list of equipment) and technological equipment for communication (list of communications equipment) and the simplification of the question on changes in quality of work which have occurred with telework. This is illustrated below.

Do you think that your health and safety is at risk because of the work you carry out?
- Yes
- No
- Don't know
- Other (text answer up to 150 characters)

In addition to this, there are some specifications in the general data questions, especially on working times (shift, weekend and Sunday work), autonomy and flexibility.

Do you do any shift work, in your main job?	1. Most of the time 2. Occasionally 3. Never
Do you work in the evening i.e. finish work between 9 p.m. and 1 a.m.?	1. Usually 2. Sometimes 3. Never
Do you work in the night i.e. finish work after 1 a.m.?	1. Usually 2. Sometimes 3. Never
Do you work on Saturdays?	1. Usually 2. Sometimes 3. Never
Do you work on Sundays?	1. Usually 2. Sometimes 3. Never
Do you work from home?	1. Usually 2. Sometimes 3. Never
Thinking about your current job, do you normally... *Interviewer guidance - this is meant to refer to the actual tasks carried out - who decides when and in what order they are done? i.e. How much autonomy does the worker have?*	1. Determine and plan your own work and working times 2. Have your work and working times determined and/or planned by your employer
Which of the following best describes your situation?	1. Fixed start and finish to the working day 2. Annualised hours 3. Flexitime arrangement 4. Working time by mutual agreement 5. You can determine your own work schedule 6. Other form of variable working time 7. Not applicable

2.2.3 National features of the Hungarian inquiry

The telework survey was carried out in Hungary as an ad hoc module to the LFS (Labour Force Survey). Originally, this supplementary survey was planned to be carried out in July and August 2002, but due to the very low response rate, the questionnaire was asked in the September wave of interviews as well. In late September and early October the questionnaire was tested with a group of individuals contacted through institutions that are known to employ teleworkers (too).

2.2.3.1 The sampling strategy

Background information on the spread of telework

The acceptance and spread of telework in Hungary is small by international standards, and few employers use telework in an organised form. One of them is the largest telephone company and another is a tourist agency employing disabled persons. Although, in recent years the central government has given significant support for the popularisation of telework, the demand for it appears to be much greater than the current opportunities.

Employers tend to be little motivated to use telework, partly because Internet costs in Hungary are extremely high by European standards. In July 2002 the Ministry of Informatics was set up which, notwithstanding its declared intention, has done little to improve the infrastructure for teleworking in Hungary. The findings of a survey of disabled people well illustrate the situation of telework in Hungary: of the 200 largest Hungarian companies which employ every sixth of the 500,000 disabled individuals, only four used telework. Other sources estimate that there are 10,000 to 12,000 teleworkers. Consequently, the quarterly LFS sample of 68,000 people aged 15 to 74, assuming a fully random selection, would include about 100 to 140 teleworkers.

Exploration of the LFS sample as a basis

The chances of households in the capital city (where about one fifth of the total population of the country lives) to be included in the sample is smaller than the average. As the population is more homogeneous from the labour market point of view, Budapest households are included in the LFS sample in a smaller share than their real weight. This is adjusted by a larger weight number in the inflation. At the same time, most teleworkers live in Budapest, which then can alter the above-specified tentative number.

Due to the low occurrence rate of teleworkers, a telework module could only be attached to the labour force survey if a filter question was included in the basic questionnaire. This filter question was as follows:

> Did you work in your main job/business in telework (distance work) in the last four weeks?
> - Yes, regularly
> - Yes, occasionally
> - No
>
> *Interviewer guideline:* Telework is a work when during the completion of the work the employer and the employee are far from each other in space (the employee does not work necessarily at home, but does not work at the employer's premises) and they are connected through telecommunication. *The work presumes the use of electric equipment (e.g. a computer).*

Sampling strategy

As theoretically every household participates in the LFS in six subsequent quarters, it was known of five sixths of the households in the survey in the reference period whether they had a member giving answer 1 or 2 to the question on telework. Prior to starting the survey, such households were identified on the level of the nineteen regional statistical offices making the interviews. The ad hoc module was naturally also asked in those one sixths of the households (about 6,000 households), i.e. in the first-wave participants, who answered yes to the question on telework.

Checking the given list of households against filled in questionnaires, however, suggested that interviewers actually did not ask the telework questionnaire in first-wave households. Two

regional offices (counties Hajdú-Bihar and Fejér) were exempt from doing the ad hoc module, as they were conducting a test of the basic LFS survey of 2003 and the ad hoc module on the youth of the fourth quarter together at that time.

The problem of a strict definition illustrated

In the fourth quarter of 2001, 499 individuals answered in LFS that they did regular or occasional telework, which is a significantly higher figure than what was expected from the size of the base population estimated to be 10,000 to 15,000. The analysis of the distribution by professions and education levels, however, suggested that several probably answered 'yes' even if they were not in the category of a teleworker (46% of those saying 'yes' had only primary education or a kind of secondary education which does not qualify a person for participating in higher education). Actual returns, however, were much fewer than expected.

Table 2.5 The number of teleworkers by county: Hungary

County	'Yes' for telework question in former LFS				
	June	July	August	September	Total
Budapest, Pest	141	56	56	13	125
Bács-Kiskun	27	3	0	0	3
Baranya	28	4	0	0	4
Békés	33	10	0	7	17
Borsod-Abaúj-Zemplén	34	1	0	0	1
Csongrád	14	1	2	2	5
Fejér	15	0	0	0	0
Győr-Moson-Sopron	32	0	1	0	1
Hajdú-Bihar	28	0	0	0	0
Heves	18	0	0	0	0
Jász-Nagykun-Szolnok	13	1	3	1	5
Komárom-Esztergom	24	1	1	0	2
Nógrád	14	0	0	0	0
Somogy	7	1	1	0	2
Szabolcs-Szatmár-Bereg	11	0	0	0	0
Tolna	10	0	0	0	0
Vas	2	0	0	0	0
Veszprém	26	0	0	0	0
Zala	22	0	1	1	2
Total	499	78	65	24	167

Source: Former waves of LFS

As is illustrated in the table above, altogether 167 questionnaires were returned. This is 0.6% of all employed persons in the sample. A large number of them, however, were failures, refusals or incomplete and thus not usable for further processing. The very significant difference between expected and actual returns is explained by the 'weakness' of the filter question and by the quality of the job the interviewers did. When the interviewer read out the question to the respondent: 'have you worked in your main job or business in telework (distance work) in the last four weeks?', he/she did not necessarily read out the definition of the term or, rather, certainly failed to do so. At a later stage of the interview, when the interviewer already had more information on the conditions of work of the target person, especially which would question the truthfulness of the 'yes' answer, the tight timing of the interview did not allow him/her to reiterate the question.

The probability of getting a 'yes' in certain occupational groups was increased by the special feature of the Hungarian language that it has no equivalent of 'telework'; 'distance work' in the basic questionnaire was simply understood as work done away from home. Nevertheless,

reading out the definition would have helped to grasp the idea. Yet only few interviewers did so.

The case is entirely different when the question on telework is a filter and 'yes' would lead to answering a separate questionnaire. In such a case the interviewer proceeds much more carefully and having finished the basic questionnaire and having collected all information he/she would correct the answer to the filter question lest he/she do the ad hoc module in clearly wrong cases.

The situation is well illustrated by the fact that having received the list of households to be interviewed (and having checked the survey questionnaire), smaller counties promptly responded that they had no teleworkers and the questionnaires had been filled in incorrectly. The monthly decreasing number of questionnaires is also the result of this 'clarification' process. The very low number of cases in September can be explained by the briefing held in the meantime for regional co-ordinators in order to make clear the weaknesses of data collection on telework. As several regional offices have mailed negative and failed questionnaires (which though gave 'yes' to the telework question), these had to be sorted out of the questionnaires to be processed. Due to incomplete information, further eight questionnaires were unusable. In the end the LFS produced 105 usable questionnaires, which was more or less what was expected by experts on the basis of the size of the sample of the quarterly LFS. In some cases, information in the questionnaires indicated that the respondent might not have been a teleworker. These, however, were not excluded from processing.

While the filter question on telework in LFS worked imperfectly, it can be safely said that those really doing telework understood the question correctly and answered 'yes'. The results suggest that it would be better to include a broader filter question that would exclude only those from further questioning who worked at such a site of the employer that can be regarded permanent.

2.2.3.2 The STILE telework questions tested in LFS context

The basis of our questionnaire for telework was the common list of questions of the STILE project as of 10th June, with minor differences and special features.

- Questions related to employees and self-employed were included in the same questionnaire but those questions that related to only one of these groups were marked. Checking such questions against the question 'status in employment' of LFS has not identified discrepancies in any of the cases (i.e. questions on self-employed were answered in all cases by persons who have identified themselves in the set of questions on the conditions of work as self-employed or as working members of partnerships, and in one case by a female member of a household who reported herself as a helping family member).
- In LFS the filter question referred only to the main job, and that was the case with the focus group too, only those doing telework as a main job were chosen. Second job teleworkers were thus not included in the sample, and questions on them were not included in the ad hoc telework module either. It is to be noted that in the full sample, the share of those reporting to do a second job is very low, amounting only to 2 or 3%. Answers in the questionnaires suggest that telework in many cases covers but one phase of the complete work activity.
- Furthermore, the questionnaire did not include the question on the subjective assessment of the impact on health and safety. The national user group decided it was irrelevant under the Hungarian conditions.
- The telework activity was not asked as an open question, instead respondents were asked to choose from the following thirteen categories:
  - sales activities;
  - customer service;
  - software development and support;
  - translation;
  - financial and accounting services;
  - typing, data processing;

- design, editing, R&D;
- managing other people;
- planning work;
- discussing problems;
- reading (documents, post and emails, theoretical works, etc.);
- data collection, data entry;
- administration.

Of the 140 respondents fifteen chose category 14 ‘other’, specifying the following activities:
- vehicle driving, procurement;
- taking orders (house-painters);
- making dentures;
- book binding;
- legal consulting;
- writing professional articles;
- taking orders;
- compiling curricula, related consulting, teaching materials;
- preparing economic analyses;
- SAP supervisor;
- computer consulting (over the phone).

Respondents were to mark not more than three of the fourteen categories as the ones most typical of their work activities.

In the last version of the questionnaire we worked with, the ICT question asked only about its owner, though it would also have been important to ask who pays the costs of ICT (it is to be remembered that in Hungary the Internet fee is extremely high in international comparison, which is a major obstacle to the spreading of telework).

The majority of the given exploratory variables in the basic questionnaire went through a selection process, and these pieces of information were asked from ‘true teleworkers’, too. These variables were as follows:
- gender;
- year of birth;
- marital status;
- number of children raised;
- education level, type of education, specialisation;
- occupation;
- employer:
  - sector;
  - size;
  - form of ownership;
- typical number of hours worked weekly;
- participation in training;
- do you have a second job?;
- when did you start working for your current employer?

The Hungarian categorisation of sectors is identical with NACE, while categories of education are based on ISCED. In the data taken over from LFS, lower secondary education was not separated from primary education as the two are taught in the same type of school. PhD and DLA were not asked separately as these kinds of programs were adapted in Hungary only in the mid-1990s and thus the probability of occurrence is low. The field of training was encoded on the basis of the Field of Education and Training Manual. In the Hungarian statistical coding system there is no direct correspondence between FEOR (Hungarian Classification of Occupation) and ISCO-88 on a 4-digit level. Due to international data requirements, the Hungarian Central Statistical Office encodes employment in LFS in a double way, registering both the FEOR and ISCO codes. The data taken over included the ISCO code and in the case of the focus group, too, occupation was encoded accordingly.

Chapter
3

The sample for the pilot test

3.1 Sample criteria

The pilot testing of the telework module has been carried out in different participating countries (Belgium, Hungary, Italy, Ireland and United Kingdom). The shape of the pilot testing differs from country to country, depending on the national opportunities.

Before describing the characteristics of the STILE sample it is useful to reiterate that the objective of the project is not to measure the extension of telework but to identify the indicators that allow it to be measured and to gather some qualitative characteristics.

In short, the pilot inquiry was aimed at testing the validity of a research instrument, its comprehensibility and ease of use but also its success in capturing the range of indicators previously identified by the STILE partnership.

When putting together the sample, an attempt was made to ensure the typological representation of the population under analysis (workers and *e*Workers), and to include a sufficient number of teleworkers to allow the functioning of specific questions on telework to be tested.

The best solution to meet such an objective was to divide up the sample of two hundred units, as outlined in the initial phases, between workers and teleworkers. The option for a random sample of workers, would have offered little possibility of obtaining a sufficient number of teleworkers to test the validity and reliability of questions on telework. The choice to interview only teleworkers, on the other hand, would not have offered the opportunity to test how the questions are perceived and understood by the general public. Moreover, the core indicators could reveal new forms of work if they were also asked to people who don't work in a typical form of telework.

It was thus decided to interview one hundred workers and one hundred teleworkers, without dismissing the possibility of finding teleworkers among the hundred workers interviewed. For the two subgroups two different methodologies were pursued, with some national differences (see report D5.1). Whenever available, specific lists of practising or aspirant teleworkers were used, in other cases a snow-ball sample method was applied as illustrated in detail in the individual national reports (see report D5.1). The following table shows the number of interviews conducted in the various countries.

Table 3.1 Number of workers and teleworkers in the sample

	Workers	Teleworkers	Total
Belgium	79	97	176
Italy	100	100	200
UK	101	101	202
Hungary	-	-	140
Total	280	298	718

Source: National reports on the pilot tests (see D5.1). In the Hungarian case it was not necessary to have a list of teleworkers because the survey was inserted in the LFS survey (cf. supra)

The achieved sample reflects the difficulties encountered in selecting the sample. Therefore it is not representative of the total population of teleworkers in each country. It does, however, contain examples of each of the main types of teleworking identified in literature and also a number of borderline cases that were chosen in order to test the definitional boundaries between these types.

The following paragraph will take a look at the characteristics of respondents, taking into consideration some general (sex, age, qualifications) and professional (status and work position) aspects.

3.2 A picture of respondents

3.2.1 Gender

A first important aspect is the gender distribution as it allows a profile of the respondents to be outlined. Table 3.2 illustrates that in all the countries men represent the majority of interviewees, reflecting the gender distribution in the national labour market.

Table 3.2 Gender of respondents by country (frequency and column percentage)

Gender	Belgium		Italy		UK		Hungary		Total	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Male	94	53.4	117	58.5	112	55.4	89	63.6	412	57.4
Female	82	46.6	83	41.5	90	44.6	51	36.4	306	42.6
Total	176	100.0	200	100.0	202	100.0	140	100.0	718	100.0

Source: Data of national STILE pilot tests, computed by IRES

In the Italian case women are overrepresented. This is mainly due to the teleworking population. For the non-teleworkers an attempt was made to reflect the general rates in the labour market (in the 'worker' sample, 31% of the respondents are women and 69% are men). Because of the snowball sample method for the composition of teleworkers' group more women than men were contacted. Of the teleworkers interviewed, a good 52% are women. Given that women represent only 37.4% of the general working population, they are overrepresented in the pilot sample.

In the UK case the sample reflects more closely the gender distribution of the general working UK population than the teleworking population. This high female presence among teleworkers is however not startling if we consider the typical characteristics of the labour market and reasons that propel workers to choose telework. In fact women are more likely than men to be involved in forms of atypical work and, as the sample will illustrate, there is a

large presence of teleworkers with autonomous 'atypical' contracts (parasubordinate and casual contracts) or self-employed, who are women. The high presence of women is also explained by the reasons that attract women to telework, namely the necessity to balance work and family responsibilities.

In the Hungarian case, in all teleworkers, the share of men (63.6%) was greater in the teleworking group than in the total working population (55.1%).

3.2.2 Age

In both subgroups, the respondents generally are concentrated in the central age group (between 31 and 45), as is illustrated in the table below. There is however a substantial percentage of young people; 18.7% are under 31. The differences between the countries are due to the different features of the labour markets but also to the way in which the interviewees were contacted.

Table 3.3 Age of respondents by country (frequency and column percentage)

Age	Belgium		Italy		UK		Hungary		Total	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Less than 31	47	26.7	30	15.0	31	15.3	28	20.0	136	18.9
31-35	36	20.5	40	20.0	31	15.3	22	15.7	129	18.0
36-40	34	19.3	48	24.0	24	11.9	22	15.7	128	17.8
41-45	26	14.8	32	16.0	32	15.8	17	12.1	107	14.9
46-50	17	9.7	12	6.0	25	12.4	35	25.0	89	12.4
More than 50	15	8.5	36	18.0	59	29.2	16	11.4	126	17.5
Total	175	99.4	198	99.0	202	100.0	140	100.0	715	99.6
Missing	1	0.6	2	1.0	0	0	0	0.0	3	0.4
Total	176	100.0	200	100.0	202	100.0	140	100.0	718	100.0

Source: Data of national STILE pilot tests, computed by IRES

In Belgium, the percentage of young people below 31 is a lot higher (26.7%) compared with Italy and the UK (roughly 15%). In the UK case, the age distribution in the sample is closer to that of the teleworking population, whereas in the Italian sample there is a greater presence of young people among the teleworkers compared with the workers interviewed. Almost two thirds of the teleworkers interviewed are between 31 and 45 and about 10% are under 31. It is thus a rather young population which is consistent with the fact that use is made of ICTs. In this case there is little difference between men and women except for the greater presence of 'over 45-year-olds' among men.

In Hungary, the overwhelming majority of teleworkers in both genders is in the age group 30 to 50, the best from the point of view of activity, while the shares of the younger and the elderly were nearly the same (low) percentages. There were no teleworkers over 60, but generally, the labour market presence of elderly age groups is insignificant anyway.

3.2.3 Educational level

Other useful information to complete the profile of the respondents is their qualifications. In general the respondents' educational level is quite high, especially when compared with the educational levels of the workers in the various countries. Undoubtedly, this is a reflection of the membership of some of the employment organisations from which the teleworkers were identified. The fact that the teleworkers are probably more educated than the general working population due to the type of work that they do, is another reason. There were large differences between the countries, which is attributable to the sampling strategies.

Table3.4 Educational level by country (frequency and column percentage)

Educational level in classes	Belgium		Italy		UK		Hungary		Total	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
No qualifications	-	-	1	0.5	9	4.5	-	-	10	1.4
Primary school (up to 14 years)	5	2.9	27	13.6	-	-	10	7.1	42	5.8
Secondary school (up to 18 years)	41	23.4	109	54.8	26	13.1	61	43.6	237	33.0
Degree or more	128	73.1	62	31.2	163	82.3	69	49.3	422	58.8
Total	175	100.0	199	100.0	198	100.0	140	100.0	712	99.2
Missing	1	-	1	-	4	-	-	-	6	0.8
Total	176	-	200	-	202	-	140	100.0	718	100.0

Source: Data of national STILE pilot tests, computed by IRES

3.2.4 Household

The following table focuses on the analysis of the respondents' marital status and on the presence of children. First of all, most of the respondents are married or live with their partner which reflects the main age group of the sample. The situation is quite similar in the various countries although there are more single people in the Italian sample.

Table 3.5 Marital status by country (frequency and column percentage)

Marital status	Belgium		Italy		UK		Hungary		Total	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Unmarried	62	35.2	76	38.0	66	32.7	53	37.9	257	35.8
Living with partner	114	64.8	124	62.0	136	67.3	87	62.1	461	64.2
Total	176	100.0	200	100.0	202	100.0	140	100.0	718	100.0

Source: Data of national STILE pilot tests, computed by IRES

The presence of children is another interesting indicator for the household situation of respondents. 42.5% Of the respondents have children. As illustrated in Table 3.6 there are differences between the countries. In Belgium 68.4% of the interviewees have children whereas in the UK the percentage is only 11.3%. The UK figure is considerably lower than that of the other two pilots, as the UK only reported respondents who had dependent children that were under five years of age.

Table 3.6 Children in household by country (frequency and column percentage)

Presence of children	Belgium		Italy		UK		Hungary		Total	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Yes	108	68.4	104	52.8	22	11.3	58	41.4	292	42.3
No	50	31.6	93	47.2	173	88.7	82	58.6	398	57.7
Total	158	100.0	197	100.0	195	100.0	140	100.0	690	100.0
Missing	18		3		7		0		28	4.1

Source: Data of national STILE pilot tests, computed by IRES

3.2.5 Occupational status

In addition to the person related characteristics, it is important to explore certain work characteristics. First of all their occupational status. A little less than two thirds of the interviewees are employees whereas 35.5% are self-employed. In this case there are difference between the countries.

Table 3.7 Job status by country (frequency and column percentage)

Job status	Belgium		Italy		UK		Hungary		Total	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Employee	127	72.2	123	61.5	123	60.9	100	71.4	473	65.9
Self-employed	49	27.8	77	38.5	79	39.1	40	28.6	245	34.1
Total	176	100.0	200	100.0	202	100.0	140	100.0	718	100.0

Source: Data of national STILE pilot tests, computed by IRES

Despite the low ratio of self-employed (in main job) in Belgium, this group is overrepresented in the sample. In the Flemish[5] population only 15.0% of the working people are self-employed or assistant of a self-employed family-member. The choice to use a database of people that are self-employed for their main or second job for the composition of the sample, made it possible to include a relatively high proportion of self-employed.

The teleworkers in Belgium (Working at a distance in main job), are mainly managers, consultants and company advisors. The table suggests that telework maintains the existing gender division over occupations. Distant working men are represented mainly in the categories of managers, consultants and informaticians and company-advisors. In the group of the female distant working respondents, administrative and secretarial workers are much more represented than in the male group, whereas informaticians are less represented in the female group.

Table 3.8a Position on profession by gender: Belgium (frequency and column percentage)

Belgium	Male		Female		Total	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Administrative and secretarial	2	2.8	11	20.7	13	10.5
Manager	19	26.8	11	20.7	30	24.2
Informatician*	10	14.1	1	1.9	11	8.9
Consultant	10	14.1	3	5.7	13	10.5
Company advisor	11	15.5	6	11.3	17	13.7
Translator	2	2.8	3	5.8	5	4.0
Technician	3	4.2	0	0.0	3	2.4
Other occupations	14	19.7	18	33.9	32	25.8
Total	71	100.0	53	100.0	124	100.0

* Informaticians are all employees carrying out software related tasks such as programmers, analyst programmers, software engineers, etc.
Source: Data of national STILE pilot tests, computed by IRES

In the Italian case, self-employment among teleworkers is greater than the distribution of employees. It should however be mentioned that telework in Italy is still not very widespread

5 The data refer to Flanders. This is the Nordic, Dutch speaking part of Belgium. As the South part of Belgium (Wallon) is French speaking, inhabitants of this part of Belgium are not included in the study.

among employees. In fact many companies are not willing to introduce telework for various reasons (organisational, cultural, economic).

More than a third of teleworkers (38%) are employees, 20% freelance, 13% middle managers, 12% parasubordinate workers and 9% casual workers. Employees represent the greatest percentage even among the workers (41%), followed by blue-collars (20%) and the self-employed (13%).

In Italy there is a high proportion of employees among male workers and teleworkers. Of these there are also quite a lot of middle managers and freelancers. Even among the women in both subgroups there is a high proportion of employees but it should be noted that there is a significant presence of parasubordinates and casual workers. Of the teleworkers there is also a high percentage of freelancers.

The various inquiries used various classifications of the respondents' job status consistent with the various national surveys. In Italy almost half the respondents are employees or manual workers, 16% are entrepreneurs or freelancers, 13% are parasubordinate workers, 9.5% autonomous workers and 11% are top or middle managers.

Table 3.8b Position on profession by gender: Italy (frequency and column percentage)

Italy	Male		Female		Total	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Employed						
Top and middle managers	13	11.0	9	10.2	22	11.0
Blue and white collars	64	54.2	37	42.0	101	50.5
Self-employed						
Parasubordinates	10	8.5	16	18.2	26	13.0
Entrepreneurs and freelancers	20	16.9	18	20.5	32	16.0
Autonomous workers	11	9.3	8	9.1	19	9.5
Total	118	100.0	88	100.0	200	100.0

Source: Data of national STILE pilot tests, computed by IRES

In the UK case the sample based on at least 50% teleworkers is also biased towards the self-employed and the occupational profile is dominated by the occupational categories of managers, professionals and associate professionals This is consistent with a similar employment and occupational distribution among teleworkers reported in the UK Labour Force Survey. Looking at the gender distribution, the UK sample shows that there is very little variation in the occupational breakdown between men and women. However, as in the case of the UK population overall, men were more likely (9 percentage points) to be working in managerial, professional or associate professional occupations than their female counterparts.

Table 3.8c Position on profession by gender: UK (frequency and column percentage)

UK	Male		Female		Total	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Manager or administrator	21	18.8	16	17.8	37	18.3
Professional	32	28.6	23	25.6	55	27.2
Associate prof. and technical	48	42.9	34	37.8	82	40.6
Clerical and secretarial	4	3.6	10	11.1	14	6.9
Craft and related	1	0.9	1	1.1	2	1.0
Other occupations	6	5.4	6	6.7	9	4.5
Total	112	100.0	90	100.0	202	100.0

Source: Data of national STILE pilot tests, computed by IRES

In Hungary, teleworkers are mainly professionals, especially amongst women, and managers in the case of men. Furthermore, there is a large majority of female teleworkers who work in the service sector.

Table 3.8d Position on profession by gender: Hungary (frequency and column percentage)

Hungary	Male		Female		Total	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Legislators managers (ISCO major group 1)	15	16.9	3	5.9	18	12.9
Professionals (ISCO 2)	29	32.6	25	49.0	54	38.6
Technicians and ass. prof. (ISCO 3)	17	19.1	9	17.6	26	18.6
Clerks (ISCO 4)	2	2.2	4	7.8	6	4.3
Service workers (ISCO 5)	4	4.5	5	9.8	9	6.4
Craft and related workers (ISCO 7, 8)	20	22.5	5	9.8	25	17.9
Other occupations	2	2.2	0	0.0	2	1.4
Total	89	100.0	51	100.0	140	100.0

Source: Data of national STILE pilot tests, computed by IRES

3.2.6 Sector

Finally, the distribution between the different sectors of economic activity is very interesting. In Belgium a major part of the respondents can be situated in the sector of the ‘Computer and related activities’ and in that of ‘Other business activities’. This distorted distribution can be attributed to the sampling methodology. First of all because the selection of the organisations that were contacted to introduce the research by their employees, was led by the EMERGENCE results on the sector division of *e*Work organisations. A second reason is that for the selection of interesting employees it was suggested to focus on people working (at least sometimes) at a distance from the office and also on some people always ‘working at the office’. This resulted in an overrepresentation of some typically ‘teleworking people’.

In Italy, the respondents work mainly in service sectors. As is illustrated in the table below, 23.5% of them work in K sectors, which includes research and development and computer-related activities, 19.5% of them work in ‘Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods', 12% in public administration, 11% in transport and telecommunications. Only 6% work in the manufacturing sector.

Even though it is not a representative sample of teleworkers, it is not surprising that there is a high presence in services of teleworkable activities that are mainly concentrated in this sector.

Table 3.9 Distribution over economic activity by country (frequency and column percentage)

Economic activity	Belgium		Italy		UK		Hungary		Total	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Agriculture, hunting, forestry	-	-	2	1.0	-	-	3	2.1	5	0.7
Manufacturing	13	7.4	12	6.0	17	8.4	11	7.9	53	7.4
Electricity, gas & water supply	8	4.5	3	1.5	3	1.5	2	1.4	16	2.2
Construction	-	-	5	2.5	-	-	8	5.7	13	1.8
Wholesale & retail trade	6	3.4	39	19.5	13	6.4	17	12.1	75	10.4
Hotels & restaurants	2	1.1	3	1.5	1	0.5	0	0.0	6	0.8
Transport, storage & communication	13	7.4	22	11.0	5	2.5	37	26.4	77	10.7
Financial intermediation	15	8.5	8	4.0	-	-	5	3.6	28	3.9
K70 Real estate	6	3.4	-	-	4	2.0	1	0.7	11	1.5
K72 Computer & related activities	28	15.9	21	10.5	34	16.8	13	9.3	96	13.4
K73 R&D	-	-	13	6.5	5	2.5	1	0.7	19	2.6
K74 Other business activities	34	19.3	13	6.5	41	20.3	17	12.1	105	14.6
Public administration	14	8.0	24	12.0	1	0.5	5	3.6	44	6.1
Education	2	1.1	6	3.0	18	8.9	3	2.1	29	4.0
Health & social work	9	5.1	12	6.0	3	1.5	1	0.7	25	3.5
Other community, personal services	25	14.2	15	7.5	55	27.2	16	11.4	111	15.5
Household activities	-	-	1	0.5	1	0.5	0	0.0	2	0.3
NA	1	0.6	-	-	-	-	0	0.0	1	0.1
Total	176	100.0	200	100.0	202	100.0	140	100.0	718	100.0

Source: Data of national STILE pilot tests, computed by IRES

In UK the largest single sector was Business, Real Estate and Related Activities (41.6%), which included Computer and Related Activities (16.8%) and Other Business Activities (20.3%). This is consistent with the fact that the sample was disproportionately drawn from a population of known teleworkers and these workers were more likely to be working in business support related fields.

The biggest percent of interviewed persons work in the sector of ‘Transport and communication’ and in ‘Real estate and business activities’ in Hungary. The next more frequent activities were ‘Wholesale and Retail trade’. Nearly two thirds of respondents worked in one of these three sectors. The breakdown by sectors was influenced by the fact that over two thirds of the focus group worked in the same telecommunications company.

Chapter
4

Administering the interviews

4.1 The interviews

Because of practical limitations it was difficult to organise computer-assisted telephone interviews (CATI). The telephone interviews had to be assisted by printed versions of the questionnaire. Although, the script for the CATI system was developed in the UK case.

In Belgium the telephone interviews were carried out between September 2nd and September 15th, between 5.30 p.m. and 9.00 p.m. There were five interviewers calling. They were introduced to the project at the beginning of the data collection phase.

In Italy, the interviews were administered between 15th July 2002 and 9th August; the reference week was 8-14th July. The interviews were conducted throughout the day, from 9 a.m. to 8 p.m., to ensure that all the potential respondents could be contacted. In some cases it was necessary to call back the interviewee after having arranged a specific appointment for the interview.

In the UK the interviews were carried out in July 2002. Two experienced interviewers conducted the fieldwork from Monday to Saturday between the hours of 9.00 a.m. and 8.00 p.m.

Finally the Hungarian interviews were of a paper and pencil type, and were carried out in July-September as an ad hoc module of the LFS.

The interview lasted an average of twenty minutes with the teleworkers; In the case of the general respondents, who did not go beyond the filter questions, (workplace, use of ICT technologies, frequency of connections) the duration was approximately five minutes.

It should be stressed that on the whole the questionnaire did prove to be successful and, in the vast majority of cases, there were no problems in its administration. As with any pilot, however, the testing process did highlight some areas in which there is scope for further development or improvement. These areas are the subject of this chapter.

4.2 Testing the questions

In general, the pilot has suggested a need for further simplification. Some terminology was not clearly understood by many respondents and/or required a very high degree of interviewer guidance. Other questions had poor response rates, suggesting that alternative methods of collecting this information need to be explored. Turning to specific areas of the questionnaire, the experiences of the pilot allow to formulate some more concrete conclusions and recommendations.

4.2.1 Place of work

The location variable was reasonable successful but it required close interviewer guidance. However, it should be mentioned that different interview strategies and data codification were adopted in the three countries in order to better align the questionnaires with the respective national surveys.

In Italy, the question on work location was formulated as a multiple-choice question. Furthermore, the first options read by the interviewer, in Italy, were related to non-traditional work locations (at home, on the move, etc.). Whereas in the UK, in Belgium and Hungary, it was decided to formulate a yes/no question for every work location. This strategy led to a high percentage of missing answers, highlighting the incomprehension of some terms, like telecentre or telecottage which are less known by the majority of interviewees.

It is also interesting to note the list of other remote locations that were mentioned by respondents, like:

- hotel rooms;
- conference centres;
- community centre;
- different companies, at respondents' premises;
- the customer's office where different sites throughout the country are operated;
- an establishment at a distance from the head office; at the parental home (self-employed);
- across the country.

Based on this overview, two important conclusions were drawn up by the Belgian partners.

First of all, it seems that the description: 'At more than one location belonging to your customer's or client's' can not cover 'all places where work is to be carried out on site'. The pilot testing has taught that the answering category is limited, focusing too much on commercial activities. Pollsters visiting respondents for example, found it hard to define their place of work, based on this category. The filtering capacity of the question has shortcomings, which can find a solution in a little change in the wording of the answer categories.

Secondly, there were certain respondents working systematically at the location of one single customer or at an establishment at a distance form the head office. These 'distant places' are their fixed workplace. They were however not put into the category 'at one single location of the employer' and they were asked the telework questions. As they work only at one fixed workplace they should not be filtered out. This leads to the conclusion that the first answer category is too limited as it only includes the employer's location. The problem mentioned here can be solved by rewording the question. As this rewording would complicate the question too much, the option of prospecting the problem within the interviewer guidelines is better.

4.2.2 ICT usage when working at a distance

The success in using the ICT questions to produce filters for defining teleworking was mixed. This was partly because the 'others' category was often filled with less than relevant equipment (e.g. fax machines). The emphasis on detailed technologies (e.g. dial up internet versus broadband) required a high level of interviewer guidance and appeared unfamiliar to several respondents. Moreover, the information on the specific technologies has proved to have no filtering power. Information on the intensity of computer usage when working at a distance, or on the importance of an ICT link to carry out work at a distance is more important to distinguish teleworkers from traditionally distant working people.

Nevertheless, if the ICT question is used, the answering categories should be simplified. The list should not distinguish between a laptop and a desktop or between broadband and dial up internet access.

Furthermore, there were problems with the question on the provision (by the respondent or employer) of each type of technology used. For instance, in the Italian case, 98% of the employers who provide one technology do the same for the other technologies used when working at a distance. It would be easier to ask a general question: 'Who provides the ICT technology that you use to work at distance (from traditional premises)?'.

4.2.3 Intensity of working at a distance

The interviewers experienced some difficulty with the intensity questions as many respondents with 'non-traditional' work location patterns also varied the amount of time spent at these locations from week to week. Consequently, the addition of the phrase: 'On average'

before ‘In the last four weeks’ is necessary. It was also felt that there was little need for respondents to be given the option of replying in fractions or percentages.

The high levels of non-response, however, needs to be explored in some greater detail. For certain respondents it was difficult to say how many hours they spent on one specific place at a distance. Especially the group of respondents with a very nomadic working pattern experienced difficulties with respect to the intensity question (Belgium). One option would be to provide categories in the same form as the more complex, yet better answered, question on amount of time spent ‘online’. Another option is to ask how many hours a week the respondents spent on average ‘at a distance’ in general.

4.2.4 Second job

In all the countries where the questionnaires were administered, few interviewees declared having a second job (an average of approx. 10%) and of these the quota of teleworkers was very slight. This suggests that extending the telework questions to those who claim to have a second job weighs down the questionnaire and does not provide particularly significant results.

Table 4.1 Second job (frequency and row percentage)

	Frequency	Percentage
Belgium	25	14.2
Italy	7	3.5
UK	25	12.4
Hungary	13	9.3
Total	70	9.7

Source: Data of national STILE pilot tests, computed by IRES

4.2.5 Subjective assessment of the impact on health and safety

The questions on the assessment of the impact of telework on health and safety have caused many problems. They may require reassessment, rewording or clear interviewer guidance. In Belgium and in the UK respondents wanted to split up the concept of health and safety into two separate aspects. Some respondents indeed experienced better safety but worse health conditions. This was especially the case for people who work some days at home, thus avoiding traffic related risks. For these respondents the ergonomics of the office-infrastructure at home is often worse than at the office.

4.2.6 Formality of the arrangement

Also the question on the formality of the arrangement was problematic and may require reassessment, rewording or clear interviewer guidance.

4.2.7 Reasons for telework

It was difficult for some respondents to express one single reason for working at a distance and to distinguish between initial motivations and the effects of telework. However the question worked well on the whole, although it would be necessary to add the answer code item: ‘Cost or financial reasons’. The most important answers added to the categories in this question are:

- to gain more variety in job;
- to meet team members on a regular basis, once in the neighbourhood of one team member, the next time closer to another member;

- technical infrastructure was available;
- to save office costs;
- to give full rein to creativity;
- the opportunity was offered by the organisation;
- to maintain good communication with the company;
- lost permanent job.

4.2.8 Activities carried out when working at a distance

The response to the activities question varied between processes (e.g. use of spreadsheets, telephones, etc.), occupations and functions (managing, editing, writing). This suggests that there was no single interpretation as to what was meant by 'activity'. Therefore it will be necessary to refine the limits of this question or consider dropping it.

The Belgian partners propose to distinguish four main categories of tasks. First of all there are some tasks referring directly to the job. Based on these answers one can say directly which job the respondent occupies. These tasks make out the core of the work.

Next to these tasks, one can distinguish tasks that are carried out in preparation for the 'real work'. Writing presentations, preparatory work, drawing up difficult documents are examples of these tasks.

A third group of tasks mentioned are those performed to 'complete' work. Administration, data-input, quality control, writing reports on customers contacts, etc.

A fourth group of tasks are focused on the co-ordination of work. Team meetings, but also communication are tasks that can be placed under this group.

By putting forward these main categories and explaining them, respondents are forced to take into account all kinds of tasks and to give more specific answers.

In the Italian case, the answers were codified in an open mode. In principle it was possible to gather the wide range of activities that can be conducted at a distance. Even in this case, the respondents found it difficult to describe the activities carried out at a distance. The open answers collected could be classified between a practical activity (to do), knowledge activity (to think) and relational activity (to communicate). An example of an alternative way of asking the activity question is then:

Since you work at a distance, which kind of activity do you do better, the same as, or worse than in the traditional workplace?

	+	=	-
To do (practical activity)	❑	❑	❑
To think	❑	❑	❑
To communicate	❑	❑	❑

4.2.9 Completeness of the questionnaire

The respondents' answers to the question whether they missed certain telework related issues that were not covered in the questionnaire, have taught that the module covers all relevant aspects that should be asked within a LFS context. The issues mentioned by respondents can however be a valuable inspiration for future research on the impact of new work forms.

On the whole, many of the suggestions made for additional questions are of a subjective or attitudinal nature. Some respondents stressed the positive aspects of telework, other highlighted the necessity to ask questions also on the negative aspects. The following aspects are mentioned:

Positive aspects:
- benefits for the family;
- better time management;
- autonomy;
- possibility to work better;
- avoid bad office relations;
- improved relationship between employee and employer;
- opportunity to recuperate some social relations;
- saving time which allows a better balance between work and family responsibilities.

Negative aspects:
- solitude;
- isolation or a sense of abandonment for telehomeworkers;
- less career prospects for those that choose to work from home;
- technological difficulties encountered;
- extra work produced by working at a distance;
- difficulty in separating work from private life.

In Belgium a lot of respondents emphasised the work related consequences of telework. Positive consequences mentioned refer to the efficiency and the flexibility of work. Negative aspects mentioned concern the difficulties to co-ordinate teamwork.

Lastly, some respondents mentioned that it would be a good idea to look into the teleworker's level of satisfaction, the eventual improvement of work quality, changes in training people working at a distance, differences in remuneration and the importance of incentives to increase the diffusion of this form of work.

It is not common for these types of questions to feature in the UK Labour Force Survey and we therefore feel that the pilot did not identify any areas that were not adequately covered.

Chapter
5

Describing telework

5.1 Using core indicators to define teleworkers

The core indicators inserted in the questionnaire were aimed at detecting teleworkers in a questionnaire targeted at the general public by proposing a classification of the various forms of telework. As already mentioned, it is not possible to define the teleworkers through a single question, given the multidimensional nature of the phenomenon. It is thus necessary to combine various questions.

5.1.1 Starting with the place of work

Having said this, it would be possible from the juxtaposition of location, technology and intensity to derive many differing definitions of 'teleworkers', 'mobile workers', 'multilocational workers' or 'occasional teleworkers' that would allow researchers to address quite different policy issues as discussed in Chapter 8.

In the STILE case, the first question useful to detect teleworkers is the one which asks the respondent where he or she has worked in the reference week. The answer codes comprise traditional locations ('at just one location belonging to your employer') as well as those typical of telework ('at home', 'on the move' or 'in more than one location belonging to customers or clients'. It was possible to supply more than one answer. In order to ensure sufficient cell sizes for any analysis, however, there is a need to aggregate some of the locations.

By combining the answers it is possible to detect four types of workers: the *stationary* workers who work only at their employer's location, the *mobile workers* who work exclusively 'on the move', the workers that work exclusively from *remote stations*, the *multilocational workers* that work both from mobile, or remote stations, or from their employer's location.

Table 5.1 Combination of workplaces (frequency and column percentage)

	Belgium		Italy		UK		Hungary	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Traditional workers	58	33.0	94	47.0	39	19.3	10	7.1
Mobile no TW	-	-	6	3.0	-	-	-	-
Mobile workers	5	2.8	0	0.0	3	1.5	4	2.9
Telehomeworkers	18	10.2	26	13.0	21	10.4	21	15
Mobile and remote workers	28	15.9	20	10.0	19	9.4	17	12.1
Stationary and remote workers	26	14.8	48	24.0	16	7.9	57	40.7
Stationary and mobile workers	27	15.3	0	0.0	13	6.4	13	9.3
Stationary, remote and mobile workers	14	8.0	6	3.0	91	45.0	10	7.1
No answer	-	-	-	-	-	-	8	5.7
Total	176	100.0	200	100.0	202	100.0	140	100.0

Source: Data of STILE pilot study on telework, 2002, processed by IRES

5.1.2 Combining with ICT usage

At this point it is necessary to use the filter on technology (ICT technology) to check that there aren't mobile workers or those that work from remote stations that cannot be classified as teleworkers (street vendors, tailors, sales representatives, etc.).

As regards the technologies, it should be specified that the question on technological equipment did not give any significant results in the Italian case. In fact all those considered to be teleworkers declared owning a PC and having some sort of telematic connection. Therefore it was concluded that the ICT emphasis has to be placed on the general use of a computer for the delivery or receipt of work, e.g. via the internet or organisational network, rather than lists of specific technologies. This list is not only too complicated, it may also become outdated and incomplete long before the questionnaire ever makes the transition from pilot to final survey.

What is more, the question was not put to the non-teleworkers, perhaps it would have been useful to ask a question on technological equipment to the workers to allow a comparison to be made. Doing so would indicate how many workers are equipped to work at a distance, if given the opportunity. The following table gives an overview of the typology resulting from a cross tabulation between place and ICT usage.

Table 5.2 Typology on the basis of workplace and ICT usage

Non teleworker
Mobile worker no teleworkers
Telehomeworker
Mobile *e*Worker
Multilocational *e*Worker

5.1.3 Inserting the intensity variable

Only the last three types can be considered as teleworkers. In any case, it is opportune to distinguish the teleworkers even on the basis of frequency of working at a distance. This finally leads to the issue of intensity. An important question arising concerns what measure of intensity should be used to define telework. This indicator should make it possible to distinguish 'full-time', 'occasional' telework and eventual other forms between these extremes.

Various alternatives are available. First of all there is the question on the time spent working online when working at a distance. Secondly, the question on the time spent working on a computer when working at a distance may be an interesting alternative. Thirdly, the pilot included a question on the time spent working at a remote location.

The development of broadband and 'third generation' mobile technology makes it increasingly difficult to calculate the time spent 'working' online as people are permanently networked but the time spent sending or receiving work may only account for seconds. Having an online connection for work related purposes is, therefore, more interesting (from a filtering point of view) than measures of frequency or intensity. The time spent 'working on a computer at a remote location' or time spent 'working at a remote location' are better indicators of the intensity of teleworking.

The 'time spent on a computer' can be a valuable indicator for the intensity of using ICT when working at a distance. There is a great probability that the intensity of computer usage is a valuable indicator for the degree of dependency upon information technology in order to carry out their job. In certain research contexts it may be important to be able to see, not only which forms of telework have been enabled by the application of ICT, but also which could not have been conducted without it. The UK and Ireland have experiences with a question searching for that information (cf. infra).

5.1.4 The STILE typology

In accordance with the first definition of telework[6], it is possible to consider those that work at a distance for less than 20% of their working time (one day a week) as occasional teleworkers. By combining these with the ICT usage variable, it is possible to distinguish 6 types of telework. The table below offers an illustration. The variables also allow to compose other (new) forms of telework, depending on the research question. In some research it may be for instance useful to be able to compare teleworkers who never work at their employer's premises with those still having the opportunity to meet colleagues at the office. Thanks to the elaborated exploration of the different work places, this kind of comparison is also possible. The other category allows researchers to follow up evolutions in telework.

Table 5.3 Typology of individualised telework

	More than 20% computer usage AND in remote locations for more than 20% of time	Less than at least 20% computer usage OR in remote locations for less than at least 20% of time
Works from home	Telehomeworker	Occasional telehomeworker
Mainly works from multiple customer or employer locations or from home	Multilocational *e*Worker	Occasional multilocational *e*Worker
Works on the move	Mobile *e*Worker	Occasional mobile *e*Worker

In the inquiry conducted the distribution of the types is as follows:

Table 5.4 Typology of telework

	Belgium		Italy		UK		Hungary		Total	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Telehomeworker	14	8.0	24	12.0	17	8.4	10	7.1	65	9.1
Multilocational *e*Worker	77	43.8	69	34.5	116	57.4	65	46.4	327	45.5
Mobile *e*Worker	0	0.0	0	0.0	3	1.5	0	0.0	3	0.4
Occasional telehomeworker	2	1.1	2	1.0	23	11.4	11	7.9	38	5.3
Occasional multilocational *e*Worker	15	8.5	6	3.0	8	4.0	32	22.9	61	8.5
Occasional mobile *e*Worker	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
No teleworker	68	38.6	99	49.5	58	28.7	22	15.7	247	34.4
Total	176	100.0	200	100.0	202	100.0	140	100.0	718	100.0

Source: Data of STILE pilot study on telework, 2002, processed by IRES

In conclusion, it can be said that the best questions to detect teleworkers are the ones on workplace and percentage of work time spent at distance. The question on technology could be simplified so as to distinguish between teleworkers and homeworkers.

6 Working at a distance and using some kind of ICT tool.

5.2 Exploration of basic characteristics of teleworkers

5.2.1 Combinations with generic indicators as a basis

The following paragraphs discuss the features of the various types of teleworkers. It is important to remember that the data are not entirely reliable because of the small sample size and the non-random selection of sample entities. However, the results do present some interesting aspects.

5.2.1.1 Job status

First of all it is interesting to observe the distribution between employees and the self-employed. In the Italian case there is a concentration of telehomeworkers among the self-employed. This is due to the high number of parasubordinate workers whose contractual conditions allow them to work at a distance. The other types of telework are common among employees who do not work exclusively at a distance. It is more usual for them to work in more mixed forms (either from home or from other locations, including the office).

Table 5.5 Professional status by type of telework (column percentage)

	Belgium		Italy		UK		Hungary	
	Empl.	Self-empl.	Empl.	Self-empl.	Empl.	Self-empl.	Empl.	Self-empl.
No teleworker	45.7	20.4	56.1	39.0	11.0	39.8	15.0	17.5
Telehomeworker	2.4	22.4	6.5	20.8	13.4	4.9	5.0	12.5
Multilocational *e*Worker	41.7	49.0	31.7	39.0	68.3	48.8	52.0	32.5
Mobile *e*Worker	0.0	0.0	0.0	0.0	3.7	2.4	7.0	10.0
Occasional *e*Worker	10.2	8.2	5.7	1.3	3.7	4.1	21.0	27.5
Total (N)	127	49	123	77	82	123	100	40

Source: Data of STILE pilot study on telework, 2002, processed by IRES

5.2.1.2 Gender

The following analyses focus on the general features of the teleworkers in relation to the various typologies of telework detected. The focus of the discussion will be on the analysis opportunities and on the informational value of the combination with the gender variable.

Table 5.6a Gender by typology of telework: Belgium (column percentage)

Belgium	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Male	42.9	59.7	0.0	46.7	54.6
Female	57.1	40.3	100.0	53.3	45.4
Total (N)	14	77	2	15	108

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Based on the research findings of EMERGENCE, ICT sectors are highly represented in the group of multilocational workers (Huws, 2002). If this conclusion is combined with the problem of underrepresentation of women in ICT occupations (EITO, 2002; Webster, 2002), the com-

bination between the STILE telework indicators and gender-information can offer interesting information.

In Italy the concentration of women in the telehomeworker and the occasional multilocational *e*Worker categories is higher than in Belgium.

Table 5.6b Gender by typology of telework: Italy (column percentage)

Italy	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Male	45.8	50.7	50.0	33.3	48.5
Female	54.2	49.3	50.0	66.7	51.5
Total (N)	24	69	2	6	101

Source: Data of STILE pilot study on telework, 2002, processed by IRES

In the UK the sample reflects more closely the gender distribution of the general working UK population than the teleworking population, with six out of ten teleworkers comprising of males.

Table 5.6c Gender by typology of telework: UK (column percentage)

UK	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Male	29.4	64.7	100.0	50.0	60.4
Female	70.6	35.3	0.0	50.0	39.6
Total (N)	17	116	3	8	144

Source: Data of STILE pilot study on telework, 2002, processed by IRES

In Hungary men are overrepresented among teleworkers.

Table 5.6d Gender by typology of telework: Hungary (column percentage)

Hungary	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Male	60.0	60.0	63.6	68.8	62.7
Female	40.0	40.0	36.4	31.3	37.3
Total (N)	10	65	11	32	118

Source: Data of STILE pilot study on telework, 2002, processed by IRES

5.2.1.3 Presence of children

The number and the age of children are interesting variables within the framework of research on telehomework.

Table 5.7a Presence of children by typology of telework: Belgium (column percentage)

Belgium	Telehomeworker	Multilocational *e*Worker	Occasional multilocational *e*Worker	Total
Yes	81.8	72.9	46.7	69.8
No	18.2	27.1	53.3	30.2
Total (N)	11	70	15	96

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.7b Presence of children by typology of telework: Italy (column percentage)

Italy	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Yes	33.3	50.0	50.0	16.7	43.9
No	66.7	50.0	50.0	83.3	56.1
Total (N)	24	69	2	6	101

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.7c Presence of children by typology of telework: UK (column percentage)

UK	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Yes	12.5	10.6	0.0	12.5	10.7
No	87.5	89.4	100.0	87.5	89.3
Total (N)	16	113	3	8	140

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.7d Presence of children by typology of telework: Hungary (column percentage)

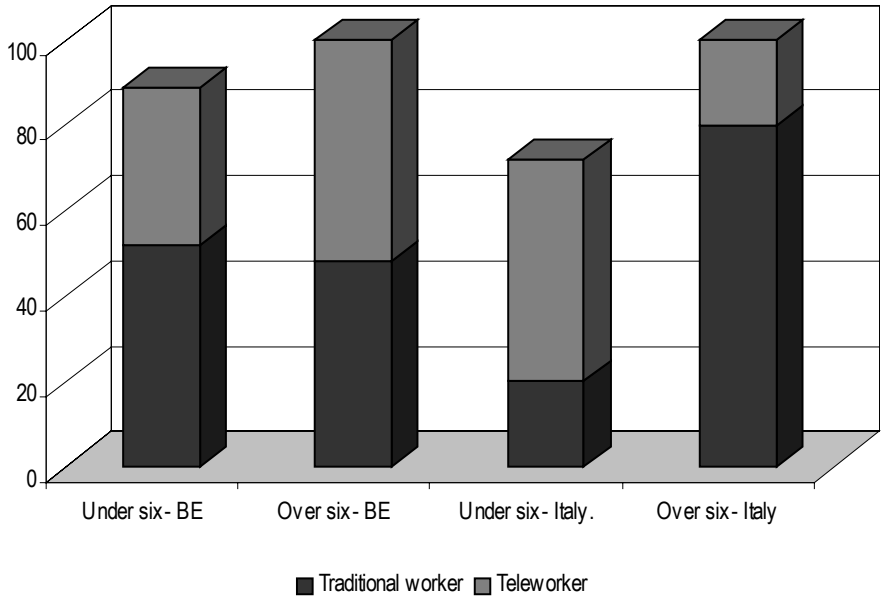
Hungary	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Yes	30.0	56.9	72.7	65.6	58.5
No	70.0	43.1	27.3	34.4	41.5
Total (N)	10	65	11	32	118

Source: Data of STILE pilot study on telework, 2002, processed by IRES

The tables presented above illustrate that the combination between the different forms of telework and the number of children is not that informative. In combination with the age of the youngest child, the number of children can be a better indicator of the burden of care within the household. Also a division of the table over gender could give more information.

Whereas in Belgium telehomeworking is especially common among workers with children, in Italy the presence of children is higher than the average of the sample in the case of the 'multilocational *e*Worker.

It is interesting to observe that in Italy telehomeworking women have children under six and not in Belgium (in Belgium this result is not in relation to status-job). This result is due to the high percentage of self-employed Italian teleworkers. For UK and Hungary comparable data are unavailable.



Source: Data of STILE pilot study on telework, 2002, processed by IRES

Figure 5.1 Children under and above six by type of teleworkers: Belgian and Italian women (column percentage)

5.2.1.4 Age

The following tables illustrate the informational value of combinations between the telework indicators and the age indicator. In this context age can be conceived as an indicator of experience and autonomy. The opportunity to separate up different types of telework is very important. Research on telehomework oftenly emphasises the importance of autonomy of the employee and of mutual trust between employee and employer. This should lead to a high representation of older (above 30 years) people in the group of telehomeworkers. The group of multilocational workers, which has proved to consist mainly of consultants, other ICT specialists and managers (Huws, 2002), can be suggested to be a rather young group.

Table 5.8a Age distribution by typology of telework: Belgium (column percentage)

Belgium	Tele-homeworker	Multilocational *e*Worker	Occasional telehome-worker	Occasional multilocational *e*Worker	Total
Less than 31	21.4	23.4	0.0	33.3	24.1
31-35	21.4	22.1	50.0	20.0	22.2
36-40	28.6	20.8	0.0	20.0	21.3
41-45	7.1	16.9	50.0	0.0	13.9
46-50	0.0	7.8	0.0	20.0	8.3
More than 50	21.4	9.1	0.0	6.7	10.2
Total (N)	14	77	2	15	108

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.8b Age distribution by typology of telework: Italy (column percentage)

Italy	Tele-homeworker	Multilocational *e*Worker	Occasional telehome-worker	Occasional multilocational *e*Worker	Total
Less than 31	17.4	11.6	0.0	16.7	13.0
31-35	21.7	24.6	0.0	16.7	23.0
36-40	26.1	36.2	100.0	33.3	35.0
41-45	21.7	15.9	0.0		16.0
46-50	0.0	2.9	0.0	16.7	3.0
More than 50	13.0	8.7	0.0	16.7	10.0
Total (N)	24	69	2	6	101

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.8c Age distribution by typology of telework: UK (column percentage)

UK	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Less than 31	0.0	11.2	33.3	12.5	10.4
31-35	17.6	17.2	33.3	12.5	17.4
36-40	17.6	10.3	0.0	25.0	11.8
41-45	29.4	15.5	33.3	0.0	16.7
46-50	0.0	15.5	0.0	25.0	13.9
More than 50	35.3	30.2	0.0	25.0	29.9
Total (N)	17	116	3	8	144

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.8d Age distribution by typology of telework: Hungary (column percentage)

Hungary	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Less than 31	0.0	24.6	18.2	18.8	20.3
31-35	0.0	15.4	18.2	12.5	13.6
36-40	30.0	13.8	0.0	21.9	16.1
41-45	10.0	10.8	9.1	15.6	11.9
46-50	40.0	27.7	36.4	18.8	27.1
More than 50	20.0	7.7	18.2	12.5	11.0
Total (N)	10	65	11	32	118

Source: Data of STILE pilot study on telework, 2002, processed by IRES

5.2.1.5 Educational level

Within the framework of research on inequalities on the labour market, the combination with the educational level can offer interesting basic information. The division of the various types of telework over the relevant educational levels allows to see which form of work is mainly preserved for high skilled for instance. Information based on this kind of tables not only allows to look for inequalities, it can also steer more qualitative research on the qualifications requirements that are resulting from the different new forms of work.

Table 5.9a Educational level by typology of telework: Belgium (column percentage)

Belgium	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Primary school	7.1	0.0	0.0	0.0	0.9
Secondary school - undergraduate	28.6	18.2	100.0	6.7	19.4
Degree or more	64.3	81.8	0.0	93.3	79.6
Total (N)	14	77	2	15	108

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.9b Educational level by typology of telework: Italy (column percentage)

Italy	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Primary school	4.2	0.0	0.0	0.0	1.0
Secondary school - undergraduate	54.2	44.9	0.0	50.0	46.5
Degree or more	41.7	55.1	100.0	50.0	52.5
Total (N)	24	69	2	6	101

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.9c Educational level by typology of telework: UK (column percentage)

UK	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
No formal education	0.0	0.9	0.0	12.5	1.4
Secondary school - undergraduate	25.0	8.8	0.0	0.0	9.9
Degree or more	75.0	90.4	100.0	87.5	88.7
Total (N)	16	114	3	8	141

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.9d Educational level by typology of telework: Hungary (column percentage)

Hungary	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Primary school	0.0	0.9	0.0	12.5	1.4
Secondary school – undergraduate	25.0	8.8	0.0	0.0	9.9
Degree or more	75.0	90.4	100.0	87.5	88.7
Total (N)	16	114	3	8	141

Source: Data of STILE pilot study on telework, 2002, processed by IRES

5.2.1.6 Company size

In Belgium there seems to be an equal distribution of teleworkers across the whole spectrum of company size. Nevertheless, telehomeworking (in the stable and occasional forms) is particularly widespread in the smaller companies and multilocational *e*Work seems to be a feature of the large companies. As the figures are not reliable they can only illustrate that a combination between the dimension indicator and the STILE telework module allows to see whether people in SMEs get as many chances to telehomework as employees of larger players on the market. The combination of indicators also allows to see whether the intensity of multilocational work depends on the size of the organisation.

Table 5.10a Size of company by typology of telework: Belgium (column percentage)

Belgium	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
1-10 people	50.0	19.5	50.0	26.7	25.0
11-19 people	7.1	3.9	0.0	6.7	4.6
20-49 people	0.0	15.6	0.0	6.7	12.0
50-500 people	14.3	18.2	0.0	20.0	17.6
100-500 people	0.0	5.2	50.0	13.3	6.5
500, +500 people	14.3	31.2	0.0	26.7	27.8
Not sure, less than 11	14.3	2.6	0.0	0.0	3.7
Not sure, more than 10	0.0	3.9	0.0	0.0	2.8
Total (N)	14	77	2	15	108

Source: Data of STILE pilot study on telework, 2002, processed by IRES

In the Italian pilot there is a greater concentration of multilocational *e*Workers in larger companies. In the small companies the only form of distance work that is above the average is telehomeworking. Whereas in the UK telework, especially telehomeworking, seems to be more common in small companies. Approximately 70% of teleworkers work in a company with up to ten workers and this percentage increases to 94% among the telehomeworkers.

Table 5.10b Size of company by typology of telework: Italy (column percentage)

Italy	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
1-10 people	27.3	1.0	0.0	20.0	17.2
11-19 people	9.1	2.5	0.0	0.0	3.4
20-49 people	9.1	2.5	0.0	0.0	3.4
50-500 people	9.1	7.5	0.0	40.0	10.3
100-500 people	45.5	55.0	100.0	20.0	51.7
500, +500 people	0.0	17.5	0.0	20.0	13.8
Total (N)	24	69	2	6	101

Source: Data of STILE pilot study on telework, 2002, processed by IRES

In the UK telehomeworkers were exclusively associated with very small establishments (those with fewer than eleven employees). Multilocational *e*Workers, however, had a wider dispersion over establishment size and over a quarter of the multilocational *e*Workers questioned worked in establishments with more than hundred employees. Once again, given the nature of the sample, this result needs to be treated with some caution.

Table 5.10c Size of company by typology of telework: UK (column percentage)

UK	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
1-10 people	94.1	68.4	66.7	62.5	71.1
11-19 people	0.0	5.3	33.3	0.0	4.9
20-49 people	0.0	1.8	0.0	0.0	1.4
100-500 people	0.0	14.9	0.0	12.5	12.7
500, +500 people	0.0	3.5	0.0	0.0	2.8
Not sure, less than 11	5.9	6.1	0.0	25.0	7.0
Total (N)	17	114	3	8	142

Source: Data of STILE pilot study on telework, 2002, processed by IRES

In Hungary this distribution was influenced by the relatively high number of self employed among teleworkers working mostly alone or with one or two employees.

Table 5.10d Size of company by typology of telework: Hungary (column percentage)

Hungary	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
1-10 people	70.0	26.2	54.5	46.9	38.1
11-19 people	0.0	6.2	9.1	9.4	6.8
20-49 people	20.0	9.2	9.1	3.1	8.5
100-500 people	10.0	52.3	27.3	34.4	41.5
500, +500 people	0.0	3.1	0.0	3.1	2.5
Not sure, less than 11	0.0	3.1	0.0	3.1	2.5
Total (N)	10	65	11	32	118

Source: Data of STILE pilot study on telework, 2002, processed by IRES

5.2.1.7 Working time

Another interesting question that can be answered by a simple combination of the telework core-indicators and indicators from the LFS, is the question whether telework is a privilege for full-time working people. This combination of indicators can also be a basis to answer the question whether telehomework is an alternative or rather a supplement to part time work. This question arises from the research conclusions that part-time work is conceived as a flexible measure in answer to the need to find a better fit between work and family (Tijdens, 2001). In this context the comparison between different types of telework may be interesting. An international comparison is important as part-time work is not integrated to the same extent in every society. The following tables illustrate the opportunities for comparisons.

Table 5.11a Working time by typology of telework: Belgium (column percentage)

Belgium	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Full-time	85.7	87.0	100.0	86.7	87.0
Part-time	14.3	13.0	0.0	13.3	13.0
Total (N)	14	77	2	15	108

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.11b Working time by typology of telework: Italy (column percentage)

Italy	Telehome-worker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Full-time	87.0	85.5	100.0	100.0	87.0
Part-time	13.0	14.5	0.0	0.0	13.0
Total (N)	24	69	2	6	101

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.11c Working time by typology of telework: UK (column percentage)

UK	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Full-time	62.5	89.5	100.0	75.0	85.8
Part-time	37.5	10.5	0.0	25.0	14.2
Total (N)	16	114	3	8	141

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.11d Working time by typology of telework: Hungary (column percentage)

Hungary	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Full-time	20.0	6.2	9.1	6.3	7.6
Part-time	80.0	93.8	90.9	93.8	92.4
Total (N)	10	65	11	32	118

Source: Data of STILE pilot study on telework, 2002, processed by IRES

5.2.2 Combinations with telework specific variables as an extension

5.2.2.1 Initiator of arrangement

A lot of researches mention a lack of employers' trust when the slow spread of telehomeworking is to be explained (Depickere, 1999). The multilocational forms of work seem to be the result of the organisational answer to the flexibility needs resulting from the globalised network economy. The telework indicators developed within STILE allow to see which form of telework is mainly preferred by the employer and thus initiated and underpinned by the employer and which forms are mainly the choice of the employees. An international comparison in this respect can be interesting as cultural backgrounds can be influencing the conception of the advantages and disadvantages of different forms of telework.

The tables computed on the pilot-data show that in Belgium, in UK and Hungary telehomework is mainly initiated by the employers (respectively 71%, 58% and 61% of cases), whereas it is mainly the individual workers who propose working in this way in Italy (66% of cases). The same goes for the multilocational forms of work. Based on these figures, it could be for instance concluded that in Italy employers are not interested in these new forms of work. The results may also induce the research question whether Italian employees are (have the feeling to be) more intensively involved in the process of introduction of all forms of telework. It should be very clear that this is a hypothetical statement as an illustration of the analysis opportunities. If this information is linked to the satisfaction with the working situation, it may become clear whether employee involvement is a prerequisite for the success of the different forms of telework or not.

Table 5.12a Telework initiative by typology of telework: Belgium (column percentage)

Belgium	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Employer	50.0	34.6	100.0	8.3	31.9
Mostly the employer	25.0	40.4	0.0	50.0	40.6
Yourself	25.0	25.0	0.0	41.7	27.5
Total (N)*	4	52	1	12	69

* Self-employed are excluded from this question.
Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.12b Telework initiative by typology of telework: Italy (column percentage)

Italy	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Employer	12.5	10.3	0.0	0.0	9.4
Mostly the employer	12.5	10.3	0.0	0.0	9.4
Own initiative	25.0	25.6	50.0	25.0	26.4
Mostly self initiated	50.0	38.5	50.0	25.0	39.6
Other	0.0	15.4	0.0	50.0	15.1
Total (N)*	8	39	2	4	53

* Self-employed are excluded from this question.
Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.12c Telework initiative by typology of telework: UK (column percentage)

UK	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Employer	60.0	50.0	100.0	60.0	53.4
Mostly the employer	20.0	5.0	0.0	0.0	5.5
Yourself	20.0	21.7	0.0	20.0	20.5
Mostly self-initiated	0.0	11.7	0.0	20.0	11.0
Other	0.0	11.7	0.0	0.0	9.6
Total (N)*	5	60	3	5	73

* Self-employed are excluded from this question.
Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.12d Telework initiative by typology of telework: Hungary (column percentage)

Hungary	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Employer	80.0	44.2	28.6	52.4	47.1
Mostly the employer	0.0	13.5	0.0	23.8	14.1
Yourself	20.0	28.8	71.4	14.3	28.2
Mostly self-initiated	0.0	7.7	0.0	9.5	7.1
Other	0.0	5.8	0.0	0.0	3.5
Total (N)*	5	52	7	21	85

* Self-employed are excluded from this question.
Source: Data of STILE pilot study on telework, 2002, processed by IRES

5.2.2.2 Level of formality

As telework is a relatively new form of work, it can be assumed that the level of institutionalisation is low. In preparation of national and supra-national policy measures, international benchmarks of institutionalisation are important. A cross tabulation between the different forms of telework and the formality of the arrangement can give an initial insight into the formal, eventually legally, underpinning measures. International comparison helps to find countries which may offer best practices examples.

The further research on the institutionalisation of telework, can take the shape of qualitative research on the legal arrangements and collective bargaining for instance.

The Italian pilot suggests that in Italy, more than in Belgium and the UK, telework is formalised with its insertion in the work contract. In Belgium and the UK, especially in the case of multilocational *e*Work, there is a greater number of informal telework agreements.

Table 5.13a Level of formality of agreement by typology of telework: Belgium (column percentage)

Belgium	Tele-homeworker	Multilocational *e*Worker	Occasional multilocational *e*Worker	Total
Formal (insert in contract of employment)	50.0	48.1	25.0	44.3
Informal	50.0	51.9	75.0	55.7
Total (N)	4	54	12	70

* Self-employed are excluded from this question.
Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.13b Level of formality of agreement by typology of telework: Italy (column percentage)

Italy	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Formal (insert in contract of employment)	87.5	69.2	0.0	0.0	64.2
Informal	0.0	30.8	100.0	100.0	34.0
Don't know	12.5	0.0	0.0	0.0	1.9
Total (N)	8	39	2	4	53

* Self-employed are excluded from this question.
Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.13c Level of formality of agreement by typology of telework: UK (column percentage)

UK	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Formal	33.3	45.0	66.7	100.0	48.6
Informal	50.0	51.7	33.3	0.0	47.3
Don't know	16.7	3.3	0.0	0.0	4.1
Total (N)	6	60	3	5	74

* Self-employed are excluded from this question
Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.13d Level of formality of agreement by typology of telework: Hungary (column percentage)

Hungary	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Formal	60.0	69.2	28.6	52.4	61.2
Informal	40.0	23.1	71.4	42.9	32.9
Don't know	0.0	7.7	0.0	4.8	5.9
Total (N)	5	52	7	21	85

* Self-employed are excluded from this question.
Source: Data of STILE pilot study on telework, 2002, processed by IRES

5.2.2.3 Reversibility

One of the most important rules for the management of telehomework is that the employee may not be forced to work at home. Telehomework must stay non-committal. This is an important claim within current union programmes. As motivation is an important indicator for productivity, this requirement is also important to the employers. Interesting questions that can find an initial answer based on a combination of core telework indicators and the developed reversibility indicator are whether telehomework is reversible and whether other forms are reversible. A comparison of the different types gives insights into these questions. An International comparison could identify the countries which can offer best practices.

In Belgium and Italy the telework experience can generally be easily interrupted, whereas in UK half the teleworkers declare not being able to do so.[7]

Table 5.14a Possibility to interrupt experience by typology of telework: Belgium (column percentage)

Belgium	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Yes, if I want	84.6	89.9	100.0	73.3	86.9
Yes, if employer wants	0.0	8.7	0.0	6.7	7.1
No	15.4	1.4	0.0	20.0	6.1
Total (N)	13	69	2	15	99

* Self-employed are excluded from this question.
Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.14b Possibility to interrupt experience by typology of telework: Italy (column percentage)

Italy	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Yes, if I want	62.5	55.9	100.0	0.0	56.8
Yes, at the end of agreement	12.5	32.4	0.0	0.0	27.3
No	0.0	5.9	0.0	0.0	4.5
Other	25.0	5.9	0.0	100.0	11.4
Total (N)	8	34	1	1	44

* Self-employed are excluded from this question.
Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.14c Possibility to interrupt experience by typology of telework: UK (column percentage)

UK	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Yes	41.2	42.2	66.7	37.5	42.4
No	58.8	50.9	0.0	62.5	51.4
DK, depends on employer	0.0	5.2	33.3	0.0	4.9
Not answered	0.0	1.7	0.0	0.0	1.4
Total (N)	17	116	3	8	144

* Self-employed are excluded from this question.
Source: Data of STILE pilot study on telework, 2002, processed by IRES

5.2.2.4 Motivation

The following tables focus on the combination between the core telework indicators and the motivation indicator. These combinations allow to find out whether there is a difference in the

7 In Hungary this question produced a high percentage of missing answers, so a table of cannot be illustrated.

motivation for the different forms of telework. In addition to this, the combination with the motivation indicator can be useful to differentiate the various groups further. In the context of certain research questions it may be for instance interesting to distinguish a group of telehomeworkers who work at home to avoid interruptions from a group that sometimes works at home to find a better fit between work and family. The international comparison allows us to see whether cultural differences have an impact.

The tables presented below illustrate the informational value of the cross tabulations. In Belgium and Italy the reasons seem to be the same, albeit with a different order of importance. In Belgium the main reason is to reduce commuting time or cost, followed by the necessity to co-ordinate work with personal or family needs. In Italy, however the necessity to co-ordinate work with personal or family needs precedes the reduction of commuting time. In the UK the reasons are completely different. There is a large proportion (34%) of teleworkers who are explicitly required to telework due to employer's insistence or job requirements, followed by 13% of respondents who declared having chosen to telework to increase their autonomy and independence. This is especially the case for telehomeworkers. Similarly, in Hungary telework is initiated by the employer, especially among the occasional and multilocational *e*Workers.

Table 5.15a Reason for telework by typology of telework: Belgium (column percentage)

Belgium	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Finish or catch up with work	0.0	0.0	0.0	13.3	2.1
Avoid interruption	8.3	15.2	0.0	13.3	13.8
Required by job/employer	0.0	10.6	0.0	13.3	9.6
Combine work with family needs	41.7	19.7	0.0	13.3	21.3
Experimentation	0.0	3.0	0.0	0.0	2.1
Commuting time or expenses	16.7	34.8	0.0	40.0	33.0
Health reasons	0.0	0.0	100.0	0.0	1.1
Greater autonomy or independence	16.7	10.6	0.0	6.7	10.6
Other reason	8.3	3.0	0.0	0.0	3.2
No answer	8.3	3.0	0.0	0.0	3.2
Total (N)	12	66	1	15	94

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.15b Reason for telework by typology of telework: Italy (column percentage)

Italy	Tele-homeworker	Multilocational eWorker	Occasional tele-homeworker	Occasional multilocational eWorker	Total
Finish or catch up with work	0.0	1.4	0.0	0.0	1.0
Avoid interruption	0.0	2.9	0.0	0.0	2.0
Required by job/employer	20.8	15.9	0.0	0.0	16.2
Combine work with family needs	25.0	34.8	0.0	25.0	31.3
To try it out	0.0	0.0	0.0	25.0	1.0
Commuting time or expenses	33.3	23.2	50.0	25.0	26.3
Health reasons	4.2	1.4	0.0	0.0	2.0
Greater autonomy or independence	4.2	5.8	0.0	0.0	5.1
Other reason	12.5	14.5	50.0	25.0	15.2
Total (N)	24	69	2	6	101

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.15c Reason for telework by typology of telework: UK (column percentage)

UK	Tele-homeworker	Multilocational eWorker	Mobile eWorker	Occasional multilocational eWorker	Total
Finish or catch up with work	0.0	5.2	0.0	0.0	4.2
Avoid interruption	5.9	6.0	0.0	0.0	5.6
Poor working environment/ relationship	0.0	0.9	0.0	0.0	0.7
Required by job/employer	0.0	37.9	100.0	37.5	34.7
Combine work with family needs	35.3	9.5	0.0	12.5	12.5
Experimentation	0.0	0.9	0.0	0.0	0.7
Commuting time or expenses	5.9	13.8	0.0	0.0	11.8
Health reasons	0.0	1.7	0.0	12.5	2.1
Greater autonomy or independence	35.3	10.3	0.0	12.5	13.2
Other reason	17.6	13.8	0.0	25.0	14.6
Total (N)	17	116	3	8	144

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.15d Reason for telework by typology of telework: Hungary (column percentage)

Hungary	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Finish or catch up with work	30	16.9	0.0	9.4	14.4
To avoid interruption	10	3.1	9.1	9.4	5.9
Because of a bad working environment	0.0	1.5	0.0	6.3	2.5
Required by job/employer	10.0	30.8	9.1	40.6	29.7
To co-ordinate work with personal or family needs	0.0	18.5	18.2	15.6	16.1
To try it out	0.0	6.2	0.0	3.1	4.2
Reduce commuting time or cost	0.0	6.2	27.3	6.3	7.6
Health reasons (your own physical condition)	20.0	3.1	18.2	0.0	5.1
For greater autonomy or independence	0.0	9.2	9.1	3.1	6.8
Other reason	30.0	4.6	9.1	6.3	7.6
Total (N)	10	65	11	32	118

Source: Data of STILE pilot study on telework, 2002, processed by IRES

5.2.2.5 Satisfaction with work situation

The level of satisfaction with the work situation can be measured on the basis of a combination with information on the question referring to future intentions for telework. The following tables illustrates the informational value of this combination.

Table 5.16a Wish to continue telework by typology of teleworker: Belgium (column percentage)

Belgium	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Yes	92.9	96.0	100.0	100.0	96.2
No	7.1	4.0	0.0	0.0	3.8
Total (N)	14	75	2	15	106

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.16b Wish to continue telework by typology of teleworker: Italy (column percentage)

Italy	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Yes	87.5	95.7	100.0	100.0	94.0
No	12.5	4.3	0.0	0.0	6.0
Total (N)	24	69	2	6	101

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.16c Wish to continue telework by typology of teleworker: UK (column percentage)

UK	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Yes	94.1	92.9	100.0	100.0	93.6
No	5.9	7.1	0.0	0.0	6.4
Total (N)	17	113	3	8	141

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.16d Wish to continue telework by typology of teleworker: Hungary (column percentage)

Hungary	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Yes	80.0	95.4	81.8	96.9	93.2
No	20.0	4.6	18.2	3.1	6.8
Total (N)	10	65	11	32	118

Source: Data of STILE pilot study on telework, 2002, processed by IRES

5.2.2.6 Subjective assessment of impact on work pressure

Working conditions

Another interesting indicator for the satisfaction with the distant work situation is offered by the question on the impact on health and safety. It is important to mention here that the question needs to be simplified and split up into a health and a safety part (cf. supra). Information on each type of telework allows comparisons to be made. In the pilot Italian teleworkers notice a substantial improvement of their own health and safety conditions at work. 62% Of the respondents, especially the 'multilocational *e*Workers' think that the conditions have improved. In Belgium and Hungary the conditions have remained unvaried (64%), although almost a quarter of the respondents state that there has been an improvement. This improvement is mainly reported by telehomeworkers. In the UK the question was put in a slightly different way so the results are not easily comparable.

Table 5.17a Change in work conditions by typology of teleworker: Belgium (column percentage)

Belgium	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Yes, worse	7.1	13.3	0.0	7.1	11.4
Yes, better	35.7	24.0	50.0	7.1	23.8
No, they are the same	57.1	62.7	50.0	85.7	64.8
Total	14	75	2	14	105

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.17b Change in work conditions by typology of teleworker: Italy (column percentage)

Italy	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Yes, worse	12.5	8.7	0.0	0.0	9.0
Yes, better	54.2	65.2	100.0	40.0	62.0
No, they are the same	25.0	21.7	0.0	40.0	23.0
Don't know	4.2	1.4	0.0	0.0	2.0
Other	4.2	2.9	0.0	20.0	4.0
Total (N)	24	69	2	6	101

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.17c Change in work conditions by typology of teleworker: UK (column percentage)

UK	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Yes	11.8	10.3	0.0	12.5	10.4
No	23.5	26.7	0.0	25.0	25.7
Don’t know	58.8	47.4	100.0	62.5	50.7
Other	5.9	15.5	0.0	0.0	13.2
Total (N)	17	116	3	8	144

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.17d Change in work conditions by typology of teleworker: Hungary (column percentage)

Hungary	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Yes, worse	20.0	15.4	18.2	18.8	16.9
Yes, better	20.0	7.7	9.1	15.6	11.0
No, they are the same	30.0	64.6	54.5	56.3	58.5
Don’t know	20.0	9.2	18.2	3.1	9.3
Other	10.0	3.1	0.0	6.3	4.2
Total (N)	10	65	11	32	118

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Work pressure

Pressure at work seems to have increased only in Italy. In this country 43% of respondents think that their workload has increased since they work at a distance (especially the multilocational *e*Workers). In Belgium and the UK the interviewees perceive a substantial stability or even, especially in Belgium, a reduction in pressure.

Table 5.18a Change in work pressure by typology of teleworker: Belgium (column percentage)

Belgium	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
More work pressure	14.3	22.1	0.0	6.7	18.5
Less work pressure	57.1	33.8	50.0	20.0	35.2
As much work pressure as before	28.6	41.6	0.0	66.7	42.6
Don't know	0.0	0.0	50.0	0.0	0.9
I can't judge (any other experience)	0.0	2.6	0.0	6.7	2.8
Total (N)	14	77	2	15	108

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.18b Change in work pressure by typology of teleworker: Italy (column percentage)

Italy	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
More work pressure	37.5	47.1	50.0	16.7	43.0
Less work pressure	25.0	22.1	0.0	33.3	23.0
Same work pressure as before	29.2	27.9	50.0	33.3	29.0
Don't know	4.2	0.0	0.0	16.7	2.0
I can't judge (any other experience)	4.2	2.9	0.0	0.0	3.0
Total (N)	24	69	2	6	101

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.18c Change in work pressure by typology of teleworker: UK (column percentage)

UK	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
More work pressure	29.4	23.3	66.7	12.5	24.3
Less work pressure	35.3	25.9	0.0	0.0	25.0
As much work pressure	23.5	37.9	33.3	75.0	38.2
Don't know	0.0	7.8	0.0	12.5	6.9
I can't judge (any other experience)	11.8	5.2	0.0	0.0	5.6
Total (N)	17	116	3	8	144

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.18d Change in work pressure by typology of teleworker: Hungary (column percentage)

Hungary	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
More work pressure	20.0	15.4	18.2	18.8	16.9
Less work pressure	20.0	7.7	9.1	15.6	11.0
As much work pressure	30.0	64.6	54.5	56.3	58.5
Don't know	20.0	9.2	18.2	3.1	9.3
I can't judge (any other experience)	10.0	3.1	0.0	6.3	4.2
Total (N)	10	65	11	32	118

Source: Data of STILE pilot study on telework, 2002, processed by IRES

5.2.2.7 Intensity of online connection

Information on the use of online connections for work can be interesting in order to find out which kind of telework is Internet supported. The problem with the information on the amount of time that is spent online is however, that new technologies allow people to be the whole working day on-line without using it frequently. As the integration of Internet in organisations and in society as a whole is internationally differing, an international comparison may offer useful information.

The British teleworkers spend more time online than the others. 94% Of the respondents declare connecting once a day or more, a percentage that increases to 100% for non-occasional teleworkers. There are similar percentages in Belgium, whereas they are lower in Italy and Hungary (only 74% and 80% connect once a day or more). These tendencies are probably due to the higher costs of telephone connections in these countries.

Table 5.19a Intensity of online connection by typology of teleworker: Belgium (column percentage)

Belgium	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Once a day or more	92.9	94.6	100.0	73.3	91.4
Almost one day for week	0.0	4.1	0.0	13.3	4.8
Rarely	7.1	1.4	0.0	13.3	3.8
Total (N)	14	74	2	15	105

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.19b Intensity of online connection by typology of teleworker: Italy (column percentage)

Italy	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Once a day or more	71.4	78.1	50.0	40.0	73.9
Almost one day per week	14.3	14.1	50.0	0.0	14.1
Rarely	4.8	3.1	0.0	60.0	6.5
Never	9.5	4.7	0.0	0.0	5.4
Total (N)	24	69	2	6	101

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.19c Intensity of online connection by typology of teleworker: UK (column percentage)

UK	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Once a day or more	100.0	100.0	100.0	0.0	94.4
Almost one day for week	0.0	0.0	0.0	75.0	4.2
Rarely	0.0	0.0	0.0	25.0	1.4
Total (N)	17	116	3	8	144

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.19d Intensity of online connection by typology of teleworker: Hungary (column percentage)

Hungary	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Once a day or more	80.0	87.7	54.5	71.9	79.7
Almost one day for week	10.0	6.2	18.2	25.0	12.7
Rarely	10.0	6.2	27.3	3.1	7.6
Total (N)	10	65	11	32	118

Source: Data of STILE pilot study on telework, 2002, processed by IRES

5.2.2.8 Intensity of computer usage

Another interesting table is that of the computer usage at a distance for the different forms of telework. This can shape a picture of the kind of work that is carried out at a distance. It can give insights into the question whether the introduction of telework has enlarged the demand for digital literacy[8] and *e*Skills[9], etc. The use of the PC is important for all teleworkers, although there are various levels of use in the countries. In Belgium, 18% of teleworkers use the PC for less than 50% of their working time and 40% declare using it for more than 90% of the time. In Italy the percentage of teleworkers (mostly telehomeworkers) who use the PC for more than 90% of their time increases to 57%. In the UK there is the highest quota of teleworkers that use the PC for less than 50% of their time (mostly occasional, home and multilocational *e*Workers).

8 Digital literacy is the ability to use ICT in daily life.
9 *e*Skills refer to the ability to use ICT to carry out work.

Table 5.20a Use of PC in distance work by typology of teleworker: Belgium (column percentage)

Belgium	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Up to 50%	7.1	18.7	0.0	26.7	17.9
From 51 to 90%	35.7	44.0	50.0	40.0	42.5
More than 90%	57.1	37.3	50.0	33.3	39.6
Total (N)	14	75	2	15	106

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.20b Use of PC in distance work by typology of teleworker: Italy (column percentage)

Italy	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Up to 50%	0.0	17.4	50.0	40.0	15.2
From 51 to 90%	34.8	24.6	0.0	40.0	27.3
More than 90%	65.2	58.0	50.0	20.0	57.6
Total (N)	24	69	2	6	101

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.20c Use of PC in distance work by typology of teleworker: UK (column percentage)

UK	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Up to 50%	41.2	33.0	66.7	85.7	37.3
From 51 to 90%	41.2	47.8	33.3	14.3	45.1
More than 90%	17.6	19.1	0.0	0.0	17.6
Total (N)	17	115	3	7	142

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Table 5.20d Use of PC in distance work by typology of teleworker: Hungary (column percentage)

Hungary	Tele-homeworker	Multilocational *e*Worker	Occasional tele-homeworker	Occasional multilocational *e*Worker	Total
Up to 50%	50.0	53.8	63.6	62.5	56.8
From 51 to 90%	20.0	24.6	36.4	25.0	25.4
More than 90%	30.0	21.5	0.0	12.5	17.8
Total (N)	10	65	11	32	118

Source: Data of STILE pilot study on telework, 2002, processed by IRES

Chapter
6

Country specific results

6.1 Belgium

In the Belgian pilot special attention was paid to the impact of telework on the quality of working life. The pilot test has taught that the questions used (cf. supra) allow an assessment of the relationship between telework and relevant quality of work aspects. Based on the questions tested, interesting conclusions could be drawn up concerning different Quality of Work aspects in the new economy. As the questions used are derived from existing questionnaires, the following tables will also illustrate the informational value of piggy-backing the core telework questions to existing questionnaires focused on Quality of Work, organisation of work, job satisfaction, etc.

6.1.1 Telework and quality of working life as a central theme

In the questionnaire a list of yes-no questions related to 5 important aspects was included. The questions are focused on the autonomy in work (1), the level of complexity (2), social and functional contact opportunities (3, 4) and the opportunities to combine work and life (5). The following tables illustrate the added value of cross-tabulations with the telework indicators.

6.1.1.1 Autonomy

Telework, and especially telehomework, is frequently featured as work that is carried out very autonomously. This could lead to the conclusion that telework is a privilege for jobs in which the performers have a certain rate of freedom in deciding the order of tasks, the method of carrying out work, the time schedule, etc. But this could also lead to the conclusion that the introduction of telework has led to an improvement of the autonomy of working people. The following table illustrates that a cross-tabulation between an autonomy-indicator and telework indicators can bring into picture the level of autonomy in each type of work, thus serving similar hypothesises as stated above.

Table 6.1 Level of autonomy in different types of work by employment status (frequency and *column percentage per subgroup*)

	No tele-worker	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Total
Employees					
No autonomy	1	0	0	0	1
	1.8	*0.0*	*0.0*	*0.0*	*0.8*
Low autonomy*	8	0	6	0	14
	14.3	*0.0*	*9.2*	*0.0*	*11.0*
High autonomy	47	4	59	2	112
	84.0	*100.0*	*90.8*	*100.0*	*88.2*
Subtotal	56	4	65	2	127
	100.0	*100.0*	*100.0*	*100.0*	*100.0*
Self-employed					
No autonomy	0	0	0	0	0
	0.0	*0.0*	*0.0*	*0.0*	*0.0*
Low autonomy	0	0	0	0	0
	0.0	*0.0*	*0.0*	*0.0*	*0.0*
High autonomy	9	12	28	0	49
	100.0	*100.0*	*100.0*	*100.0*	*100.0*
Subtotal	9	12	28	0	49
	100.0	*100.0*	*100.0*	*100.0*	*100.0*
Total	65	16	93	2	176

* Remark: The variable 'autonomy' is composed of freedom in deciding the order of work, the method of work, time and place of work. A respondent has a low level if he has decisional freedom with respect to 1 or 2 aspects, and a high level if he can decide for 3 or 4 aspects.

Source: Results of the pilot test of the Belgian questionnaire, 2002, processed by HIVA

The table illustrates that a comparison between employees and self-employed and between traditional working people and teleworking people can be very interesting. In larger and at random composed samples it is possible to test the explaining value[10] of both employment status and telework.

6.1.1.2 Opportunities to combine work and life

Another interesting quality of work aspect relates to the way work and life can be combined. The following table illustrates how a cross-tabulation with telework indicators can be a first step in testing the hypothesis whether telework really has enabled a better combination between work and life. The relevance of a comparison between employees and self-employed in this respect is also illustrated. Self-employed can decide very autonomously when they work. In existing research this autonomy is an intermediary variable in the relation between telework and the opportunities to combine family and work.

10 The extent to which autonomy is dependent on *e*Work and on employment status.

Table 6.2 Work-life balance in different types of work by employment status (frequency and *column percentage per subgroup*)

	No teleworker	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Total
Employees					
No work-life balance	8	0	10	0	18
	14.3	*0.0*	*15.4*	*0.0*	*14.2*
Low work-life balance	9	0	11	0	20
	16.0	*0.0*	*17.0*	*0.0*	*15.8*
High work-life balance	39	4	44	2	89
	69.7	*100.0*	*67.6*	*100.0*	*70.0*
Subtotal	56	4	65	2	127
	100.0	*100.0*	*100.0*	*100.0*	*100.0*
Self-employed					
No work-life balance	0	0	4	0	4
	0.0	*0.0*	*14.3*	*0.0*	*8.2*
Low work-life balance	2	1	1	0	4
	22.2	*8.3*	*3.6*	*0.0*	*8.2*
High work-life balance	7	11	23	0	41
	77.8	*91.7*	*82.1*	*0.0*	*83.6*
Subtotal	9	12	28	0	49
	100.0	*100.0*	*100.0*	*100.0*	*100.0*
Total	65	16	93	2	176

* Remark: The variable 'work-life balance' is composed of the subjective assessment of the time left to take up responsibilities in the household on the one hand and for hobbies, participation in community life, sports, etc. on the other. A respondent has a low level if he thinks he has time enough for one aspects, and a high level if he thinks he has enough time for both aspects.

Source: Results of the pilot test of the Belgian questionnaire, 2002, processed by HIVA

The combination between telework questions and these 'quality-related' questions allows detailed information on the opportunities telework offers to combine work and family responsibilities. As telehomework is often suggested to be a family-friendly work form, it is compared here with other forms of distant work and with the traditional forms of 'office-work'. Based on the data in the table, a comparison between employees and self-employed seems not to be very informing. However, in this respect it is important to remember that self-employed homeworking people have a different pattern of telehomeworking. Whereas most employees work only one or two (fixed) days at home, self-employed seem to work nearly everyday at home (SIBIS, 2002). Therefore, in larger and representative samples, this comparison indeed could generate interesting results.

Table 6.3 Opportunities to combine work and household in telehomework and other types of work by employment status (frequency and *row percentage*)

	Enough time left to take up responsibilities in the household	Not enough time left to take up responsibilities in the household	Total
Employees			
Telehomeworker	4	0	4
	100.0	*0.0*	*100.0*
Other teleworker	50	17	67
	74.6	*25.4*	*100.0*
No teleworker	37	19	56
	66.1	*33.9*	*100.0*
Self-employed			
Telehomeworker	11	1	12
	91.7	*8.3*	*100.0*
Other teleworker	22	6	28
	78.5	*21.5*	*100.0*
No teleworker	6	3	9
	67.7	*33.3*	*100.0*
Total	130	46	176
	73.9	*26.1*	*100.0*

Source: Results of the pilot test of the Belgian questionnaire, 2002, processed by HIVA

6.1.1.3 Functional contact opportunities

In the Belgian pilot it has been stated by some respondents that telework paralyses teamwork. The physical distance between colleagues does not seem to be optimally bridged by ICT. In other research this problem is referred to as the 'proximity paradox' (Bikson, 2002). ICT enables work-related communication between physically spread people, but practitioners seem to experience that ICT can not replace face-to-face communication. This has an important impact on the intensity of telework (one can not always work at a distance), the management consequences of telework, the qualifications requirements that go together with telework, etc.

As is illustrated in the following table, a cross-tabulation between the different types of work and a simple question on 'functional contact opportunities'[11] can give more insights into the intensity of the 'proximity problem', but it can also help to define the work forms in which the problem needs special attention.

[11] In the Belgian questionnaire this is measured by the question: 'Can you rely on colleagues when you experience a problem in your work?'

Table 6.4 Functional contact opportunities telehomework and other types of telework vs. traditional work forms by employment status (frequency and *row percentage*)

	Opportunities to contact colleagues when confronted with problems	No opportunities to contact colleagues when confronted with problems	Total
Employees			
Telehomeworker	3	1	4
	75.0	*25.0*	*100.0*
Other teleworker	63	4	67
	94.0	*6.0*	*100.0*
No teleworker	47	9	56
	84.0	*16.0*	*100.0*
Self-employed			
Telehomeworker	6	6	12
	50.0	*50.0*	*100.0*
Other teleworker	20	8	28
	71.4	*28.6*	*100.0*
No teleworker	5	4	9
	56.6	*44.4*	*100.0*
Total	144	32	176
	81.8	*18.2*	*100.0*

Source: Results of the pilot test of the Belgian questionnaire, 2002, processed by HIVA

6.1.1.4 Control of work

Next to the general 'quality of work' indicators, the question on the control over work is an important one with respect to telework. The question on autonomy in planning work, deciding the method of work, the order in which tasks are performed, etc. has been mentioned already. The control of work concerns the way the work is assessed and steered. Even if an employee has a high degree of autonomy in organising his work, the employer needs to find adapted ways to steer (or take control over) the work. The control of work-method indeed relates to the degree of autonomy. In relation to telework, distance may also play an important role in determining the possible methods of work control. If work is not carried out in the traditional workplace, the employer or the supervisor has no direct control anymore. This calls for new ways of control. Different ways are possible.

Thanks to the opportunities offered by ICT, management still can choose for *direct control* of the employee. It may however be suggested that this is less easy in telework (given the costs, privacy, etc.). Employers need to put forward other standards for steering and assessing work. Possible measures are *time limits* and *other measurable standards* such as the number of customers visited, number of pieces saled, added value produced, etc. But work, and choices concerning its organisation can also be steered by setting up *general objectives*, such as teamgoals, job descriptions, etc.

Based on the following figures it could be for instance concluded that telework is possible for jobs that need no direct control (supervision by the superior or automatic registration of prestations). Or, stated in the reverse way, it is possible to see which kind of jobs lend themselves for telework. The cross-tabulation presented here also allows to see whether telework indeed introduced new ways of managing people.

Table 6.5 Different types of control of work: a comparison between teleworking and non-teleworking employees (frequency and *percentage of the subgroup*)

	Non-teleworking employee	Teleworking employee	Total
General objectives as a standard	20	17	37
	35.7	*24.0*	*29.1*
Time limits	10	26	36
	17.9	*36.6*	*28.3*
Measurable standards	3	10	13
	5.4	*14.1*	*10.2*
Direct control	23	18	41
	41.1	*25.4*	*32.3*

Source: Results of the pilot test of the Belgian questionnaire, 2002, processed by HIVA

Thanks to the opportunity to define different forms of telework even more detailed tables can be computed. With the same question it is also possible to see for instance whether the base of control differs in different types of telework. This cross-tabulation can be a valuable basis for future prospects on the growth of different types of distant work. If telehomework is mainly steered by 'management by objectives', it may be suggested that this form of work will not evolve with great strides in certain sectors. It also allows more management oriented information on the need for differentiating management to different forms of telework. The following table shows the added value of a cross-tabulation at a more detailed level.

Table 6.6 Different types of control of work: a comparison between different types of teleworking employees (frequency and *percentage of the subgroup*)

	Telehomeworker	Multilocational *e*Worker	Mobile *e*Worker	Total
General objectives as a standard	2	14	1	17
	50.0	*21.5*	*50.0*	*23.9*
Time limits	0	26	0	26
	0.0	*40.0*	*0.0*	*36.6*
Measurable standards	1	9	0	10
	25.0	*13.9*	*0.0*	*14.1*
Direct control	1	16	1	18
	25.0	*24.6*	*50.0*	*25.4*
Total	4	65	2	71
	100.0	*100.0*	*100.0*	*100.0*

Source: Results of the pilot test of the Belgian questionnaire, 2002, processed by HIVA

Based on the above mentioned figures it could be concluded that multilocational *e*Workers most often are steered by time limits. Telehomework seems to be very attractive for jobs that can be steered by general objectives (i.e. Company, team or individual goals). Direct control in the form of supervision by the superior or automatic registration of performance (e.g. Registration of products sold or interviews done) seems to be possible thanks to the use of ICT, even if people do not always work at the office.

6.1.1.5 Determining starting and finishing hours

In addition to these general forms of control of work, a cross-tabulation with the way beginning and finishing hours are determined can give interesting information. The following table could allow to draw up conclusions on the relationship between telework and the organisation of work. This information can be useful to assess the opportunities that telework offers within the

framework of traffic planning. But it can also be useful for management related research. Based on the table below one could see for instance that the introduction of telehomework in a lot of organisations goes together with a system of flexitime, rather than of full autonomy of employees. Based on these figures, management introducing telehomework would consider accompanying this measure by introducing a system of flexitime.

As it is often suggested that the control an employer/supervisor wants to have over his employees is related to the kind of contract, a combination with the part-full-time variable and with the period of contract may be interesting. In large populations a multiple regression analysis could give insights into the extent to which the type of control of work is determined by work form, type of contract, job content, etc.

Table 6.7 Autonomy in determining starting and finishing hours: comparison between different types of employees (frequency and *column percentage*)

	Tele-homeworking employee	Other tele-working employee	Non-teleworking employee	Total
Starting and finishing hours fixed by employer	1	14	36	51
	25.0	*20.9*	*64.3*	*40.2*
Flexitime	3	30	16	49
	75.0	*44.8*	*28.6*	*38.6*
Fully autonomously determined	0	22	1	23
	0.0	*32.8*	*1.8*	*18.1*
Other system	0	1	3	4
	0.0	*1.5*	*5.3*	*3.1*
Total	4	67	56	127
	100.0	*100.0*	*100.0*	*100.0*

Source: Results of the pilot test of the Belgian questionnaire, 2002, processed by HIVA

6.1.1.6 Training opportunities and training needs

In relation to distance work it may be assumed that employees get less opportunities for training, for instance because the training needs are less visible to the superior. In this respect a combination between the telework indicators and the LFS-training question is important. In the Belgian pilot a training-related question developed and tested by K. Tijdens (2001) has been added. This question gains more detailed information on the theme of the training followed. For the respondents who have not followed any work-related training, it is asked for which kind of training they feel a need.

A cross-tabulation of this question with the core telework indicators can offer more insights into the kind of qualifications that are needed in the telework jobs. This information can be useful for different users ranging from policy makers working on the educational programmes, labour market statistics focussing on gaps and distortions on the labour market, to training representatives at the organisational level.

Based on the following table it could be concluded for instance that social communicative skills are most important in multilocational jobs, and less in telehomework jobs. This could lead to the research question to which extent the arising training needs can be explained by the work form and by the job content. A comparison between teleworkers and non-teleworkers (preferably in the same kind of job) could be interesting to explore this question initially.[12]

12 In larger samples, a regression analysis with two independent variables: *e*Work and job will be very interesting in this respect.

Table 6.8 Themes of employee-training during the past twelve months in different types of work (frequency and *percentage of the subgroup*)

	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	No teleworker	Total
Job specific knowledge	2	42	1	29	74
	50.0	*64.6*	*50.0*	*51.8*	*58.3*
Usage PC, internet, computerprogrammes, etc.	3	25	1	19	48
	75.0	*38.5*	*50.0*	*33.9*	*37.8*
Socio-communicative skills	0	16	0	11	27
	0.0	*24.6*	*0.0*	*19.6*	*21.3*
Management skills	0	14	1	9	24
	0.0	*21.5*	*50.0*	*16.1*	*18.9*

Source: Results of the pilot test of the Belgian questionnaire, 2002, processed by HIVA

The question on the training needs can be interesting in combination with the telework indicators. The combination can offer a mirror of the former table. But the information can also offer new insights into training needs that are not commonly recognised as important ones in the new economy with its new flexible forms of work.

Table 6.9 Training needs by employees in different types of work (frequency and *percentage of the subgroup*)

	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	No tele-worker	Total
Job specific knowledge	0	10	0	10	20
	0.0	*15.4*	*0.0*	*17.9*	*15.8*
Usage PC, internet, computerprogrammes, etc.	0	6	0	11	17
	0.0	*9.2*	*0.0*	*19.6*	*13.4*
Socio-communicative skills	1	6	0	4	11
	25.0	*9.2*	*0.0*	*7.1*	*8.7*
Management skills	1	7	0	7	15
	25.0	*10.8*	*0.0*	*12.5*	*11.8*

Source: Results of the pilot test of the Belgian questionnaire, 2002, processed by HIVA

6.1.1.7 Functionality of the ICT link

Telework is characterised by work that can be carried out at a distance from the traditional workplace, thanks to ICT. New technologies can play different roles in carrying out work. They can be used for instance as a tool for registration, as a manual in customer relations or as a central tool in the core tasks such as CATI (computer assisted interviewing). In the last case, the work is oftenly standardised to a large extent, in the first example the content of work nearly has changed. In the framework of measuring the impact of telework it is useful to gain some insights into the role ICT play. Therefore the Belgian questionnaire asked for each activity that is carried out at a distance whether one uses an ICT link for that task. For the non-teleworkers a list of activities was summed up and for each of them the role of ICT was asked (cf. supra). The following table illustrates which information can be gained based on these questions.[13]

[13] It should be remembered that the question on the activities carried out at a distance caused some problems in the pilot test in the different countries. The exercise is done here to illustrate the importance of the question. Other ways of questioning should be investigated.

Table 6.10 ICT usage teleworkers versus non-teleworkers (frequency and *row percentage per sub-group)*

	Teleworker		No teleworker		
	ICT	No ICT	ICT	No ICT	Not done
Core tasks*	74	43	46	1	2
	63.3	*36.8*	*93.9*	*2.0*	*4.1*
Report writing*	42	75	37	9	3
	35.9	*64.1*	*75.5*	*18.4*	*6.1*
Preparatory tasks*	31	86	48	0	1
	26.5	*73.2*	*98.0*	*0.0*	*2.0*
Administrative tasks*	41	76	48	0	1
	35.0	*65.0*	*98.0*	*0.0*	*2.0*
Other tasks*	12	105			
	10.3	*89.7*			

* Remark: *Core tasks* refer to the executing tasks. In the questionnaire the following core tasks were included: Sales activities, customer service, software development and support, translation, financial and accounting services, typing and data entry, design and editing. *Preparatory tasks* are tasks that are to be performed in preparation of the core tasks, in this table reading documents and discussing problems with colleagues are conceived as preparatory tasks. *Administrative tasks* included in the questionnaire are reading post and e-mail and filling out administration. As *report writing* is for some jobs a core and for other an administrative task, this is a separate category here. The category *other tasks* is a combination of different open answers that could not be put into one of the above categories.

Source: Results of the pilot test of the Belgian questionnaire, 2002, processed by HIVA

Based on cross-tabulations as computed in the above table it is possible to see whether one uses an ICT link to carry out different types of work at a distance. The table also allows to make a comparison between teleworkers and traditional working people.

These cross-tabulations allow to see for instance the importance of ICT in enabling telework. Based on the data of the pilot test it could suggested that ICT are not always the enabling factor in telework. The detailed information on the level of the tasks can be a basis for drawing up research questions on the impact of telework on the content of work. Based on the table presented above it could be for instance supposed that some telework is opted for in order to perform creative preparatory tasks (tasks for which the human inspiration is important). In this pilot test some people indeed mentioned that they read difficult documents in preparation of their work when they worked at home. These people do not make use of the computer very intensively.

The question is not able to give insights into the impact of telework on the content of work, it can only give some initial insights into the role ICT play in the work that is carried out at a distance. More detailed information on the impact on the content of work and the extent of standardisation for instance, calls for a more qualitative research approach.

6.1.1.8 Satisfaction with telework

One important indicator for the satisfaction with the new work forms, is offered by the question whether one wants to continue working at a distance in the future. The Belgian questionnaire allows to gain more detailed information. The following table illustrates how the combination between this variable and the experienced changes in work pressure can give an indication of the importance of work pressure in the preparedness to work in a certain type of work.

Table 6.11 Future wishes to work at a distance in relation to the perceived changes in work pressure (frequency and *row percentage*)

	Increased	Unchanged	Decreased	Doesn't know	Total
More	6	28	9	3	46
	13.0	*60.9*	*19.6*	*6.5*	*100.0*
About the same	7	31	14	1	35
	13.2	*58.5*	*26.4*	*1.9*	*100.0*
Less	1	2	0	0	3
	33.3	*66.7*	*0.0*	*0.0*	*100.0*
Can not specify, but wants	0	2	1	0	3
	0.0	*66.7*	*33.3*	*0.0*	*100.0*
Not anymore	0	3	1	0	4
	0.0	*75.0*	*25.0*	*0.0*	*100.0*
Does not know	0	2	0	0	2
	0.0	*100.0*	*0.0*	*0.0*	*100.0*
Total	14	68	25	4	111
	12.6	*61.3*	*22.5*	*3.6*	*100.0*

Source: Results of the pilot test of the Belgian questionnaire, 2002, processed by HIVA

Based on the former table it could be concluded for instance that the wish to continue working at a distance is not directly related to the experienced work pressure. The wish to stop working at a distance, on the contrary, seems to be more directly related to the experienced work pressure.

6.1.2 Conclusion

The ambition of investigating telework should go beyond the measurement of intensity and readiness. In the Belgian pilot the opportunities of a telework module to measure the impact of this form of work were tested. In particular, the focus was on the impact on different quality of working life aspects.

The tables presented here have illustrated that a telework module, that is attached to existing large scale 'quality of work' questionnaires, can offer interesting insights into the relationship between the work form and relevant quality of working life aspects.[14] But the questions included in the test can also be conceived as a module that can be attached to existing surveys allowing more extended modules.

It has become clear that the measurement of impact is possible within a cross sectional design. This design offers some opportunities for asking respondents to assess the impact of the introduction of telework. Measuring impact in this kind of research is also possible by comparing groups with each other. In telework related research this exercise includes some risks. The size of the groups is very divergent. What is more, the composition of certain groups is very homogenous with respect to relevant job characteristics such as sector, job, etc. This makes it very difficult to see the impact of the work form on the basis of comparisons between groups. Research should take this distribution into account when setting up impact analysis and interpreting results.

The test has confirmed the opportunities but also the limitations of quantitative research in general. Quantitative research can reveal relationships. For more in depth insights into phenomena researchers are referred to qualitative research. It has become clear how the quantitative research can induce interesting research questions for qualitative research.

14 As the sample for the test was distorted and too small, the tables are purely indicative. The discussions of the tables have the same conditional status.

In addition to this, the test can also illustrate the complementarity of employee and employer surveys. Attaching a module to existing quality-of-work related employee questionnaires, misses some important aspects. HR-recruitment policy, industrial relations, training policy (informal and formal training), communication policy, etc. are just a random selection from the whole of quality-of-work related aspects that can be assumed to be influenced by the introduction of telework. These aspects can be dealt with most efficiently in establishment surveys.

6.2 Italy

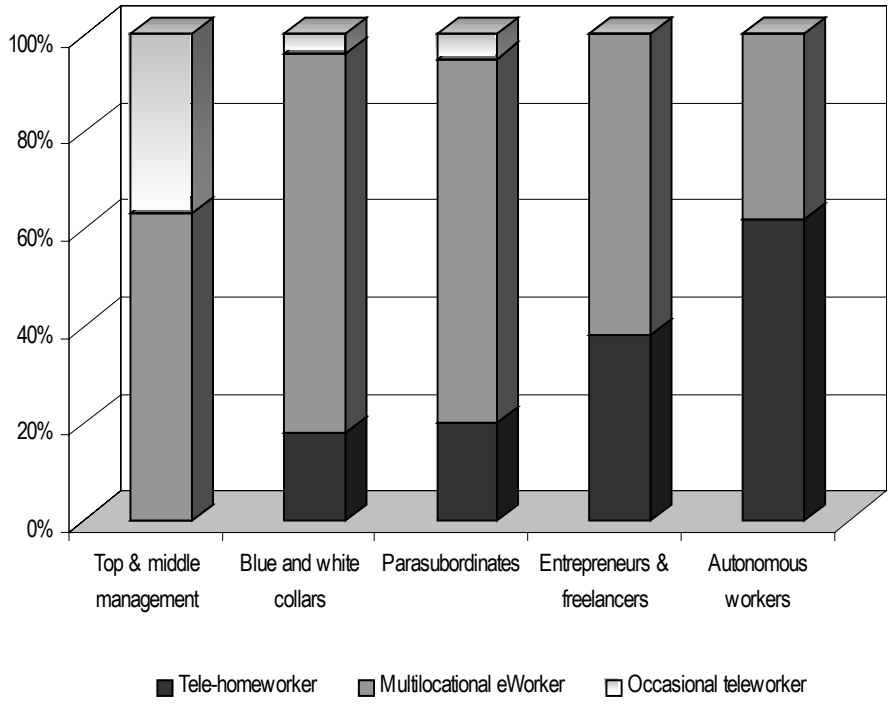
In the Italian questionnaire there were questions aimed at surveying some qualitative aspects of telework, related to forms of work control and conditions of the teleworkers as well as some indicators which emerged from the labour force survey.

6.2.1 Work relation

6.2.1.1 Job status

An interesting result is the distribution of the typology of telework by job status. In fact there are no telehomeworkers among the top and middle managers, although the multilocational *e*Workers and especially the occasional *e*Workers are well represented. This reveals that Italian managers often complete extra work outside the office in the form of remote work.

Occasional telework is almost absent in the other professions and disappears among the self-employed who tend to opt for telehomeworking.



Source: Results of the pilot test of the Italian questionnaire, 2002, processed by IRES

Figure 6.1 Typology of telework by position in profession

6.2.1.2 Form of payment

The fact that telehomeworkers are more common among the parasubordinate and autonomous workers can also be deduced from how they are paid. Payment is generally made after the consignment of a specific product or service.

Table 6.12 Form of payment by typology of telework (column percentage)

	Tele-homeworker	Multilocational *e*Worker	Occasional teleworker	Total
Fixed salary	34.8	59.4	100.0	56.6
Hourly rate	4.3	2.9	0.0	3.0
Payment by project	60.9	34.8	0.0	38.4
Other	0.0	2.9	0.0	2.0
Total (N)	23	69	7	99

Source: Results of the pilot test of the Italian questionnaire, 2002, processed by IRES

6.2.1.3 Autonomy

In the group of the self-employed or parasubordinate workers interviewed, there is a high level of autonomy. This level is higher than in that of all self-employed interviewed.[15] The indicators on the level of autonomy, taken from the LFS, are aimed at 'controlling' the real level of autonomy of the self-employed workers who often work in conditions that are only formally defined as such. However, the characteristics of remote work seem to have a significant effect on the workers' level of autonomy.

Table 6.13 Level of autonomy of the self employed (working at a distance and not) (percentage per subgroup)

	Tele-homeworker	Multilocational *e*Worker	Occasional teleworker	Total tele-worker	Total survey
More than one customer	87.5	72.4	100.0	78.3	65.8
Autonomy in fixing where working	80.0	100.0	100.0	94.7	86.5
Autonomy in working time	100.0	100.0	100.0	100.0	86.8

Source: Results of the pilot test of the Italian questionnaire, 2002, processed by IRES

On the other hand, there is less autonomy among the employees, especially in the case of telehomeworkers, whose performance is automatically recorded or controlled directly. This confirms that telehomeworking in Italy is still not exclusively targeted at workers with high levels of autonomy and professionalism. Performance is often assessed by the attainment of results or the consignment of a product for the multilocational workers and the occasional teleworkers.

15 Not teleworking.

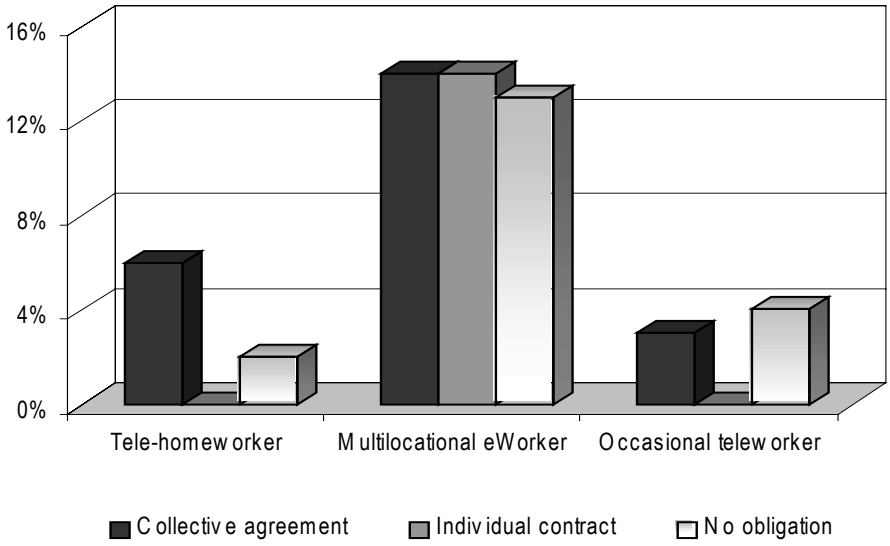
Table 6.14 Control of work by typology of teleworker (percentage per subgroup)

	Tele-homeworker	Multilocational eWorker	Occasional teleworker	Total
Direct supervision	62.5	43.6	-	42.3
Automatic recording of performance as noted above, I don't know what this means Suggest defining it when first used	100.0	53.8	-	55.8
Deadlines/team or individual goal	-	64.1	100.0	59.6
Total (N)	8	39	5	52

Source: Results of the pilot test of the Italian questionnaire, 2002, processed by IRES

6.2.1.4 Time flexibility

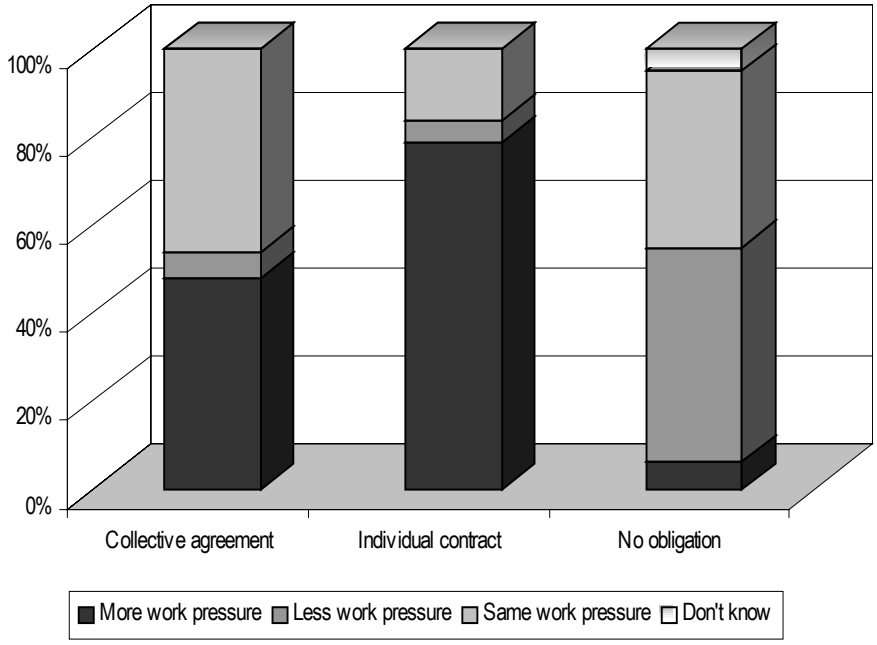
Time flexibility is unusual among the telehomeworkers. None of the employees that work exclusively from home declare having arranged an individual working time plan with their employer, whereas the multilocational *e*Workers have greater flexibility in their time management. The figure below illustrates this.



Source: Results of the pilot test of the Italian questionnaire, 2002, processed by IRES

Figure 6.2 Working time by type of telework

In any case, the down side of greater autonomy in time management seems to be the increase in work pressure. The following figure illustrates that those who organise their own individual working time are more inclined to experience more work pressure since they telework. Male managers or entrepreneurs, who use the laptop for half their working time, complain of greater work pressure as a result of remote work.



Source: Results of the pilot test of the Italian questionnaire, 2002, processed by IRES

Figure 6.3 Working by level of work pressure since teleworking

6.2.2 Work space

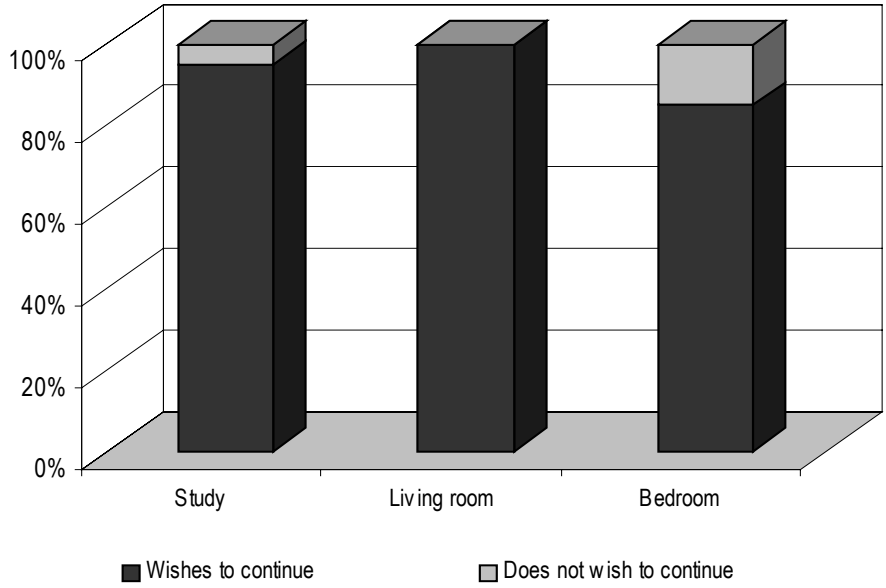
Lastly, it is interesting to analyse the space available to the teleworker. In general the teleworker is advised not to use common rooms such as bedrooms or living rooms but to set up the work station in an environment that is isolated from the rest of the house, such as a study or a play room. In the Italian case, especially female teleworkers have to put up with difficult conditions. The percentage of women who work from the bedroom is 27% compared with 12% of men. Furthermore, a large amount of telehomeworkers work from the bedroom, a condition that causes even more problems.

Table 6.15 Room of work by typology of teleworker (male and female)

	Tele-homeworker	Multilocational eWorker	Occasional teleworker	Total
Male				
Study	80.0	62.9	100.0	68.8
Living room	0.0	25.7	0.0	18.8
Bedroom	20.0	11.4	0.0	12.5
Subtotal (N)	10	35	3	48
Female				
Study	46.2	60.6	60.0	56.9
Living room	23.1	12.1	20.0	15.7
Bedroom	30.8	27.3	20.0	27.5
Subtotal (N)	13	33	5	51

Source: Results of the pilot test of the Italian questionnaire, 2002, processed by IRES

The following figure confirms the fact that teleworkers who use the bedroom as their workplace are at more of a disadvantage. It illustrates that the teleworkers who work from the bedroom are more inclined to interrupt the telework experience.



Source: Results of the pilot test of the Italian questionnaire, 2002, processed by IRES

Figure 6.4 Wish to continue working at a distance by room worked in

6.3 United Kingdom

6.3.1 Evidence from other sources

The UK Labour Force Survey has collected data on teleworking since 1997. At a broad level, a teleworker, in the UK LFS can be defined as a person in employment who works from home, or from other places using home as a base, at least once a week using a computer and a telephone. A more narrow definition of teleworker also takes into account whether or not that individual would be able to carry out their work from home, or from other places using home as a base, without the use of a computer and a telephone connection.

In a recent study, Hotopp (2002) used the UK LFS to differentiate between three forms of teleworking, in which respondents do some work from home with the use of a computer and a telephone. The group of teleworkers was subdivided into groups of people who:

- mainly work from home in their main job, defined as 'teleworker homeworkers';
- work from different places using home as a base, defined as 'home-based teleworkers';
- do not usually work from home or from different places using home as a base but did so in the reference week, defined as 'occasional teleworkers'.

Hotopp's comprehensive review of the LFS reported that:

- in Spring 2001, there were 2.2 million teleworkers in the UK, or 7.4% of all in employment, 1.8 million teleworkers suggested that they could not carry out their job without a computer or telephone;
- the total number of teleworkers has increased in the UK by 65 to 70% since 1997 (depending on definition used);
- the majority of teleworkers in the UK are from managerial, professional, associate professional or technical occupations;

- approximately two out of three UK teleworkers are male. This can be explained partly by the fact that the above-mentioned occupations are disproportionately male and partly by the fact that a disproportionate number of teleworkers are also self-employed and the self-employed are also more likely to be male;
- teleworking varies by industrial sector. Real estate, renting and business services related activities is the sector that accounts for the greatest number of teleworkers in the UK (approximately a quarter of all teleworkers), while 'Energy and water' and 'Hotel and catering' account for relatively few teleworkers.

6.3.2 Additional questions in the UK pilot

On the whole, the UK pilot did not deviate from the core questionnaire used by Belgium and Italy. However, the UK did ask a few additional questions relating to the working hours and the prevalence of 'non-traditional' working time patterns. It must be stressed that, given the nature of the sampling method and size of the sample, these results should not be treated as anything other than illustrative. The relationship between types of teleworking and working patterns is reported in Tables 6.16 to 6.18.

Table 6.16 shows that only three employees who participated in the UK survey conducted any form of shift working, all three can be defined as Multilocational *e*Workers. This result is consistent with earlier findings that the majority of the sample came from managerial, professional and associate professional occupations and from business services related industries. These occupations and industrial sectors are not generally associated with high levels of shift working and this is reflected in the results.

Table 6.16 Prevalence of shift work among employees (column percentage)

	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Most of the time	0.0	1.7	0.0	0.0	1.4
Occasionally	0.0	0.9	0.0	0.0	0.7
Never	100.0	97.4	100.0	100.0	97.9
Total (N)	17	116	3	8	142

Source: Results of the pilot test of the UK questionnaire, 2002, processed by IES

The prevalence to evening and night work in the sample is reported in Table 6.17. It appears that over three-quarters of the employees that were sampled conducted some evening work, with more than one in ten working most evenings. Similarly, almost 30% of respondents reported working at night, with just over 2% claiming to do so 'most of the time'.

Table 6.17 Prevalence of evening and night work

	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Evening work					
Most of the time	5.9	13.8	0.0	0.0	11.8
Occasionally	70.6	62.9	66.7	75.0	64.6
Never	23.4	23.3	33.3	25.0	23.6
Night work					
Most of the time	0.0	2.6	0.0	0.0	2.1
Occasionally	29.4	27.6	0.0	0.0	25.7
Never	70.6	69.8	100.0	100.0	72.2
Total (N)	17	116	3	8	142

Source: Results of the pilot test of the UK questionnaire, 2002, processed by IES

The final table in this section (Table 6.18) reports the prevalence of weekend working. Over 80% of the employees sampled reported working on Saturday and over three-quarters of all employees also reported working on Sunday. Once again, this is not surprising given the nature of the sampling and the initial emphasis on selecting teleworkers.

Table 6.18 Prevalence of weekend work (column percentage)

	Tele-homeworker	Multilocational *e*Worker	Mobile *e*Worker	Occasional multilocational *e*Worker	Total
Saturday work					
Most of the time	11.8	13.8	0.0	12.5	13.2
Occasionally	58.8	68.1	100.0	62.5	67.4
Never	29.4	18.1	0.0	25.0	19.4
Sunday work					
Most of the time	5.9	10.3	0.0	0.0	9.0
Occasionally	59.8	62.9	66.7	75.0	63.2
Never	35.3	26.7	33.3	25.0	27.8
Total (N)	17	116	3	8	142

Source: Results of the pilot test of the UK questionnaire, 2002, processed by IES

6.4 Hungary

In its earlier research on telework, the Institute of Sociology of the Hungarian Academy of Sciences, Budapest (ISB) contacted companies that used telework for some of their activities. These companies as well as some others from the database of INFORRÁS XXI, a non-profit organisation established specifically for the purpose of spreading and popularising telework, helped to contact some of the teleworkers. Eventually 35 of the teleworkers contacted agreed to participate in the survey. The interviews in this sample were different from the LFS ad hoc module in many respects. They were conducted by an experienced professional researcher, who clearly understood the nature and the definition of telework.

While asking the ad hoc module questionnaire of LFS could not take more than 10 to 15 minutes, the discussion in the focus group did not pose any time limits to the interviewees. The participants could express their opinions on various questions and evaluations very broadly.

These interviews have also provided valuable information on how the English text could have been better and more accurately translated in the Hungarian questionnaire and what additional considerations should have been taken into account when designing the Hungarian version.

Another difference was that these teleworkers (who regularly teleworked for companies) usually had comprehensive knowledge of ICT tools, including also those they do not necessarily use in their work. In the LFS the notion of Intranet had to be explained to several respondents. The teleworkers in the focus group thought the explanation was unnecessary as they knew what it meant. The latter group was more homogeneous, better educated and, most importantly, better informed than interviewees of the LFS ad hoc module, which greatly influenced the quality of the information received.

6.4.1 Assessment of the questions

The comments from the focus group on the question on the activities that are carried out from a distance were very different from those of the participants in the ad hoc module. In order to better define the nature of this kind of activities, this question was an open question in the Hungarian version. In the LFS ad hoc module this question helped greatly to identify the respondent's occupation and to identify activities that were not real telework. In the focus group, however, it did not work satisfactorily. About half of respondents (18 persons out of 35) said that this question was unnecessary as there is another multiple answer question which lists the activities (see question 13, Hungarian questionnaire).

Apart from the activities question, several of the members of the focus group considered the question on the initiator of the arrangement pointless. In their case, telework was an option offered and they decided freely to take it.

6.4.2 Assessment of the completeness of the questionnaire

The focus group gave a negative answer to the question whether there were any incomprehensible questions. In answer to the question on eventually lacking questions, they said there should have been more information and questions. This suggests that they thought through the purpose of the questionnaire much more carefully than respondents of the LFS ad hoc module. Besides the personal contact with them, this attitude was due to their better knowledge of what telework is. Moreover, the focus group considered it their task to make the questionnaire adequate and full. The following list gives an overview of the proposed additional questions:

- In what way has your work performance changed since you have been a teleworker? Is there a performance evaluation system at your company at all?
- What is the opinion of your environment (friends, family, colleagues) about your telework practices?
- Who pays operation costs?, as a nested question following on the question on the provision of ICT tools. The fact that tools and the telephone are owned by the employer does not necessarily mean that the employer pays the whole operation costs or contributes to it (i.e. contribution to the telephone bill, Internet fee, electricity bill, etc.)
- Which disadvantages do you experience in relation to telework?
- For whom is telework an advantage?
- Who is your contact person at the company?
- How successful is it to work at home?
- Is a help desk service available for you?
- For whom is telework an advantage?
- Who is your contact person in the company?
- How successful is it to work at home?

6.4.3 Some additional questions

In the interviews, members of the focus group were asked to answer three questions that were not included in the ad hoc module:

1) Which personal characteristics and qualifications are important prerequisites for telework?
2) Which future evolutions are expected? Which are obstacles for further spread of telework?
3) Which requirements does telework pose on the employer?

6.4.3.1 Important characteristics as a prerequisite

Personal characteristics

Respondents unanimously regarded the ability to 'work autonomously' the most important characteristic of a teleworker (fifteen said so). Only three respondents said that 'anyone is able' to do telework. The rest of the answers in decreasing order of the number of respondents thought the following personal characteristics are important prerequisites to be able to telework.

- good communication skills (three respondents);
- assertiveness (two respondents);
- withdrawness (two respondents);
- reliability, conscientiousness (two respondents);
- creativity (two respondents);
- flexibility in time management (one respondent).

Educational background

With respect to the educational background, opinions were rather homogeneous. In the view of twenty respondents, it does not depend on education whether one can become a teleworker. Nevertheless, an adequate level of computer skills is conceived indispensable. Some respondents think that the following educational backgrounds are important:

- high educational level (two respondents);
- technical qualification (one respondent).

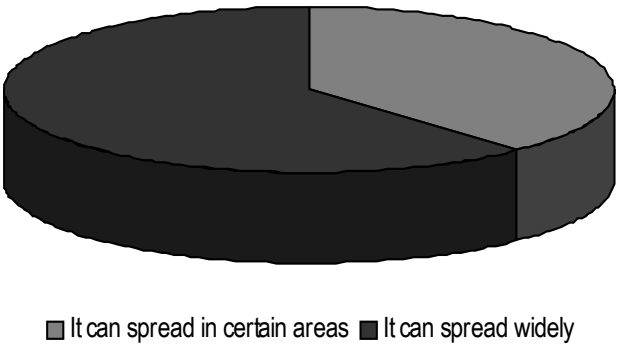
Nature of work

In addition to characteristics of the teleworkers, the nature of work needs to meet some requirements in order to make telework possible. In this respect respondents mentioned several conditions that well supplemented each other. Answers in decreasing order of the number of respondents giving them were as follows:

- activities not requiring personal contacts (four respondents);
- clerical work can be carried out at a distance (three respondents);
- activities that require the use of computer (three respondents);
- work that can be done on one's own (two respondents);
- work with important deadlines (one respondent);
- work which is not tied to a place (one respondent).

6.4.3.2 Future prospects and obstacles to the spread of telework

All respondents said that telework would be much more widespread in Hungary in the future than at present. The diagram shows the various forecasts for the spreading of telework.



Source: Data of the Hungarian focus group, 2002, processed by ISB

Figure 6.5 Future prospections on the spread of telework

Those saying that telework can spread in certain areas think primarily of the ICT sector to be suitable for applying telework.

Among the obstacles, respondents mentioned the lack of the right infrastructure and people's mentality in equal numbers. The main obstacles mentioned were as follows:

- management's mentality (four respondents);
- mentality of people (four respondents);
- expensive computer and Internet (four respondents);
- lack of central subsidies (two respondents);
- bad legal regulation of telework (one respondent);
- lack of measures for measuring work performance (one respondent).

6.4.3.3 Requirements on the employer

The last supplementary question was about the specifications of the employer using telework. The reason for asking this question was that most often the resistance of the employer is mentioned as an obstacle to the spread of telework. Members of the focus group agreed that this question is very important from the point of view of the spreading of telework. According to respondents, three criteria should be met to use telework: measuring performance, carefully assigning tasks and trust in employees. Answers in decreasing order of the number of respondents are:

- there should be someone to control work (eleven respondents);
- there should be someone to assign tasks precisely (eight respondents);
- the employer should trust the employees (seven respondents);
- the employer should see the efficiency of telework (four respondents);
- employees should be ensured autonomy, and this should be part of the company culture.

Chapter
7

The Irish case

7.1 Test of a telework module in the QNHS context

7.1.1 Background

Although there has been no large-scale research on teleworking in Ireland, the results of a several small-scale surveys and reports suggest that teleworking is at quite a low level, probably in the region of 1-2% of the labour force, despite the high proportion of the Irish labour force which is employed in the ICT sector.[16]

Despite this apparent low level of activity, there has been strong government support for teleworking including a national advisory council on teleworking (1998-1999) which produced a code of practice on teleworking (2000) endorsed by the government, employers and trade union bodies. This code won a European teleworking award. The activities of the council were followed up by the formation of the '*e*Work Action Forum' (2000-2002, run by the Department of Enterprise, Trade and Employment), which took as one of its objectives the importance of producing some reliable statistics on the spread of teleworking practices. In addition, Ireland's Information Society Commission requested in its annual reports for 1999 and 2000 that the Central Statistics Office (CSO) should investigate providing some statistics on teleworking, as well as on ICT penetration in general.

Paula Carey, Research Officer of the Irish Congress of Trade Unions was on the original telework advisory council, and was responsible for the idea of the code of practice, as well as for drafting much of the text. Paula was also a member of the Information Society Commission and is on the National Statistics Board, which oversees the activities of the CSO. Through her contacts on the board and the activities of the *e*Work Action Forum, the CSO was invited to become involved with the STILE project as a way of investigating the most effective way of producing some telework statistics, amongst other objectives.

During the contract negotiation period of STILE, the *e*Work Action Forum requested that the CSO attend one of its meetings to exchange views on the provision of teleworking statistics, and at this meeting a suggestion to include a limited version of the UK LFS questions into Ireland's Quarterly National Household Survey (QNHS) was floated.

This suggestion was made despite the acknowledged limitations of the UK questions, which do not pick up teleworkers who never work from home (those who are purely mobile, or who work at customer or client premises, or who work at multiple locations not including home).

16 Eurobarometer 54.0, 2000.
Third European Survey on Working Conditions, European Foundation for the Improvement of Living and Working Conditions, 2000.
Telework data report (population survey) ten countries in comparison, ECaTT project, Empirica, 2000.
eWorking in Ireland, MRBI, 2001.
E-work in Ireland, EMERGENCE project, 2002.

The idea was developed after the CSO stressed the long lead-time required to define the questions and test them, as well as to brief the QNHS interviewers and to programme CAPI software.

Both the CSO and members of the forum were concerned that the final results should attempt to distinguish between those for whom teleworking is an integral part of their job, and those who use ICTs and location-independent work as an adjunct to their existing job (in particular, the group defined by the EMERGENCE project as the 'e-enabled self-employed').

At the November 2001 STILE kick-off meeting, this issue of timescale was again stressed by the CSO, and the partners decided that, since decisions had to be made immediately in order to include questions in the Autumn (quarter 3) 2002 QNHS, Ireland should go ahead with a version of the UK LFS questions and feed in information from issues found during this process as an alternative to carrying out the 200-person pilot questionnaire which would not be ready until summer 2002. The idea was that, given the long lead-time for LFS questions and the short duration of the STILE project, it was important to run parallel investigations into both the appropriate questions, and the practicalities of including them in LFS surveys.

7.1.2 Adapting the UK LFS questions

During the next two months, email and telephone discussions were held between the CSO and the ONS in the UK, between the CSO and IES, who had been closely involved in the original design of, and analysis of, the UK LFS questions. Discussion took also place between CTC, which was involved in producing the STILE literature survey for Ireland, and the CSO.

These discussions covered whether or not the QNHS should attempt to collect information on second jobs, whether or not the self-employed should be included in those asked the telework questions, the exact phrasing of the ICT use question TELEQA, the inclusion of the 'need for ICT' question TELEQB, and the positioning of these questions within the QNHS.

Existing figures already available from the QNHS for those who work at home, broken down by age, sex, region, educational status, occupation and sector were also examined. The intention was to compare these with the UK figures in order to have a rough estimate of the effort likely to be involved in the data collection, as well as to supplement the STILE literature review. It was not found to be possible to make a close enough comparison due to some differences in occupational coding between the UK LFS and the Irish QNHS.

For reasons of length and data analysis burdens, and because only a small proportion of the Irish labour force with second jobs falls into the sectors where teleworkers are found in the UK LFS, a decision was made that the telework questions would not be asked in relation to second jobs.

In relation to self-employment, it was decided that although it would not be possible to adapt the UK LFS questions at this stage to try to separately identify the 'e-enabled self employed' separately from self-employed teleworkers, it was certainly important to include self-employed people since in the UK they account for some 43% of teleworkers (2002 figures). Some work on identifying this category could then be carried out by cross-tabulation with occupation and sector data from the QNHS.

On the ICT question, the wording was agreed after detailed discussion between Ursula Huws of IES and Padraig Dalton of the CSO to encompass the use of a computer 'with' a telecommunications link rather than 'and', even though this would clearly produce lower figures than the 'and' wording. The main reason for this was it was felt that the use of 'and' would pick up persons who were not strictly teleworkers, whereas the use of 'with' in combination with the TELEQB question could distinguish persons for whom a telecommunications link was vital. Figures from the US CPS (which does not ask directly analogous questions as it does not investigate whether the ICT facilities are necessary for work completion) suggest that as a rule of thumb that around 80% of those who work from home using a computer also use an Internet link.

7.1.3 Irish QNHS telework questions quarter 3 2002

7.1.3.1 Overview of questions

The questions agreed and sent for QNHS programming for Q3 2002, along with interviewer guidance, were described as follows:

> Three questions are added to the questionnaire for this quarter only as part of the CSO's involvement in the EU STILE project which 'aims to provide innovative methodologies and content for the statistical monitoring of the European labour market in the *e*Economy'. The topic of these questions is teleworking and the use of telecommunications technology to enable work from home.

In order to facilitate the placing of these questions on the questionnaire the HOMEWORK question, which is usually only asked of Wave 1 respondents, will be asked of all Waves in this quarter as a precursor to the telework questions.

> **HOMEWORK**
> *(If respondent worked in reference week)*
>
> Do you work from home?
> 1. Usually
> 2. Sometimes
> 3. Never
>
> **HOMED**
> *(If respondent usually or sometimes works from home and was not absent in the reference week)*
>
> (In your main job) have you spent at least one FULL day in the seven days ending Sunday the xxth working?
> 1. In your own home
> 2. In the same grounds or buildings as your home
> 3. In different places using home as a base
> 4. Not worked at home during reference week
>
> **TELEQA**
> *(If respondent usually or sometimes works from home)*
>
> Do you use a computer with a telecommunications link to carry out your work at home?
> 1. Yes
> 2. No
>
> *Note:* The telecommunications link must be used to receive or convey data/information in the course of work. It is not sufficient for a link to be available on the computer but not used for work purposes.
>
> **TELEQB**
> *(If respondent usually or sometimes works from home and uses a computer with a telecommunications link to carry out their work at home)*
>
> Would it be possible for you to work at home (or use home as a base) without using a computer with a telecommunications link?
> 1. Yes
> 2. No

7.1.3.2 Routing and filtering

Discussions among the STILE partners had raised the issue of the rather loose categories ('usually', 'sometimes') used in the existing CLFS homework question. In order to understand the relation between answers to these questions, and to the more tightly defined UK LFS questions, it was decided that the questions added to the QNHS would be included directly after the homework question. The alternative would have been to repeat the homework question in a short voluntary additional module at the end of the core questions.

It was also necessary to change the filtering system for the homework question in that quarter, and ask the question to all persons in employment. In order to ease respondent burden, values for the homework question are normally carried forward in the questionnaire, when respondents' details have not changed, and hence the question is not normally asked of all waves of the QNHS sample, but only of wave 1.

In Austria, where enquiries relating to teleworking have also been made through the Micro Census using an approach based on ICT use, nearly two-thirds of teleworkers (62%) work less than 8 hours a week at home.[17]

The questions used in the UK do not pick up people who work for less than one full day during the reference period and thus are not recording these 'occasional' teleworkers in their current form (although they do pick up people who happened to work at or from home during the reference week but do not normally do so).

The filtering used in the QNHS allows for all those who ever work at home 'sometimes' or 'usually' to be asked the ICT use questions in addition to the 'one full day' HOMED question and thus provides for 'occasional' and 'regular' teleworkers to be distinguished at a basic level.

7.1.3.3 Interviewer guidance

The CSO held a face to face briefing session with the QNHS field co-ordinators in relation to these new questions, and ten face-to-face briefing sessions were held which covered all the 130 QNHS interviewers. The note to question TELEQA in relation to the communications link was added as a response to queries from the interviewers ('The telecommunications link must be used to receive or convey data/information in the course of work. It is not sufficient for a link to be available on the computer but not used for work purposes').

7.1.4 Results of the QNHS Quarter 3 2002 telework questions

During the period June-September 2002 the questions adapted from the UK LFS were included in the QNHS.

7.1.4.1 Data collection feedback

Feedback from the QNHS data collection team in October 2002 indicated that there were no operational problems with the telework questions. This was to be expected since the questions had already been in operation in the UK LFS for several years, and CSO and CTC were able to use the ONS experience and that of IES during the drafting stage. However, we will not be sure that there are no problems until the data analysis has been completed.

7.1.4.2 Results

The results are presented in the tables below. They indicated that in the third quarter of 2002, 65,400 persons fell into the TELEQA category and 40,800 persons fell into the TELEQB category. This was approximately 3.6% and 2.3% respectively of the labour force.

17 PC-Nutzung, Internet, Telearbeit – Ergebnisse des Mikrozensus September 2000, Statistik Austria, 2001.

In terms of sample size, of the approximate 55,000 persons answering the questionnaire who were in employment, 7,000 fell into the TELEQA category and 4,000 into the TELEQB category.

Table 9.1 Persons aged 15 years and over in employment (ILO) classified by whether they work from home, QNHS Q3 2002 (in thousands)

	Works from home				
	Usually	Some-times	Never	Not stated	Total
Demographic details					
State	170.0	68.1	1,556.4	0.4	1,794.8
Sex					
Male	134.1	47.7	860.1	0.3	1,042.2
Female	35.8	20.5	696.3	*	752.6
Age group					
<31	24.1	11.6	630.1	*	665.8
31-35	16.6	10.0	197.8	*	224.4
36-40	18.9	12.7	177.1	*	208.9
41-45	22.5	10.0	166.4	*	199.0
46-50	20.8	8.7	146.8	*	176.3
50+	66.9	15.2	238.2	*	320.4
Highest education level attained					
No formal education/primary	48.2	3.9	178.5	*	230.6
Lower secondary	34.7	6.1	272.0	*	312.7
Higher secondary	31.8	11.3	446.6	*	489.7
Third level	53.7	45.7	621.9	*	721.3
Not stated	1.6	1.2	37.5	*	40.5
Marital status					
Single	55.8	19.9	744.7	*	820.5
Married	105.0	44.5	736.6	*	886.4
Separated	4.7	2.9	55.6	*	63.2
Widowed	4.4	0.8	19.5	*	24.7
Composition of household[1]					
Member of a couple, no children	26.9	12.2	208.1	*	247.3
Member of a couple, at least one child under 5	22.3	14.0	214.5	*	250.8
Member of a couple, all children aged 5 or over	59.7	22.8	407.1	*	489.8
Lone parent, at least one child under 5	0.3	0.4	19.6	*	20.3
Lone parent, all children aged 5 or over	4.4	1.5	54.2	*	60.0
Never married person living with one or both parents	28.2	5.5	417.4	*	451.1
Not in a family unit	28.1	11.8	235.6	*	275.6
Employment characteristics					
State	170.0	68.1	1,556.4	0.4	1,794.8
ILO status					
In employment, full-time	146.8	62.2	1,294.7	*	1,504.0
In employment, part-time	23.2	5.9	261.8	*	290.9
Employment status					
Self employed (with paid employees)	25.4	10.8	61.8	*	98.0
Self employed (with no paid employees)	107.4	16.3	71.2	*	194.8
Employee (incl schemes)	25.9	40.6	1,416.5	0.4	1,483.3
Assisting relatives	11.4	0.5	6.9	*	18.7
Occupational group					
Managers and Administrators	102.3	20.3	189.8	*	312.4
Professional	10.2	20.5	153.1	*	183.9
Associate Professional and Technical	8.1	8.1	139.5	*	155.7
Clerical and Secretarial	5.1	2.8	217.7	*	225.7
Craft and Related	16.1	7.9	213.7	*	237.7
Personal and Protective Service	7.0	1.2	170.8	*	179.0
Sales	4.3	3.4	144.7	*	152.5
Plant and Machine Operatives	7.4	2.3	177.2	*	187.0
Other	9.3	1.5	149.9	*	160.9

Table 9.1 Persons aged 15 years and over in employment (ILO) classified by whether they work from home, QNHS Q3 2002 (in thousands). Continued

		Works from home				Total
		Usually	Some-times	Never	Not stated	
NACE economic sector						
A-B	Agriculture, Forestry, Fishing	86.3	3.7	32.8	*	122.7
C-E	Other Production Industries	9.0	8.6	296.3	*	314.0
F	Construction	14.1	7.6	168.3	*	190.0
G	Wholesale and Retail	12.5	6.4	238.1	*	257.1
H	Hotels and Restaurants	9.5	0.7	106.4	*	116.6
I	Transport, Storage, Communication	8.4	3.3	102.5	*	114.2
J-K	Financial and Other Services	10.9	17.7	200.3	*	229.1
L	Public Administration and Defence	0.8	2.5	86.6	*	90.0
M	Education	3.5	10.2	91.2	*	104.9
N	Health	4.9	3.1	149.8	*	157.8
O	Other	10.1	4.2	84.1	*	98.6

* Sample occurrence too small for estimation.
[1] Refers to household situation.

Table 9.2 Persons aged 15 years and over who work from home, classified by exact location at home where work was carried out during reference week, QNHS Q3 2002 (in thousands)

	Exact location of working from home during reference week				Total
	In the same grounds or buildings as your home	In different places using home as a base	Not worked at home during reference week	Not stated	
Demographic details					
State	96.8	34.1	25.5	17.6	238.1
Sex					
Male	84.6	30.7	18.1	9.1	181.8
Female	12.3	3.4	7.4	8.6	56.3
Age group					
< 31	14.7	5.0	4.8	2.5	35.7
31-35	7.9	4.5	3.6	2.5	26.6
36-40	9.6	4.3	5.2	2.8	31.6
41-45	11.4	5.0	4.0	3.0	32.6
46-50	11.8	4.3	3.1	2.3	29.5
50 +	41.4	10.9	4.7	4.5	82.1
Highest education level attained					
No formal education/primary	34.9	9.0	1.1	0.9	52.1
Lower secondary	20.8	8.2	2.0	1.4	40.7
Higher secondary	16.3	6.5	4.0	2.5	43.0
Third level	24.1	10.2	17.9	12.6	99.4
Not stated	0.8	0.3	0.6	*	2.8
Marital status					
Single	35.8	9.5	7.9	4.4	75.7
Married	56.9	22.5	16.2	12.2	149.5
Separated	1.6	1.6	1.1	0.6	7.6
Widowed	2.5	0.5	0.3	0.4	5.2
Composition of household[1]					
Member of a couple, no children	13.3	4.9	4.7	3.0	39.1
Member of a couple, at least one child under 5	10.9	6.1	4.9	4.1	36.2
Member of a couple, all children aged 5 or over	33.5	13.0	8.5	6.0	82.6
Lone parent, at least one child under 5	*	*	*	*	0.7
Lone parent, all children aged 5 or over	1.9	0.6	0.7	0.7	5.8
Never married person living with one or both parents	20.2	4.4	1.9	1.2	33.6
Not in a family unit	17.0	5.0	4.6	2.5	39.9

Table 9.2 Persons aged 15 years and over who work from home, classified by exact location at home where work was carried out during reference week, QNHS Q3 2002 (in thousands). Continued

	Exact location of working from home during reference week				
	In the same grounds or buildings as your home	In different places using home as a base	Not worked at home during reference week	Not stated	Total
Employment characteristics					
State	96.8	34.1	25.5	17.6	238.1
ILO status					
In employment, full-time	87.4	30.3	23.5	14.4	209.0
In employment, part-time	9.4	3.8	2.0	3.2	29.1
Employment status					
Self-employed (with paid employees)	14.0	5.9	4.1	2.1	36.2
Self-employed (with no paid employees)	66.2	19.8	5.2	4.6	123.6
Employee (incl. schemes)	8.6	7.4	16.0	10.8	66.4
Assisting relatives	8.0	0.9	*	*	11.8
Occupational group					
Managers and Administrators	75.7	11.6	8.3	4.0	122.6
Professional	1.4	2.1	6.7	8.2	30.7
Associate Professional and Technical	1.1	1.7	2.9	1.6	16.2
Clerical and Secretarial	0.8	0.4	1.2	0.8	8.0
Craft and Related	6.5	9.1	3.1	1.1	24.0
Personal and Protective Service	1.3	0.8	0.4	0.5	8.2
Sales	1.7	1.2	1.4	0.7	7.7
Plant and Machine Operatives	2.2	4.8	1.1	0.4	9.8
Other	6.2	2.3	0.4	0.3	10.8
NACE economic sector					
A-B Agriculture, Forestry, Fishing	70.9	10.6	0.7	1.2	89.9
C-E Other Production Industries	4.9	1.7	3.4	1.2	17.6
F Construction	3.6	9.2	3.0	1.3	21.7
G Wholesale and Retail	7.3	1.4	2.5	1.5	18.9
H Hotels and Restaurants	3.7	0.3	0.3	0.3	10.2
I Transport, Storage, Communication	1.8	4.7	1.7	0.5	11.7
J-K Financial and Other Services	1.2	2.0	8.3	2.6	28.6
L Public Administration and Defence	*	0.3	0.7	0.6	3.3
M Education	0.3	0.4	2.6	6.7	13.7
N Health	0.7	1.1	1.0	0.8	8.0
O Other	2.1	2.3	1.3	1.0	14.3

* Sample occurrence too small for estimation.
[1] Refers to household situation.

Table 9.3 Persons aged 15 and over who work from home classified by whether a computer with a telecommunications link is used to carry out their work at home, Q3 2002 (in thousands)

	Yes	No	Not stated	Total
Demographic details				
State	65.4	172.5	*	238.1
Sex				
Male	45.3	136.3	*	181.8
Female	20.1	36.2	*	56.3
Age group				
<31	10.6	25.0	*	35.7
31-35	10.8	15.8	*	26.6
36-40	12.6	18.9	*	31.6
41-45	10.1	22.5	*	32.6
46-50	7.7	21.8	*	29.5
50+	13.6	68.5	*	82.1

Table 9.3 Persons aged 15 and over who work from home classified by whether a computer with a telecommunications link is used to carry out their work at home, Q3 2002 (in thousands). Continued

	Yes	No	Not stated	Total
Highest education level attained				
No formal education/primary	2.5	49.6	*	52.1
Lower secondary	5.9	34.8	*	40.7
Higher secondary	11.5	31.5	*	43.0
Third level	44.4	54.8	*	99.4
Not stated	1.1	1.7	*	2.8
Marital status				
Single	17.1	58.5	*	75.7
Married	45.2	104.2	*	149.5
Separated	2.4	5.3	*	7.6
Widowed	0.7	4.5	*	5.2
Composition of household[1]				
Member of a couple, no children	12.9	26.2	*	39.1
Member of a couple, at least one child under 5	14.8	21.4	*	36.2
Member of a couple, all children aged 5 or over	22.2	60.2	*	82.6
Lone parent, at least one child under 5	0.2	0.5	*	0.7
Lone parent, all children aged 5 or over	1.2	4.6	*	5.8
Never married person living with one or both parents	5.2	28.5	*	33.6
Not in a family unit	8.9	30.9	*	39.9
Employment characteristics				
State	65.4	172.5	*	238.1
ILO status				
In employment, full-time	58.4	150.4	*	209.0
In employment, part-time	7.0	22.1	*	29.1
Employment status				
Self-employed (with paid employees)	14.2	22.0	*	36.2
Self-employed (with no paid employees)	21.9	101.7	*	123.6
Employee (incl. schemes)	28.0	38.3	*	66.4
Assisting relatives	1.3	10.5	*	11.8
Occupational group				
Managers and Administrators	25.3	97.2	*	122.6
Professional	16.2	14.4	*	30.7
Associate Professional and Technical	9.9	6.3	*	16.2
Clerical and Secretarial	4.3	3.7	*	8.0
Craft and Related	4.2	19.8	*	24.0
Personal and Protective Service	0.7	7.5	*	8.2
Sales	2.5	5.3	*	7.7
Plant and Machine Operatives	1.2	8.6	*	9.8
Other	1.2	9.6	*	10.8
NACE economic sector				
A-B Agriculture, Forestry, Fishing	6.2	83.7	*	89.9
C-E Other Production Industries	8.7	8.9	*	17.6
F Construction	5.7	16.1	*	21.7
G Wholesale and Retail	5.6	13.3	*	18.9
H Hotels and Restaurants	2.6	7.6	*	10.2
I Transport, Storage, Communication	3.0	8.8	*	11.7
J-K Financial and Other Services	20.5	8.1	*	28.6
L Public Administration and Defence	1.5	1.8	*	3.3
M Education	5.4	8.4	*	13.7
N Health	2.1	5.9	*	8.0
O Other	4.2	10.1	*	14.3

* Sample occurrence too small for estimation.
[1] Refers to household situation.

Table 9.4 Persons aged 15 and over who work from home using a computer with telecommunications link, classified by exact location at home where work was carried out, QNHS Q3 2002 (in thousands)

	Exact location of working from home during reference week				
	In the same grounds or buildings as your home	In different places using home as a base	Not worked at home during reference week	Not stated	Total
Demographic details					
State	10.9	5.7	11.8	7.0	65.4
Sex					
Male	8.9	4.9	8.4	3.7	45.3
Female	1.9	0.8	3.4	3.3	20.1
Age group					
<31	1.8	0.8	2.7	0.8	10.6
31-35	1.5	1.3	1.8	1.2	10.8
36-40	1.7	1.0	2.7	1.4	12.6
41-45	1.5	1.0	1.8	1.3	10.1
46-50	1.4	0.6	1.4	0.9	7.7
50+	3.0	0.9	1.4	1.5	13.6
Highest education level attained					
No formal education/primary	1.2	*	*	*	2.5
Lower secondary	2.2	1.0	0.3	0.3	5.9
Higher secondary	2.3	1.1	1.6	0.8	11.5
Third level	5.0	3.1	9.7	5.8	44.4
Not stated	*	*	*	*	1.1
Marital status					
Single	2.7	1.2	3.9	1.5	17.1
Married	8.0	4.0	7.4	5.2	45.2
Separated	*	0.4	0.5	*	2.4
Widowed	*	*	*	*	0.7
Composition of household[1]					
Member of a couple, no children	1.4	0.9	2.5	1.2	12.9
Member of a couple, at least one child under 5	2.1	1.7	2.5	2.0	14.8
Member of a couple, all children aged 5 or over	4.8	1.8	3.6	2.4	22.2
Lone parent, at least one child under 5	*	*	*	*	*
Lone parent, all children aged 5 or over	*	*	*	*	1.2
Never married person living with one or both parents	1.9	0.5	0.6	*	5.2
Not in a family unit	0.6	0.6	2.4	1.0	8.9
Employment characteristics					
State	10.9	5.7	11.8	7.0	65.4
ILO status					
In employment, full-time	10.2	5.1	11.0	5.9	58.4
In employment, part-time	0.7	0.5	0.8	1.2	7.0
Employment status					
Self-employed (with paid employees)	4.4	1.7	1.6	0.9	14.2
Self-employed(with no paid employees)	4.3	2.3	1.8	1.7	21.9
Employee (incl. schemes)	1.6	1.6	8.3	4.2	28.0
Assisting relatives	0.6	*	*	*	1.3
Occupational group					
Managers and Administrators	7.0	1.8	4.1	1.9	25.3
Professional	0.7	1.0	3.6	3.2	16.2
Associate Professional and Technical	0.5	0.6	2.1	0.9	9.9
Clerical and Secretarial	0.6	*	0.6	0.4	4.3
Craft and Related	0.7	1.1	0.8	*	4.2
Personal and Protective Service	*	*	*	*	0.7
Sales	*	0.6	0.3	0.3	2.5
Plant and Machine Operatives	0.6	*	*	*	1.2
Other	0.5	*	*	*	1.2

Table 9.4 Persons aged 15 and over who work from home using a computer with telecommunications link, classified by exact location at home where work was carried out, QNHS Q3 2002 (in thousands). Continued

	Exact location of working from home during reference week				
	In the same grounds or buildings as your home	In different places using home as a base	Not worked at home during reference week	Not stated	Total
NACE economic sector					
A-B Agriculture, Forestry, Fishing	4.4	0.8	*	*	6.2
C-E Other Production Industries	1.6	0.6	1.9	0.8	8.7
F Construction	0.9	1.1	0.8	0.4	5.7
G Wholesale and Retail	1.3	0.4	0.8	0.6	5.6
H Hotels and Restaurants	0.6	*	*	*	2.6
I Transport, Storage, Communication	0.3	0.5	0.6	*	3.0
J-K Financial and Other Services	0.8	1.2	5.4	1.7	20.5
L Public Administration and Defence	*	*	*	0.3	1.5
M Education	*	*	1.3	2.1	5.4
N Health	0.4	*	*	0.4	2.1
O Other	0.4	0.5	0.4	0.6	4.2

* Sample occurrence too small for estimation.
[1] Refers to household situation.

Table 9.5 Persons aged 15 and over who use a computer with a telecommunications link to carry out work from home, classified by whether if would be possible to work from home without using a computer with a telecommunications link, QNHS Q3 2002 (in thousands)

	Yes	No	Not stated	Total
Demographic details				
State	24.5	40.8	*	65.4
Sex				
Male	17.5	27.8	*	45.3
Female	7.1	13.0	*	20.1
Age group				
<31	3.7	6.9	*	10.6
31-35	3.7	7.1	*	10.8
36-40	4.7	7.9	*	12.6
41-45	4.0	6.1	*	10.1
46-50	2.9	4.7	*	7.7
50+	5.5	8.1	*	13.6
Highest education level attained				
No formal education/primary	1.4	1.1	*	2.5
Lower secondary	3.1	2.7	*	5.9
Higher secondary	4.1	7.4	*	11.5
Third level	15.4	29.0	*	44.4
Not stated	0.5	0.5	*	1.1
Marital status				
Single	6.0	11.0	*	17.1
Married	17.5	27.7	*	45.2
Separated	0.9	1.5	*	2.4
Widowed	*	0.6	*	0.7
Family cycle				
Member of a couple, no children	4.5	8.4	*	12.9
Member of a couple, at least one child under 5	5.3	9.5	*	14.8
Member of a couple, all children aged 5 or over	8.9	13.3	*	22.2
Lone parent, at least one child under 5	*	*	*	*
Lone parent, all children aged 5 or over	0.4	0.8	*	1.2
Never married person living with one or both parents	2.4	2.8	*	5.2
Not in a family unit	2.9	6.0	*	8.9

Table 9.5 Persons aged 15 and over who use a computer with a telecommunications link to carry out work from home, classified by whether if would be possible to work from home without using a computer with a telecommunications link, QNHS Q3 2002 (in thousands). Continued

	Yes	No	Not stated	Total
Employment characteristics				
State	24.5	40.8	*	65.4
ILO status				
In employment, full-time	21.8	36.6	*	58.4
In employment, part-time	2.8	4.2	*	7.0
Employment status				
Self-employed (with paid employees)	6.2	8.0	*	14.2
Self-employed (with no paid employees)	8.5	13.3	*	21.9
Employee (incl. schemes)	9.0	19.0	*	28.0
Assisting relatives	0.8	0.5	*	1.3
Occupational group				
Managers and Administrators	9.8	15.5	*	25.3
Professional	6.2	10.0	*	16.2
Associate Professional and Technical	2.9	6.9	*	9.9
Clerical and Secretarial	1.3	3.0	*	4.3
Craft and Related	2.0	2.1	*	4.2
Personal and Protective Service	0.4	0.3	*	0.7
Sales	0.8	1.6	*	2.5
Plant and Machine Operatives	0.5	0.7	*	1.2
Other	0.6	0.6	*	1.2
NACE economic sector				
A-B Agriculture, Forestry, Fishing	4.1	2.1	*	6.2
C-E Other Production Industries	2.7	6.0	*	8.7
F Construction	2.7	2.9	*	5.7
G Wholesale and Retail	1.9	3.7	*	5.6
H Hotels and Restaurants	1.4	1.2	*	2.6
I Transport, Storage, Communication	1.0	1.9	*	3.0
J-K Financial and Other Services	4.9	15.6	*	20.5
L Public Administration and Defence	0.5	1.0	*	1.5
M Education	2.7	2.7	*	5.4
N Health	0.9	1.2	*	2.1
O Other	1.7	2.4	*	4.2

* Sample occurrence too small for estimation.
[1] Refers to household situation.

Table 9.6 Persons aged 15 and over who work from home, that need a telecommunications link to carry out their work, classified by exact location of work at home during reference week, QNHS q3 2002 (in thousands)

	Exact location of working from home during reference week				Total
	In the same grounds or buildings as your home	In different places using home as a base	Not worked at home during reference week	Not stated	
Demographic details					
State	5.2	2.5	8.3	4.1	40.8
Sex					
Male	4.2	2.2	5.9	2.3	27.8
Female	1.0	0.4	2.5	1.8	13.0
Age group					
<31	0.9	0.3	2.0	0.5	6.9
31-35	0.6	0.7	1.1	0.7	7.1
36-40	0.9	0.5	2.2	0.8	7.9
41-45	0.7	0.3	1.1	0.8	6.1
46-50	0.5	0.3	0.8	0.5	4.7
50+	1.6	0.4	1.1	0.8	8.1

Table 9.6 Persons aged 15 and over who work from home, that need a telecommunications link to carry out their work, classified by exact location of work at home during reference week, QNHS q3 2002 (in thousands). Continued

	Exact location of working from home during reference week				
	In the same grounds or buildings as your home	In different places using home as a base	Not worked at home during reference week	Not stated	Total
Highest education level attained					
No formal education/primary	0.5	*	*	*	1.1
Lower secondary	0.9	0.4	*	0.3	2.7
Higher secondary	1.4	0.6	1.2	0.7	7.4
Third level	2.4	1.5	6.9	3.0	29.0
Not stated	*	*	*	*	0.5
Marital status					11.0
Single	1.3	0.5	2.8	0.9	
Married	3.7	1.8	5.2	2.9	27.7
Separated	*	*	*	*	1.5
Widowed	*	*	*	*	0.6
Composition of household[1]					
Member of a couple, no children	0.6	0.4	1.8	0.7	8.4
Member of a couple, at least one child under 5	0.9	0.9	1.8	1.4	9.5
Member of a couple, all children aged 5 or over	2.4	0.8	2.5	1.2	13.3
Lone parent, at least one child under 5	*	*	*	*	*
Lone parent, all children aged 5 or over	*	*	*	*	0.8
Never married person living with one or both parents	0.9	*	0.4	*	2.8
Not in a family unit	0.3	0.3	1.7	0.7	6.0
Employment characteristics					
State	5.2	2.5	8.3	4.1	40.8
ILO status					
In employment, full-time	4.8	2.3	7.8	3.3	36.6
In employment, part-time	0.4	0.3	0.5	0.8	4.2
Employment status					
Self-employed (with paid employees)	2.1	0.8	1.0	0.6	8.0
Self-employed (with no paid employees)	2.0	0.7	1.2	1.1	13.3
Employee (incl. schemes)	0.8	1.0	6.1	2.4	19.0
Assisting relatives	*	*	*	*	0.5
Occupational group					
Managers and Administrators	3.0	0.7	3.2	1.4	15.5
Professional	0.5	0.5	2.2	1.3	10.0
Associate Professional and Technical	0.3	0.3	1.5	0.7	6.9
Clerical and Secretarial	0.4	*	0.5	0.3	3.0
Craft and Related	0.3	0.4	0.5	*	2.1
Personal and Protective Service	*	*	*	*	0.3
Sales	*	0.4	*	*	1.6
Plant and Machine Operatives	0.3	*	*	*	0.7
Other	*	*	*	*	0.6
NACE economic sector					
A-B Agriculture, Forestry, Fishing	1.5	*	*	*	2.1
C-E Other Production Industries	0.8	0.3	1.6	0.5	6.0
F Construction	0.4	0.5	0.4	*	2.9
G Wholesale and Retail	0.8	0.3	0.5	0.5	3.7
H Hotels and Restaurants	0.3	*	*	*	1.2
I Transport, Storage, Communication	*	0.3	0.4	*	1.9
J-K Financial and Other Services	0.6	0.7	4.1	1.2	15.6
L Public Administration and Defence	*	*	*	*	1.0
M Education	*	*	0.8	0.7	2.7
N Health	0.3	*	*	0.3	1.2
O Other	*	*	0.3	0.3	2.4

* Sample occurrence too small for estimation.
[1] Refers to household situation.

Table 9.7 Profile of persons aged 15 and over in employment (ILO) and of all teleworkers[1] QNHS Q3 2002

	Total persons in employment (in thousands)	Total of which teleworkers[1] (in thousands)	Percentage of which teleworkers[1]
Demographic details			
State	1,794.8	40.8	2.3
Sex			
Male	1,042.2	27.8	2.7
Female	752.6	13.0	1.7
Age group			
<31	665.8	6.9	1.0
31-35	224.4	7.1	3.2
36-40	208.9	7.9	3.8
41-45	199.0	6.1	3.1
46-50	176.3	4.7	2.7
50+	320.4	8.1	2.5
Highest education level attained			
No formal education/primary	230.6	1.1	0.5
Lower secondary	312.7	2.7	0.9
Higher secondary	489.7	7.4	1.5
Third level	721.3	29.0	4.0
Not stated	40.5	0.5	1.2
Marital status			
Single	820.5	11.0	1.3
Married	886.4	27.7	3.1
Separated	63.2	1.5	2.4
Widowed	24.7	0.6	2.4
Composition of household[2]			
Member of a couple, no children	247.3	8.4	3.4
Member of a couple, at least one child under 5	250.8	9.5	3.8
Member of a couple, all children aged 5 or over	489.8	13.3	2.7
Lone parent, at least one child under 5	20.3	*	*
Lone parent, all children aged 5 or over	60.0	0.8	1.3
Never married person living with one or both parents	451.1	2.8	0.6
Not in a family unit	275.6	6.0	2.2
Employment characteristics			
State	1,794.8	40.8	2.3
ILO status			
In employment, full-time	1,504.0	36.6	2.4
In employment, part-time	290.9	4.2	1.4
Employment status			
Self-employed (with paid employees)	98.0	8.0	8.2
Self-employed (with no paid employees)	194.8	13.3	6.8
Employee (incl. schemes)	1,483.3	19.0	1.3
Assisting relatives	18.7	0.5	2.7
Occupational group			
Managers and Administrators	312.4	15.5	5.0
Professional	183.9	10.0	5.4
Associate Professional and Technical	155.7	6.9	4.4
Clerical and Secretarial	225.7	3.0	1.3
Craft and Related	237.7	2.1	0.9
Personal and Protective Service	179.0	0.3	*
Sales	152.5	1.6	1.0
Plant and Machine Operatives	187.0	0.7	0.4
Other	160.9	0.6	0.4

Table 9.7 Profile of persons aged 15 and over in employment (ILO) and of all teleworkers[1] QNHS Q3 2002. Continued

		Total persons in employment (in thousands)	Total of which teleworkers[1] (in thousands)	Percentage of which teleworkers[1]
NACE economic sector				
A-B	Agriculture, Forestry, Fishing	122.7	2.1	1.7
C-E	Other Production Industries	314.0	6.0	1.9
F	Construction	190.0	2.9	1.5
G	Wholesale and Retail	257.1	3.7	1.4
H	Hotels and Restaurants	116.6	1.2	1.0
I	Transport, Storage, Communication	114.2	1.9	1.7
J-K	Financial and Other Services	229.1	15.6	6.8
L	Public Administration and Defence	90.0	1.0	1.1
M	Education	104.9	2.7	2.6
N	Health	157.8	1.2	0.8
O	Other	98.6	2.4	2.4

* Sample occurrence too small for estimation.
[1] Teleworkers refers to all persons who work from home and need a computer with a telecommunications link in order to do so.
[2] Refers to household situation.

Table 9.8 Profile of persons aged 15 and over in employment (ILO) and of all teleworkers[1] classified by NACE economic sector, QNHS Q3 2002

Demographic details	Total persons in employment (in thousands)	Total of which teleworkers[1] (in thousands)	Percentage of which teleworkers[1]
State	1,794.8	40.8	2.3
NACE			
01 Agriculture	116.3	2.0	1.7
02 Forestry	2.5	*	*
05 Fishing	3.9	*	*
10 Mining of coal, lignite, peat	2.5	*	*
11 Crude petroleum	0.3	*	*
13 Mining of metal ores	1.2	*	*
14 Other mining and quarrying	4.1	*	*
15 Manufacture of food products and beverages	53.4	0.5	0.9
16 Manufacture of tobacco products	0.8	*	*
17 Manufacture of textiles	8.0	*	*
18 Manufacture of apparel	4.8	*	*
19 Tanning, etc	1.2	*	*
20 Manufacture of wood products excl. furniture	9.3	*	*
21 Manufacture of pulp, paper, etc.	4.4	*	*
22 Publishing, printing, recorded media	20.2	1.3	6.4
23 Manufacture of coke, etc.	0.3	*	*
24 Manufacture of chemicals/chem. products	33.6	0.6	1.8
25 Manufacture of rubber and plastic products	9.8	*	*
26 Manufacture of non-metallic mineral products	15.6	*	*
27 Manufacture of basic metals	2.2	*	*
28 Fab. metal products excl machinery	26.2	0.6	2.3
29 Mfr. of machinery/equipment nec.	17.7	*	*
30 Mfr. of office machinery/computers	18.3	0.5	2.7
31 Mfr. of electrical machinery/apparatus	6.2	*	*
32 Mfr. radio, tele, comm equipment	15.6	0.6	3.8
33 Mfr. medical, precision, optical, etc.	19.1	*	*
34 Mfr. vehicles, trailers, etc	3.7	*	*
35 Mfr other transport equipment	4.3	*	*
36 Furniture; manufacturing nec.	17.1	0.3	1.8
37 Recycling	1.6	*	*
40 Electricity, gas, steam, hot water	10.8	*	*
41 Collection, purification, distr. of water	1.6	*	*
45 Construction	190.0	2.9	1.5
50 Sale, maintenance, repair of vehicles; fuel	37.2	*	*
51 Wholesaling excl. motor vehicles	51.4	1.9	3.7
52 Retailing except motor; repair of personal goods	168.5	1.5	0.9
55 Hotels/restaurants	116.6	1.2	1.0
60 Land transport; transport via pipelines	48.3	0.5	1.0
61 Water transport	3.4	*	*
62 Air transport	8.6	*	*
63 Supporting transport activities; travel agents	17.0	*	*
64 Post/telecommunications	36.9	1.2	3.3
65 Finance, excl. insurance/pensions	47.5	1.6	3.4
66 Insurance/pensions excl. social security	18.0	0.7	3.9
67 Auxiliary to financial intermediation	5.7	0.5	8.8
70 Real estate	8.3	0.5	6.0
71 Leasing...	6.5	*	*
72 Computers and related...	35.5	4.7	13.2
73 Research and development	2.1	*	*
74 Other business activities	105.4	7.3	6.9
75 PAD; social security	90.0	1.0	1.1
80 Education	104.9	2.7	2.6
85 Health and social work	157.8	1.2	0.8
90 Sewage, etc.	4.0	*	*
91 Membership organisations	12.5	0.4	3.2
92 Recreation, culture, sport	40.6	1.7	4.2
93 Other services	24.6	*	*
95 Private households with employees	7.4	*	*
99 Diplomatic missions, etc.	0.6	*	*
XX, other Other and not stated	8.9	*	*

* Sample occurrence too small for estimation.

[1] Teleworkers refers to all persons who work from home and need a computer with a telecommunications link in order to do so.

When the CSO agreed to pilot the teleworking questions, the objective was purely in terms on the STILE project and there was never any intention of publishing the results. However, while Nicola Tickner was examining the results and preparing the tables above, she realised the value of a potential national release on the subject. So, in addition to the initial results presented here, the CSO are currently preparing an official release on teleworking which will be published on 20th February 2003. This will include further classifications by:

- region;
- average working hours;
- age breakdown showing under 25s separately;
- further gender analysis.

The information will be provided to the STILE team members and the Commission as soon as it is approved and released by the CSO, and is inserted as Annex 4.

7.1.4.3 Interpreting the data

Unfortunately it is not possible to provide a full commentary until the analysis of the remaining tables is completed. However, a few preliminary points can be made at this stage with the caveat that these results are provisional and subject to revision by the CSO.

7.2 Testing the STILE module in a focus group

7.2.1 Practical barriers to the realisation of the plan

At the Kinsale meeting, which was jointly hosted by CSO and CTC, the Irish partners suggested running an extremely small pilot of the main STILE questionnaire in Ireland to test language and cultural issues which might differ from the UK pilot. The intention was to put together a group of six to eight teleworkers selected to cover the various types of work arrangement and employment status (employed, self employed, alternating home and office work, full-time homework, mobile, etc.). It was planned to test the questionnaire on them, and then to run a focus group to gather further qualitative data using the same interviewees.

There have been problems outside of the control of the project, mainly relating to difficulty in obtaining the correct spread of different types of teleworkers for the group. As the QNHS is a confidential survey, it was impossible to use the teleworkers found through that survey for this purpose. As a result, it was not possible to complete this activity in time for this report. CTC has carried out research on how the focus groups should be run, and drafted a number of suitable questions which were supplied to all STILE partners, and are included as Annex 3 to this report.

7.3 A first implementation exercise of the STILE indicators

Whereas the plan to test the STILE module in a focus group failed, the Irish partners have made another interesting contribution to the project. It has made a first exercise in working with the STILE results. CTC and CSO went in search for a carrier to which they could attach a more extended telework module, thereby making use of the STILE pilot experiences. This resulted in the development of a telework module that is integrated into the QNHS ICT-module. The process of implementation is elaborated on in the following paragraphs.

7.3.1 Searching for a carrier

During spring 2001, the CSO held a consultation exercise for input on the content of future ad hoc modules to the QNHS, to be considered by the National Statistics Board. CTC, as part of its STILE activities, drafted an application for a more detailed module on teleworking in collaboration with the secretary of the *e*Work Action Forum, Helen Curley, which was submitted

on behalf of the Forum. The application took into account the initial discussions of the STILE partners, and proposed that the results of the STILE pilot questionnaire and user group should be used to help define module questions, which would in turn go through the standard, but separate, CSO user group procedure. The feelings of the CSO STILE team members on the importance of brevity for the module were also reflected.

Through the *e*Work Action Forum, CTC also lobbied several members of the National Statistics Board to support the application. The application was considered by the National Statistics Board at its meeting in July 2002. The National Statistics Board made decisions reflecting national priorities, and the modules to be included in QNHS in 2003 are Housing (quarter 3) and Crime and Victimisation (quarter 4). While teleworking was not prioritised by the National Statistics board, and is not explicitly a part of either of these topics, the CSO undertook to consider a number of avenues to incorporate some telework questions into the QNHS, in either quarter 2 or quarter 3 of 2003.

7.3.2 Towards an application for an extended module to QNHS

As a result of discussions at the STILE partner meeting of 9-10 December 2002, it became apparent that there might be a small possibility to have a very limited number of telework questions (two or three at the most) included in the Irish QNHS for quarter 3 2003, when it is planned to include in the QNHS the Eurostat ICT module, to be asked of a subsample of the total sample. This will provide considerable information on ICT facilities and use in the households questioned. Therefore, the Irish partners focussed on developing short questions to be asked at the end of this module.

The results of the QNHS questions for quarter 2 2002, of the pilot questionnaires carried out in Belgium, Italy and the UK, and of the Hungarian LFS questions, were used to inform the choice of questions.

7.3.2.1 Review of other LFS questions

Workpackage 2 of the STILE project, in which CTC is involved, has reviewed and classified existing questions in Labour Force Surveys which may be relevant to teleworking. Three main approaches have been identified:

The definitional approach directly asks whether respondents telework. It has been clear for some time that there are serious problems with such an approach because it requires respondents to have a clear understanding of the term used (teleworking, *e*Working, etc.), and because some people prefer not to classify themselves as teleworkers.

The results of the Hungarian LFS questions asked in Q3 2002 confirmed the problem with the definitional approach – of 499 respondents who said that they were teleworkers using the definitional approach, only 105 fulfilled the more detailed activity-based criteria of the STILE pilot questionnaire.

Detailed examination during the literature review phase of STILE of a small-scale establishment survey carried out in Ireland for the years 2000 to 2002 by MRBI also showed significant differences in the answers given by the same establishments depending upon whether they were answering ‘definitional’ questions or ‘activity-based’ questions.

The second approach, typified by the UK LFS questions and by the STILE pilot questionnaires, is to filter interviewees on the basis of where they work, and then to ask additional questions about ICT usage and the necessity of ICT for completion of the work. This approach can provide useful data but requires a rather complex question on location to be asked if it is to go beyond looking at people who work from home. The pilot surveys showed this question may cause misunderstandings and affect levels of non-response.

The third approach, designed by Gerald Hammer of Statistik Austria in an additional module to the Austrian Micro Census carried out in 1997 and 2000, is to ask about ICT usage during

work as a filter, and then to ask additional questions about the location where work is undertaken.

As the Eurostat ICT module was already asking questions about ICT use at work, it was decided to attempt a version of the third, 'Austrian' approach by adding some additional questions about work location to the Eurostat ICT module in Ireland.

7.3.2.2 The Eurostat ICT module

A full draft of the version of the Eurostat ICT module planned for the Irish QNHS in quarter 3 2003 is given in Annex 2. The Eurostat ICT questionnaire already contains a number of relevant questions as well as many indicators which could provide opportunities for cross-tabulation of data.

- COMP_USE asks whether any computer present in the household is used for work purposes.
- DEVICE* and TYPCONN* request details on any Internet connections available in the household.
- ACTIVITY gives some measure of the level of ICT skill of the individual interviewed.
- COMP_AVG and COMP_WHR give some information on the frequency and location of computer use.
- USEINT, USEINT2, WHEREINT*, AVEINT*, HOURSPW, ACTIV1* and ACTIV2* give information about Internet usage patterns relevant to teleworking.
- WORKINT directly asks whether the Internet has been used for work-related activities outside the employer's premises.
- WHICHWOR specifically asks about whether the Internet has been used to send work to the workplace.

7.3.2.3 Questions suggested by the STILE partners

Discussions took place between the STILE partners both face-to-face at the Iphofen partner meeting of 9-10 December 2002, and by email. The discussions had to take place very quickly in order to meet the lead-in time for acceptance by the CSO as the final decisions had to be made on 18th December 2002. The questions were designed to be placed at the end of the module so as not to cause any disturbance to the Eurostat data collection. The initial filter proposed was the Eurostat ICT module Internet use question WORKINT. The extra questions proposed were TELEQC, TELEQD and TELEQE.

WORKINT
if USEINT2=1 *(Respondent uses internet at home for work)*

Have you used the Internet at home in the last 3 months for any of the following work-related activities?
1. Looking for a job/sending job applications
2. Finding information relating to your work or business
3. Sending work to work place
4. Accessing files on the employer's server
5. Communication (exchanging and accessing e-mails)
6. Other work-related activities

TELEQC
if WORKINT=2-6

In which situations or places did you use the Internet for work related activities during the four weeks ending Sunday the XXth? (multiple choice)
1. At home or in the same buildings or grounds as your own home
2. At customer or client premises
3. In transport while travelling

4. At other multiple locations
5. None of the above

TELEQD
if TELEQC not=5

Would it be possible for you to work at these workplaces [or insert responses for TELEQC] without using the Internet?
1. Yes
2. No

TELEQE if TELEQC not=5

On average, in the four weeks ending Sunday XXth, how many hours a week did you use a computer while working at (insert answers to TELEQC)?
-: enter hours [range 01 – 140]
00: hours vary – can't give usual hours
140: 140 hours or more

7.3.2.4 Notes on the questions

- The subsample chosen for the Eurostat ICT module is designed to be fully representative of the population and will include the self-employed.
- Ursula Huws of IES pointed out that the interviewer guidance for WORKINT would have to make it very clear that 'employers premises' only refers to premises which are not the home, because otherwise the self-employed who work from home will be incorrectly excluded since their 'employers premises' IS their home. This sounds odd but it is a problem the STILE partners were confronted with in the pilot surveys.
- TELEQC could be asked for the past three months to match the other questions but past four weeks makes it more closely comparable to TELEQA from Q3 2002 and the UK LFS questions. Joanne Pratt pointed out that it is much easier to give an accurate answer for the shorter period and reports that in California, after lengthy discussion, they decided on four weeks.
- TELEQD is a version of TELEQB asked in Q3 2002 and interviewer guidance should be similar to TELEQB e.g.: 'The telecommunications link must be used to receive or convey data/information in the course of work. It is not sufficient for a link to be available on the computer but not used for work purposes.'
- TELEQE interviewer guidance should be that the number of hours is the total for all options answered for TELEQC (such as homework plus work while travelling), but only if a computer is in use. It can be cross-tabbed against usual and actual hours worked in the reference week to provide a measure of intensity of telework (less than 20% of hours is usually considered occasional use). It also allows to look at the issue of teleworkers tending to work longer than average hours, which is of interest to the social partners and the STIILE user group members. We did consider asking how many hours they use the Internet (rather than computer) but, given that most Irish connections are dial-up, we felt this wouldn't work (e.g. if you pick up email several times a day, times vary according to size of email, some days might involve of Internet research, other days it's email only). Also the Californian experience reported by Joanne Pratt has taught that in fact Internet usage by teleworkers measured in hours is very small - it's duration of computer use that's high.

7.3.2.5 Questions finally accepted by the CSO

The TELEQC question was not accepted by the CSO on grounds of complexity, duplication and length. Moreover, the main elements of this question have already been tested in the Austrian Microcensus as reported in STILE workpackage 2. The CSO instead proposed the

WORKINT2 question to pick up work at locations other than home but outside the employers' premises. TELEQD and TELEQE were accepted with minor changes to improve filtering.

WORKINT
if USEINT2=1 *(Respondent uses internet at home for work)*

Have you used the Internet at home in the last 3 months for any of the following work-related activities?
1. Looking for a job/sending job applications
2. Finding information relating to your work or business
3. Sending work to work place
4. Accessing files on the employer's server
5. Communication (exchanging and accessing e-mails)
6. Other work-related activities

WORKINT2
if USEINT2=1

'Have you used the Internet at places outside employers' premises other than at home in the last 3 months for any of the following work related activities? (e.g. at customer or client premises, in transport while travelling, etc.)'
1. Looking for a job/sending job applications
2. Finding information relating to your work or business
3. Sending work to work place
4. Accessing files on the employer's server
5. Communication (exchanging and accessing e-mails)
6. Other work-related activities

TELEQD
if WORKINT=2-6 or WORKINT2=2-6

Would it be possible for you to work away from your employers premises without using the Internet?
1. Yes
2. No

TELEQE
if WORKINT=2-6 or WORKINT2=2-6

On average, how many hours per week did you use a computer while working away from your employers premises in the last 3 months?
-: enter hours [range 001-140]
00: hours vary, can't give usual hours
140: 140 hours or more

Chapter
8

Recommendations

8.1 Defining telework

Because there is no absolute, agreed upon definition of telework, the STILE consortium recommends the collection of data in objective terms. This deductive strategy allows defining teleworkers in different ways that correspond to various policy questions, which could involve labour issues, transportation, diffusion of technology or others.

For some research questions, particularly those investigating transportation effects, telework may be defined in such a way as to identify work carried out using ICT at home, even where no telecommunications link is used to bridge the distance.

Other questions may be more concerned with all types of work possible using new technologies, regardless of the location, and might encompass any work for which a telecommunications link is indispensable to bridge the gap with the traditional work place.

In addition to considering the importance of the location and the ICT link, researchers will also need to consider how they wish to include the level of intensity in their definition of telework. Table 8.1 illustrates definitions of telework that can be derived from data such as that collected in the Quarterly Household Survey of Ireland.

Table 8.1 Alternate derived definitions of telework (frequency and percentage of all in employment)

	Frequency (thousands)	Percent of all in Employment
Sample size	44,5	100.0
Persons in employment	1,795	100.0
1. An employed person who does any work at home	238.1*	13.3
1a. An employee who does any work at home	66.5	3.7
1b. A self-employed person who does any work at home	159.9	8.9
2. An employed person who does any work at home using a computer with a telecommunications link	65.4	3.6**
3. An employed person who could not work at home without a computer and telecommunications link	40.8	2.3***
4. An employed person who works in multiple locations using home as a base	34.1	1.9
5. An employed person who works in multiple locations using home as a base and uses a computer and telecommunications link	5.7	0.3
6. An employed person who works in multiple locations using home as a base and could not work at home without the use of a computer and telecommunications link	2.5	0.1

* Includes persons who work at home assisting relatives.
** 27.5% of persons who work at home.
*** 62.4% of those who work at home with computer and telephone.
Source: Irish Quarterly National Household Survey Q3,2002

The Irish survey asks: ‘Do you work from home?’. Respondents can choose between the answering categories: ‘usually’, ’sometimes’ or ‘never’. Thus, transportation planners interested in work at home as a way to reduce commuting trips would limit the Irish total of 238,100 persons who ever do any of their work at home to define teleworkers as the 170,000 who ‘usually’ work at home. In their analysis planners would exclude the 68,100 casual individuals who ‘sometimes’ work there because their work at home has less impact on traffic reduction.

Further restrictions may be placed on what constitutes telework. Policy makers interested in the impact of ICT on employment would define teleworkers as those individuals who use a computer and telecommunications link or even more narrowly, to those for whom the ICT link is essential. That reduces the 65,400 who have a link, to 40,800 who could not work at home without it.

Clearly, if any of these or other definitions of telework had been used in the questionnaire, rather than at the point of analysis, it would preclude using the data so widely. Table 8.1 also emphasises that when reporting the number of teleworkers, it is essential to explain the definition underlying the data. In column three the percentage of teleworkers ranges from 13.3% to 0.1% of the employed labour force, depending on how teleworkers are defined.

8.2 Pilot testing results

The pilot testing allowed the feasibility of the telework indicators that was agreed on by the STILE consortium and the various national usergroups to be analysed. In general three main groups of indicators can be detected. First of all there are the *core indicators*, namely the indicators that are essential to pinpoint and characterise teleworkers. Secondly, there are the *additional indicators* chosen amongst those which provided significant additional information on telework. Lastly, the *other indicators* useful for any qualitative analyses into telework provided some interesting information during the pilot surveys.

These indicators were translated into questionnaires which asked the telework questions for the main and for the second job. The pilot surveys conducted in the four countries (Belgium, Italy, UK and Hungary) made it possible to test the questions and they served as an assessment of the practicability of their insertion in the statistical surveys on the labour force. For the analysis of the testing results three questions were central. They are summarised below.

1) Are the questions clear, complete and relevant?
2) Does the module work?
3) What opportunities do the combinations with other variables offer?

In general it can be concluded that the decision to resort to the combination of three different variables (place of work, use of ICT technologies and intensity of telework) to detect the teleworkers is very productive. This allows the definitions of telework to be used flexibly thus closer to the users’ requirements.

The pilot test has illustrated that the method of piggybacking a limited module to an existing survey offers opportunities to find answers to various research questions. The main advantage is the efficiency with which it can be measured. The inclusion of three simple questions offers entry to a lot of opportunities to combine indicators.

Notwithstanding the opportunities of the module that is developed within the STILE project, the test has revealed some deficiencies of the module. First of all it has become clear that researching telework patterns in the second job is less important. The results have shown an extremely low percentage of respondents teleworking in their second job. As ad hoc modules to the LFS need to be simple and compact it is advisable to restrict the telework questions only to the main job. Secondly, the test has revealed certain difficulties with the module of telework questions. The difficulties experienced are translated into smooth adaptations of the module (cf. infra).

8.3 Telework module

8.3.1 Core module

8.3.1.1 The original module

Through the work carried in this work package and the analysis of the LFS conducted in workpackage 2 of the STILE project (see STILE report 'The missing *e*. The use of national elements of the LFS for *e*Work analysis') it can be ascertained that the following telework indicators and questions are useful to detect and characterise teleworkers.

Indicators useful to pinpoint teleworker are:
a) place of work;
b) time spent working at a distance;
c) use of ICT.

These indicators were at the basis of the core questions in the test surveys. The experiences have taught that it is better to deduce various telework definitions on the basis of three indicators. This method is better than the inductive method in which respondents are asked whether they are a teleworker in one question only (referring to a specific definition).

The Hungarian experience[18] demonstrated that the method of selecting the respondents with a specific question on the eventual practice of telework, determines an effect of 'social desirability' inducing some respondents to claim to be teleworkers even if they aren't. There may also be the opposite effect because some people/countries don't see it as desirable. A lot of male, professional multilocational workers do not see themselves as teleworking, which they confuse with poorly paid homeworking arrangements mainly taken up by women.

Despite the general positive assessment of the core module, the test has revealed some difficulties with the composition of the module, the wordings and the order of the questions. The problems experienced and the proposed changes to the module are presented in the following paragraphs.

8.3.1.2 Assessment of the indicators

Place of work

The experience of the pilot test has highlighted that, in order to obtain the least number of missing answers, it is more useful to mention the non-traditional workplaces first of all (home, on the move) so as to attract the respondent's attention. What's more, the interviews demonstrated that the answer choices are not exhaustive so it is always necessary to include 'other' as a possible answer. Including 'other' also means that additional choices can be added to the list in future surveys, as they become important, without losing the continuity of a survey series. In any case, to simplify the data processing it might be useful to divide the other answer categories into two groups: the other non-traditional workplaces, such as hotels or conferences, compatible with telework, and the other traditional workplaces (such as employer's office).

All those that choose only replies related to 'one or more locations belonging to employer' and 'other traditional workplaces' are to be considered *traditional workers*, whereas all the others, who can be considered *teleworkers* can be administered the successive questions.

18 The council regulation code of the ad hoc module carried out in Hungary is 1575/2000.

Time spent at a distance

To obtain information on the intensity of telework and to distinguish *regular* and *occasional teleworkers*, it is necessary to estimate the hours spent working at a distance during the last four weeks. These data can be cross-tabulated with the total work time ascertained through the general questions in the survey and thus allow a distinction to be drawn between regular and occasional teleworkers.

In the typology proposed, occasional teleworkers were those that declared having worked at a distance for less than 20% of their entire working time. Nevertheless, other types of classification are possible. Time spent at the remote location is useful information, but perhaps not specific enough to give a real sense of telework intensity. In the STILE pilot, information on the total duration of work at a distance was found to be more accurate than the estimate of the frequency of the online connection. Even though it did provide more precise information on the telework modalities, it risks being too complex for this type of inquiry.

Use of ICT

The original filter question on the different ICT tools that are used when the respondent works at a distance, is too complex. It needs a simplification. For the analysis of the pilot data the question on the intensity of computer usage was used as a filter. Discussions on the shortcomings of the module however have lead to a new proposal on question on ICT usage.

These discussions revealed that the original module did not allow gaining information on the ICT usage for work in general. A question on the usage of a PC and ICT link for work needs to be asked to all respondents, but it is necessary to ensure that those who claim to work from a non-traditional location also use ICT.

So as not to burden the questionnaire, it is essential to insert very simple questions, like yes/no questions. On the use of ICT it is surely interesting to look into other topics, like the type of technology used, the intensity of use of telematic connections and how the results of the respondent's remote work are transferred. There are some proposals among the additional questions which deal with these aspects.

8.3.1.3 Adapted core module

The remarks on the original module have been translated into the following proposal for the telework module. This module must be able to estimate the number of teleworkers for each country and to sketch a picture of the teleworkers based on their telework modalities. It should be noted that the proposal mainly concerns the type of indicator that is to be used (in bold), whereas the formulation of the question is presented as an example as it will then be adapted to the specific linguistic and statistical requirements of the carrier survey.

The essential indicators and questions that could be used are the following:

a1. **Use of computer for main work** *(To be asked to all respondents)*
Do you use a computer for your work?
- Yes
- No

a2. **Use of Internet and email for main work** *(To be asked to all respondents)*
Do you use the internet or email for your main job?
- Yes
- No

a3. **Places worked at in reference week** *(To be asked to all respondents)*
In the last four weeks (reference week and 3 weeks before) have you carried out work at any of the following places? (multiple answer)
1. In your own home

2. At locations belonging to a third party (as customer premises)
3. On the move (while travelling)
4. In more than one location belonging to customers or clients
5. Other places different from traditional workplaces (hotels, conferences, etc.) (specify: _____)
6. In more than one location belonging to your employer
7. At just one location belonging to your employer
8. Other traditional workplaces (specify: _____)

a4. **Number of hours a week spent working at a distance** *(Respondents working at a distance)*
In the last 4 weeks (reference weeks and 3 weeks before), approximately how many hours a week, on average, did you spend working at a distance (from your employers' location)?

a5 **Usage of computer when working at a distance**
Do you use a computer for your work?
- Yes
- No

a6. **Usage of internet or email when working at a distance**
Do you use the internet or email for your main job?
- Yes
- No

The order of the questions and the use of some of them as filters can be decided by taking into consideration the context and requirements of the insertion of an ad hoc module on telework.

The statistical institutes can thus decide for each individual case whether to use the first indicator (a1 use of computer for main work) as a filter to the other telework questions. In some cases it may be useful to start off with a very simple question which allows only a part of the population to be asked the question on workplace. On the other hand, some users might consider the information on the number of people who work from locations other than the office interesting, regardless of ICT use.

Moreover, the filtering power of an indicator on the use of the computer at work is destined to decrease over time. Indeed this information might become of little significance because it is common to almost all workers. In any case it is very useful to get information on the types of workers who use the computer for work as it can allow forecasts on the diffusion of telework to be made. In order to have a good description of telework it is important to ascertain that those who work at a distance use the computer also from a remote station.

8.3.2 Additional indicators

The telework indicators (six core indicators) are related to the essential dimensions of the phenomenon and measure the *place* where the worker performs his/her working activity, the degree of importance of information use and telematic *technology,* and the *quota of working time* spent on telework.

In addition to these three dimensions, a several additional indicators on the 'work environment' of telework were selected in order to describe more in detail the characteristics of this new work form.

The indicators inserted in the pilot inquiry which provided the most interesting results and could thus be included in an ad hoc module on telework are as follows:

- intensity of connection with the company or the customer (when work at a distance) (b1);
- methods to transfer work results (personally, post courier, fax, telephone, email, internet, software for remote collaboration, other) (b2);

- equipment used working at a distance (computer, email, telephone, fax, internet, intranet, software for remote collaboration, other) (b3);
- initiator of the arrangement (employer, worker, both) (b4);
- level of formality of the arrangement (b5);
- reversibility (to have the choice of ceasing to telework – wish continuing to telework) (b6);
- wish to continue working at a distance;
- assessment of changes in work pressure after starting to telework (b7).

The first three indicators are particularly useful because they provide additional information on the importance of technology in working at a distance. In fact, to characterise teleworkers it is certainly interesting to have information on the intensity of their connection (or on their "*on-lineness"*), on the means used to transfer work and on the type of technology available.

Indicators b4 and b6 provide useful information on the type of agreement reached between the worker and employer. They can only be targeted at employees and allow information to be obtained on whether telework was initiated by the employer or by the employee, whether it is a formal or informal agreement and whether there is a reversibility clause so telework can be interrupted at any time.

The last additional indicator proposed gives the possibility to discern whether telework has produced a rise in work pressure as perceived by the worker.

Examples of questions on the additional indicators are listed below.

b1) **When you work at a distance (from your employer's location), how often are you connected to your company or customer?**

	Phone Connection	*Data connection*
1. The whole working day	❑1	❑1
2. Several times a day	❑2	❑2
3. Once a day	❑3	❑3
4. At least once a week	❑4	❑4
5. Less than once a week (occasionally)	❑5	❑5
6. Never	❑6	❑6

b2) **When you work at a distance (from employers' location), do you transfer work results in the following ways:** *(multiple answers)*

1. personally
2. post courier
3. fax
4. telephone
5. email
6. internet
7. software for remote collaboration (groupware)
8. other (*specify*: _____)

b3) **Which of the following list of equipment do you use when you work at a distance (from your employer's location)?** *(multiple answers)*

1. Computer (desktop or laptop)
2. Email
3. Fixed telephone
4. Mobile phone
5. Fax
6. Internet
7. Intranet
8. Software for remote collaboration (groupware)
9. Other (*specify*: _____)

b4) **Who initiated the arrangement for working at a distance?** *(only employees)*

1. Employer

2. Yourself
3. There is no arrangement
4. Other (*specify*: _____)

b5) **Is the arrangement to work at a distance from your employer's location a formal or an informal initiative?** *(only employees)*
1. Formal: there is a written agreement
2. Informal
3. Don't know

b6) **For this agreement can you stop working at a distance?** *(only if question b5=1)*
1. Yes, if I want
2. Yes, but it depends on my employer
3. Yes, but only at the end of the agreement
4. No
5. Other (*specify*: _____)
6. Some other reason (*please specify*: _____)

b6.1) **Do you want to continue working at a distance (from your employer's location)?**
1. Yes
2. No

b7) **Since you began working at a distance (from your employer's location), has your level of work pressure changed?**
1. More work pressure
2. Less work pressure
3. As much work pressure as before
4. Don't know
5. I can't judge because I don't have any other experience to draw on

The following table gives an overview of the core and the additional indicators. Given the different working conditions, there are some differences between the self-employed and employees.

Table 8.2 Final list of core and additional indicators on telework

Indicators	Respondents
Telework indicators	
Computer usage for main job	All people
Internet or email usage for main job	All people
Places worked at in reference week (for main job)	All people
Number of hours a week spent on distance work (for main job)	All people
Usage of computer when working at a distance (for main job)	
Usage of Internet or email when working at a distance (for main job)	All people
Additional indicators	
Intensity of connection with the company or the customer	All people
Methods to transfer work results	All people
Equipment used working at a distance	
Initiator of the arrangement for working at a distance	Only employees
Level of formality of arrangement	Only employees
Reversibility of the arrangement	Only employees
Wish to continue working at a distance	All people
Assessment of changes in work pressure after starting to telework	All people

8.3.3 Other indicators

During the pilot inquiry some indicators were used which produced interesting results and could be useful for any specific analyses on telework. Some of these indicators were tested by all the partners, others only in some countries. The indicators and related examples of questions are listed below:

c1. **Room of work**
If you work from home, in which room do you work? (*Respondent works at home)*
1. Study
2. Living room
3. Bedroom
4. Kitchen
5. Other (specify: _____)

c2. **Provision of ICT used at a distance**
Who provides the ICT equipment and other cost used when working at a distance? *(only employees)*
1. Employer
2. Respondent
3. Both
4. Third party (specify: _____)

c3. **Intensity of PC usage when working at a distance**
When you work at a distance from your employer's location, what proportion of that time do you use a PC?
_____ % of the time worked during an average day
OR
____ fraction of the time worked during an average day

c4. **Regularity of telework**
Do you do this regularly?
- Yes
- No

c5. **Functionality of ICT usage**
Have you used the internet for the following work-related activities?
1. Looking for a job/sending job applications
2. Finding information relating to your work/business
3. Sending work to the workplace
4. Accessing files on the employer's server
5. Communication (including email)
6. Other work-related activities (specify: _____)

c6. **Motivation for telework**
What is the main reason for working at a distance (from your employer's location)? *(only one answer)*
1. To finish or catch up with work
2. To avoid interruption
3. Because of a bad working environment or bad working relationships
4. Required by job or employer
5. To co-ordinate your work schedule with personal or family needs
6. Experimentation
7. To reduce commuting time or expense
8. Health reasons (your own physical condition)
9. For greater autonomy or independence
10. Some other reason (please specify: _____)

8.4 Detecting the typology of telework

As is already mentioned, it is not possible to differentiate the teleworkers through a single question, given the multidimensional nature of the phenomenon. It is thus necessary to combine various questions.

Having said this, it would be possible from the juxtaposition of location, technology and intensity to derive many different definitions of 'teleworkers', 'mobile *e*Workers', 'multilocational *e*Workers' or 'occasional teleworkers' that would allow researchers to address quite different policy issues.

8.4.1 Steps towards a typology on the basis of the STILE telework module

Using the questions proposed in the adapted module (paragraph 8.3.1.3), the following processing was used to construct the typology:

1) *analysis of the combination of work locations:* this operation is aimed at constructing a typology of teleworker based on the work location(s) the respondent worked from in the reference period. In this question it is possible to supply more than one answer. In order to ensure sufficient cell sizes for any analysis, there is a need to aggregate some of the locations;

2) *by combining the answers* it is possible to detect four types of workers: the *stationary workers* who work only at their employer's location, the *mobile workers* who work exclusively 'on the move', the workers that work exclusively from *remote stations* (either from home), the *multilocational workers* that work both from mobile, or remote stations, or from their employer's location (see Table 8.3);

3) *labelling workers* who declared working only in traditional locations as 'non-teleworkers' (CATI programme can do this automatically);

4) *calculation of the percentage of hours worked at a distance* out of the total hours worked in the reference week and the aggregation of the variables in two groups, from 100% to 20% and from 20% to 0%;

5) distinction between occasional and stable types of teleworkers (see Table 8.4).

Table 8.3 Combination of workplaces to obtain the STILE typology of workers

Typology	Possible answers	Kind of workers
Traditional workers (stationary workers)	'In more than one location belonging to your employer' *and/or* 'At just one location belonging to your employer' *and/or* 'Other traditional workplaces'	NON-TELEWORKERS
Mobile workers	'On the move (while travelling)' *and/or* 'At locations belonging to a third party'	MOBILE WORKERS
Telehomeworkers	'In your own home'	TELEHOME-WORKERS
Mobile and remote workers	'On the move' *and/or* 'At locations belonging to a third party' *AND* 'In your own home'	MULTI-LOCATIONAL WORKERS
Stationary and remote workers	'In more than one location belonging to your employer' *and/or* 'At just one location belonging to your employer' *and/or* 'Other traditional workplaces' *AND* 'In your own home'	
Stationary and mobile workers	'In more than one location belonging to your employer' *and/or* 'At just one location belonging to your employer' *and/or* 'Other traditional workplaces' *AND* 'On the move (while travelling)' *and/or* 'At locations belonging to a third party'	
Stationary, remote and mobile workers	'In more than one location belonging to your employer' *and/or* 'At just one location belonging to your employer' *and/or* 'Other traditional workplaces' *AND* 'In your own home' *AND* 'On the move (while travelling)' *and/or* 'At locations belonging to a third party'	

Tabel 8.4 Typology of individualised telework

More than 20% of the time worked at a distance out of total time worked during reference week	Less than 20% of time worked at a distance out of total time worked during reference week
Telehomeworker	Occasional telehomeworker
Multilocational *e*Worker	Occasional multilocational *e*Worker
Mobile *e*Worker	Occasional mobile *e*Worker

Obviously this strategy is only one of the possible methods of classifying teleworkers. Other combinations can be determined by modifying the aggregations of the variable obtained with the combination of the work locations or by modifying the threshold for the definition of occasional workers or by using the information on the technology used to further define the teleworkers. The typology worked out here; is one of many that can be applied to new forms of work. The recommended strategy for collecting data in objective terms allows defining teleworkers in different ways that correspond to various policy questions, which could involve labour issues, transportation, diffusion of technology or others.

8.5 Recommendations on the implementation strategy

The recommendations that are formulated here are based on the general experiences within the STILE project. The objective of this paragraph is to put forward some points of special interest for the inclusion of the telework module to an existing survey.

8.5.1 Selection of the best carrier to piggyback the telework module

For the choice of the basic questionnaire, it is important to realise that the decision on the inclusion of a module is often a political decision. It depends on the general context of the questionnaire, socio-economic circumstances, interests of influential policymakers. This means that it is important to convince influential decision makers on the importance of the telework module, which requires a profound knowledge of the objectives of the organisation concerned.

This is of special importance in the case of promoting an ad hoc module to the Labour Force Survey, as there is a huge concurrence on demands for including ad hoc modules. What is more the variance of influential policy interests is very large in the framework of the Labour Force Survey.

The table below gives an overview of surveys that may be useful for attaching the tested telework module. Most of them collect information on the working situation of the respondent. Job characteristics such as the type of contract, permanency, job, sector, size of the organisation, working hours (contractual, some also usual), etc. are made an inventory of in these questionnaires. In addition to this the most important socio-demographic characteristics explored are: age, sex, number of children, educational level. In the pilot the informational value of cross tabulations between the core telework indicators and these generic indicators has been illustrated.

The STILE research can be relevant to the questionnaires listed here, as a lot of them already have included a question on telework. They all use a direct question, using a rigid definition. In the STILE research the opportunities of a deduced definition based on core indicators have been defended and illustrated. Therefore the module developed here can offer an added value to questionnaires that already include the issue of telework.

Tabel 8.5 Overview of relevant alternative carriers for the STILE telework module

Questionnaire	Scope	Sample	Description of relevant variables	Other specific characteristics
Internet statistieken Vlaanderen	Flanders	1,500 at random selected residential respondents	▪ Working situation-job characteristics ▪ PC usage applications ▪ PC knowledge - courses ▪ Internet access ▪ Internet usage applications ▪ Telework (1 question, asking whether one teleworks or not)	▪ 3 surveys between 1999 and 2002 ▪ CATI
European survey on working conditions	EU member states	Random walk selection of a sample of the active population 1,500 per country	▪ Job characteristics (status, contract, sector, job, company size, etc.) ▪ Physical environment of work ▪ Working times (obj. & subj.) ▪ Control of work ▪ Autonomy, functional and social contact opportunities, etc. (obj. & subj.) ▪ Training ▪ Health and safety risks (obj. & subj.)	▪ Carried out every 5 years ▪ Face to face structured interviews
European Community Household Survey	EU member states	EU member states +16 years (individuals and households)	▪ Housing features (rooms, problems experienced, etc.) ▪ Job characteristics (job, sector, working hours, part-time full-time, etc.) ▪ Income ▪ Union membership **Since 2002** ▪ Computer usage (including whether teleworker or not) ▪ Activities with computer for work purposes ▪ Activities with computer for private purposes ▪ Reason for using a computer	▪ Panel survey ▪ Since 2002 ICT questions are included ▪ Telework question asks whether teleworker or not ▪ CAPI
Eurobarometer	EU member states Candidate states	1,000 per country multi-stage sampling	▪ Opinion questions ▪ 1 on information society and internet ▪ Internet usage (mainly private usage)	▪ Twice a year the standard Eurobarometer ▪ Trend measurement by regular repeating of certain questions ▪ Flash barometers (on specific issues, specific target groups) ▪ Face to face interviews

Tabel 8.5 Overview of relevant alternative carriers for the STILE telework module. Continued

Questionnaire	Scope	Sample	Description of relevant variables	Other specific characteristics
Household survey on ICT usage	EU member states	At least 4,000 per country	▪ Job characteristics ▪ ICT at home ▪ Internet access of household members ▪ Computer usage training ▪ Internet usage for work-private ▪ Internet usage for work at a distance from the employer's premises ▪ *e*Commerce ▪ Household characteristics	▪ SIBIS group has improved some questions and has already attached questions on telehomework and mobile work (using the definition in the question and then asking whether one is a telehomeworker-mobile worker) ▪ CATI
Population and Housing Census	EU member states	Total active population	▪ Job characteristics (job, sector, educational level, company size) ▪ Distance to work ▪ Different places of work (Belgium) ▪ Working times ▪ Household composition ▪ Responsibility for children-other	▪ Postal survey ▪ 1 household part, one individual part
E-living survey	Norway, UK, Germany, Italy, Bulgaria, Israel	1,500 per country +16 years	▪ Personal data (sex, age, etc.) ▪ Job characteristics (job, sector, educational level, company size) ▪ Leisure-time spending ▪ Computer usage at home-work ▪ Usage of internet and email at home-else ▪ Knowledge of computer ▪ Places of work ▪ Distance to work ▪ Remuneration ▪ Qualification ▪ Work at home (including taking work home) ▪ Intensity of computer usage and internet for work at home ▪ Importance of computer skills	▪ Panel survey ▪ Telework questions are included in this questionnaire ▪ CATI (CAPI in Bulgaria)

Tabel 8.5 Overview of relevant alternative carriers for the STILE telework module. Continued

Questionnaire	Scope	Sample	Description of relevant variables	Other specific characteristics
Households, work and flexibility survey	UK, NL, SE, SI, CZ, HU, BG, RO	Random selection	▪ Economic activity ▪ Workplaces ▪ Working conditions ▪ Reasons for specific working conditions ▪ Satisfaction with arrangements and wish to change them ▪ Household composition ▪ Responsibility for different domestic tasks ▪ Voluntary work ▪ Household decision making ▪ Satisfaction with economic activities and impact on family life ▪ Work and family tensions ▪ Eagerness to move, change jobs, etc. ▪ Economic resources of household	▪ In some countries face to face, in other telephonic interviews (NL, SE) ▪ Carried out in 2001

8.5.2 Practical guidelines

Some practical points need special attention when including an ad hoc module to an existing questionnaire. The experience within the STILE pilot has taught that a module should be composed of:

- a limited list of core indicators that can be translated into simple questions;
- a list of relevant additional indicators that allows the user to choose certain indicators that may be of interest within the specific context of the survey;
- the list of answering categories should keep in mind the consequences for the resulting number of variables and the related data processing burden;
- the specific wording of the questions is to be adapted to the general character of the survey concerned;
- the routing of questions depends on the objectives, the target group, the composition, etc. of the carrier. Specific attention should be paid to the impact of the order of questions on the interviewer burden and on the kind of respondents that should answer a specific question;
- the inclusion of the module should not change the carrier.

Annex
1

Proposal of questions on the telework module

a) Telework questions

a1) **Do you use a computer for your work?**

1. Yes
2. No [**FILTER QUESTION**: stop questionnaire]

a2) **Do you use the internet or email for your main job?**

1. Yes
2. No

a3) **In the last four weeks (reference week and three weeks before) have you carried out work at any of the following places?** *(multiple answer)*

1. In your own home
2. At locations belonging to a third party *(as customer premises)*
3. On the move *(while travelling)*
4. In more than one location belonging to customers or clients
5. Other places different from traditional workplaces (*hotels, conferences, etc.*) (*specify*: _____)
6. In more than one location belonging to your employer [no teleworker - stop questionnaire]
7. At just one location belonging to your employer [no teleworker - stop questionnaire]
8. Other traditional workplaces (*specify*: _____) [no teleworker - stop questionnaire]

a4) **In the last four weeks (reference weeks and three weeks before), approximately how many hours a week, on average, did you spend working at a distance (from your employers' location)**[19] [or: at locations selected in question a3]?

_____*(Proportion of hours a week spent on distance work can be calculated using total hours worked in week)*

a5) **Would it be possible to work in this way without the technology?**

1. Yes
2. No

19 In self-employed questionnaires it is better to omit 'from your employers' location'; so in following questions the expression is bracketed.

b) Additional questions

b1) **When you work at a distance (from your employer's location), how often are you connected to your company or customer?**

	Phone connection	*Data connection*
1. The whole working day	❑1	❑1
2. Several times a day	❑2	❑2
3. Once a day	❑3	❑3
4. At least once a week	❑4	❑4
5. Less than once a week (occasionally)	❑5	❑5
6. Never	❑6	❑6

b2) **When you work at a distance (from employers' location), do you transfer work results in the following ways:** [multiple responses allowed]

1. personally
2. post courier
3. fax
4. telephone
5. email
6. internet
7. software for remote collaboration (groupware)
8. other (*specify*: _____)

b3) **Which of the following list of equipment do you use when you work at a distance (from your employer's location)?** *(more answers are possible)*

1. Computer (desktop or laptop)
2. Email
3. Telephone
4. Fax
5. Internet
6. Intranet
7. Software for remote collaboration (groupware)
8. Other (*specify*: _____)

b4) **Who initiated the arrangement for working at a distance?** [only employees]

1. Employer
2. Yourself
3. There is no arrangement
4. Other (*specify*: _____)

b5) **Is the arrangement to work at a distance from your employer's location a formal or an informal initiative?** [only employees]

1. Formal: there is a written agreement *(go to question b5.1)*
2. Informal
3. DK

b5.1) **For this agreement can you stop working at a distance?** [only employee] *(only if respondent answers 1 to question b5)*

1. Yes, if I want
2. Yes, but it depends on my employer
3. Yes, but only at the end of the agreement

4. No
5. Other (*specify*: _____)

b6) **What is the main reason for working at a distance (from your employer's location)?** *(only one answer)*

1. To finish or catch up with work
2. To avoid interruption
3. Because of a bad working environment or bad working relationships
4. Required by job or employer
5. To co-ordinate your work schedule with personal or family needs
6. Experimentation
7. To reduce commuting time or expense
8. Health reasons (your own physical condition)
9. For greater autonomy or independence
10. Some other reason (*please specify*: _____)

b7) **Do you want to continue working at a distance (from your employer's location)?**

1. Yes
2. No

b8) **Since you began working at a distance (from your employer's location), has your level of work pressure changed?**

1. More work pressure
2. Less work pressure
3. As much work pressure as before
4. Don't know
5. I can't judge because I don't have any other experience to draw on

c) Other questions

c1) **If you work from home, in which room do you work?** (only if respondent chooses answer 1 to a3 question)

1. Study
2. Living room
3. Bedroom
4. Kitchen
5. Other (*specify*: _____)

c2) **Who provides ICT equipment used working at distance?** [only employee]

1. Employer
2. Respondent
3. Both
4. Third party (*specify*: _____)

c3) **When you work at a distance (from your employer's location), what proportion of that time do you use a PC?**

_____ % of the time worked during an average day

OR

____ fraction of the time worked during an average day

c4) **Do you do this regularly?**

1. Yes
2. No

c5) **Have you used the internet for the following work-related activities?**

1. Looking for a job/sending job applications
2. Finding information relating to your work/business
3. Sending work to the work place
4. Accessing files on the employer's server
5. Communication (including email)
6. Other work-related activities (*specify*: _____)

c5) **How is your work controlled when you work at a distance from your employer's location?** [only employees] *(maximum 2 answers)*

Supervision:

1. Direct supervision
2. Automatic recording of performance

Non direct supervision but:

1. Delivery of output within specified deadlines
2. Definition of individual goals
3. Definition of team goals
4. Other (*please specify*: _____)

Annex
2

Information, Communication and Technology Questionnaire

Draft (21/01/03)

1. Individual questions

if 16<=age<=74, wave=3, dir=1

PERMIT
Will you answer some questions on your computer and Internet usage?
1. Yes
2. No

if PERMIT=2 then EXIT MODULE

COMPUTER *(if PERMIT=1)*
Have you ever used a computer?
1. Yes
2. No

TRAIN *(if COMPUTER=1)*
Have you taken any training courses (of ½ day or longer) on any aspect of computer use?
Note: This includes any type of training course, including work-related courses lessons or courses undertaken privately.
1. In the last 12 months
2. More than 1 year ago
3. No training courses taken

ACTIVITY *(if COMPUTER=1)*
Which of the following computer-related activities have you carried out, whether in work, at home or elsewhere? (multiple choice)
1. Using icons and windowing interface to launch applications (e.g. Internet browser, word processor etc.)
2. Copying a file
3. Using copy and paste tools to duplicate information within a document
4. Using basic arithmetic functions to add, subtract, multiply or divide figures in a spreadsheet
5. Merging a mailing list with a letter document or a label document
6. Creating a web page
7. Writing a computer program
8. No, none of the above

(Note: Option 8 implies no other option is selected)

COMP_AVG *(if COMPUTER=1)*

On average, how often have you used a computer in the last 3 months?
1. At least once a day
2. At least once a week (but not every day)
3. At least once a month (but not every week)
4. Less than once a month
5. Not used in last 3 months

COMP_WHR *(if COMP_AVG not=5)*
Where have you used a computer in the last 3 months? (multiple choice)
1. At home
2. At place of work (other than home)
3. At place of education
4. At other places

USEINT *(Ask all)*
Have you used the Internet in the last 12 months?
1. Yes
2. No

SECPROB *(if USEINT=1)*
In the last 12 months, have you encountered any of the following security problems through using the Internet? (multiple choice)
1. Computer virus resulting in loss of information or time
2. Fraudulent payment (credit or debit) card use
3. Abuse of personal information sent on the Internet
4. No, none of the above

(Note: Option 4 implies no other option is selected)

USEINT2 *(if USEINT=1)*
Have you used the Internet in the last 3 months?
1. Yes
2. No

AVEINT *(if USEINT2=1)*
On average how often did you access the Internet in the last 3 months?
1. At least once a day
2. At least once a week (but not every day)
3. At least once a month (but not every week)
4. Less than once a month

WHEREINT *(if USEINT2=1)*
Where have you accessed the Internet in the last 3 months (using a computer or any other means)? (multiple choice)
1. At home
2. At place of work (other than home)
3. At place of education
4. Public library
5. Internet Café
6. Other type of public office or community organisation
7. Neighbour, friend's or relative's house
8. Other

HOURSPW *(if USEINT2=1)*
On average, approximately how many hours per week did you spend on the Internet at home or elsewhere (including work)?
Note: Period of active usage by respondent, not simply time device was connected
- Hours per week

PRECAUT (*if USEINT2=1)*
In the last 3 months, have you taken any of the following security precautions? (multiple choice)
1. Installing a virus checking program
2. Updated a virus checking program
3. Used online authentication (such as a password, PIN or a digital signature)
4. No, none of the above
5. (Note: Option 4 implies no other option is selected)

ACTIV1 *(if USEINT2=1)*
Have you used the Internet in the last 3 months for any of the following activities relating to communication? (multiple choice)
1. Sending and receiving e-mails
2. Telephoning over the Internet/Videoconferencing
3. Other communication-related activities (use of chat sites etc.)
4. No, none of the above

(Note: Option 4 implies no other option is selected)

ACTIV2 *(if USEINT2=1)*
Have you used the Internet in the last 3 months for any of the following activities relating to information search and on-line services? (multiple choice)
1. Finding information about goods and services
2. Using services related to travel and accommodation
3. Listening to Web radios/watching web television
4. Playing/downloading games and music
5. Reading/downloading online newspapers/news magazines
6. No, none of the above

(Note: Option 6 implies no other option is selected)

ACTIV3 *(if USEINT2=1)*
Have you used the Internet in the last 3 months for any of the following activities relating to the purchasing and selling of goods and services or banking? (multiple choice)
1. Internet banking
2. Other financial services (e.g. share purchasing)
3. Purchasing/ordering goods or services (excl. shares/financial services)
4. Selling goods and services (e.g. via auctions)
5. No, none of the above

(Note: Option 5 implies no other option is selected)

ACTIV4 *(if USEINT2=1)*
Have you used the Internet in the last 3 months for any of the following activities relating to interaction with public authorities? (multiple choice)
1. Obtaining information from public authorities web sites
2. Downloading official forms
3. Sending filled in forms
4. No, none of the above

(Note: Option 4 implies no other option is selected)

ACTIV5 *(if USEINT2=1)*
Have you used the Internet in the last 3 months for any of the following activities relating to training and education? (multiple choice)
1. Formalised educational activities (school, university etc.)
2. Post educational courses
3. Other educational courses related specifically to employment opportunities
4. No, none of the above

(Note: Option 4 implies no other option is selected)

INT_HLTH *(if USEINT2=1)*
Have you used the Internet in the last 3 months for any health-related activities, either for yourself or others?
1. Yes
2. No

HEALTH1 *(if INT_HLTH=1)*
How frequently do you use the Internet to seek health information on injury, disease or nutrition?
1. Daily
2. Weekly
3. Monthly
4. Sometimes
5. Never

HEALTH2 *(if INT_HLTH=1)*
How frequently do you use the Internet to make an appointment online with a practitioner?
1. Daily
2. Weekly
3. Monthly
4. Sometimes
5. Never

HEALTH3 *(if INT_HLTH=1)*
How frequently do you use the Internet to request a prescription online from a practitioner?
1. Daily
2. Weekly
3. Monthly
4. Sometimes
5. Never

HEALTH4 *(if INT_HLTH=1)*
How frequently do you use the Internet to seek medical advice online from a practitioner?
1. Daily
2. Weekly
3. Monthly
4. Sometimes
5. Never

WORKINT *(if USEINT2=1)*
Have you used the Internet <u>at home</u> in the last 3 months for any of the following work-related activities? (multiple choice)
1. Looking for a job/sending job applications
2. Finding information relating to your work or business
3. Sending work to work place
4. Accessing files on the employer's server
5. Communication (exchanging and accessing e-mails)
6. Other work-related activities
7. No, none of the above

(Note: Option 7 implies no other option is selected)

WORKINT2 *(if USEINT2=1)*
Have you used the Internet <u>at places outside your main work premises other than at home</u> in the last 3 months for any of the following work related activities? (e.g. at customer or client premises, in transport while travelling etc.) (multiple choice)
1. Looking for a job/sending job applications
2. Finding information relating to your work or business
3. Sending work to work place
4. Accessing files on the employer's server
5. Communication (exchanging and accessing e-mails)
6. Other work-related activities
7. No, none of the above

(Note: Option 7 implies no other option is selected)

TELEQD *(if WORKINT=2-6 or WORKINT2=2-6)*
Would it be possible for you to work away from your employers premises without using the Internet?
1. Yes
2. No

TELEQE *(if WORKINT=2-6 or WORKINT2=2-6)*
On average, how many hours per week do you use a computer while working away from your employers premises?
Enter hrs [Range 001-140]
00: hours vary, can't give usual hours
140: 140 hours or more

ORD_INT *(if ACTIV3=3)*
You said you ordered goods or services over the Internet in the last 3 months. Was this for private use?
1. Yes
2. No

ORD_EVR *(if ORD_INT=2 or ACTIV3 not=3)*
Have you ever bought or ordered goods or services for private use over the Internet?
1. Yes
2. No

ORD_WHY *(if ORD_INT=2 and ORD_EVR=2)*
What were the main reasons for not buying/ordering any goods or services for your own private use? (multiple choice)
1. Have no need
2. Prefer to shop in person/like to see product
3. Force of habit/ customer loyalty to shops and/or suppliers
4. Too expensive
5. Delay in delivery too long
6. Problematic to receive ordered goods at home
7. Goods and services needed not available on the Internet
8. Security concerns i.e. worried about giving credit card details over the Internet
9. Privacy concerns i.e. worried about giving personal details over the Internet
10. Trust concerns i.e. concerned about receiving and/or returning goods
11. Complaint/redress concerns i.e. worry about difficulty in doing so
12. Other

ORD_VALU *(if ORD_INT=1)*
What was the approximate total value of goods and services (excluding financial investments) you bought or ordered for private use over the Internet in the <u>last 3 months</u>?
Euro…

ORD_CARD *(if ORD_INT=1)*
Did you pay for any of these goods or services by giving you payment card details (credit/debit card) over the Internet?
1. Yes
2. No

ORD_TYPE *(if ORD_INT=1 or ORD_EVR=1)*
What types of goods and services did you buy or order over the Internet for private use in the last 12 months? (multiple choice)
1. Food/Groceries
2. Films/music
3. Books/magazines/E-learning material
4. Clothes/sports goods
5. Computer software (incl. Video games)
6. Computer hardware
7. Electronic equipment (incl. Cameras)
8. Share purchases/Financial services/Insurance
9. Travel and holiday accommodation
10. Tickets for events
11. Lotteries or betting
12. Other

ORD_RETL *(if ORD_INT=1 and ORD_EVR=1)*
Did you buy or order goods over the Internet from: (multiple choice)
1. Retailers you knew from outside the Internet (physical store, catalogues)
2. Retailers known from the Internet or found on the Internet

ORD_PROB *(if ORD_INT=2 and ORD_EVR=2)*
What, if any, problems have you encountered when making purchases over the Internet? (multiple choice)
1. Uncertainty concerning guarantees
2. Speed of delivery longer than indicated
3. Delivery costs higher than indicated
4. Final price higher than indicated
5. Wrong goods delivered
6. Damaged goods delivered
7. Lack of security payments
8. Complaints and redress were difficult
9. No satisfactory response received after complaint
10. Other

2. Household questions

if 16<=age<=74, wave=3, dir=1

PERMIT2 *(Ask one member per household)*
May I ask you a few questions on technology usage in the household?
1. Yes
2. No

If PERMIT2=2 then EXIT MODULE

TECH *(if PERMIT2=1)*
Does the household, or any member of it, have any of the following permanently in the dwelling? (multiple choice)
NOTE: Laptops brought home temporarily from work not included
1. Internet enabled mobile phone
2. Other mobile phone
3. TV
4. DVD player
5. Personal computer
6. Laptop computer
7. Car with a traffic navigation system
8. No, none of the above

(Note: Option 8 implies no other option is selected)

TV *(if TECH=3)*
Does the household have…? (multiple choice)
1. A digital TV
2. A satellite dish
3. Cable TV

COMP_USE *(if TECH=5 or 6)*
Is the computer used for…? (multiple choice)
1. Work purposes
2. Educational purposes
3. Leisure purposes
4. Any other purpose (e.g. letter writing, bills etc.)

INTERNET *(Ask all)*
Does any member of this household have access to the Internet <u>at home</u>? (regardless of whether it is used)
1. Yes
2. No
3. Don't know

DEVICE *(if INTERNET=1)*
On which of these devices is the Internet accessed at home? (multiple choice)
1. Personal computer
2. Laptop computer
3. TV set (digital TV or set top box)
4. Mobile phone alone (WAP, GPRS, UMTS)
5. Games console
6. Other means
7. Don't know

TYPCONN *(if INTERNET=1)*
What types of Internet connection are used? (multiple choice)
1. Dial-up telephone line (analogue, ISDN)
2. TV set-top box/modem
3. Broadband connection
4. LAN (wireless or cable)
5. Don't know

WHYNOINT *(if INTERNET=2)*
What are the main reasons for this household not having access to the Internet at home? (multiple choice)

1. Have access to Internet elsewhere
2. Don't want Internet (because content, harmful, not useful etc.)
3. Equipment costs too high
4. Access costs too high
5. Lack of skills
6. Language barriers
7. Physical disability
8. Privacy or security concerns
9. Other

Annex
3

Notes on running a Focus Group for STILE telework questionnaire

1. Points of attention for the organisation of a focus group discussion

- Participants should, if possible, not know each other as otherwise those who do know each other will form small groups/side conversations.

- In the research literature it is stated that the participants should be a homogenous group as far as possible. This will not be possible for the Irish focus group since we are trying to recruit a group of participants covering 8 different types of teleworker.

- Numbers should be in the range 6-10 (though some researchers say 4-8).

- Participants need to be invited with a clear idea of the purpose of the group but no knowledge of the questions they will be asked to discuss. The invitation should have plenty of notice e.g. 2 weeks. Circulate an agenda one week before the session but again do not include any details of the questions. Explain with the agenda that the session must not be interrupted e.g. mobile phones have to be switched off in case participants need to arrange cover for message taking.

- We will need to create a brief introduction to STILE and an explanation of the activities occurring in Ireland (pilot questionnaire, short questions in Autumn 2002 QNHS, possibility of ad hoc module) for the agenda document. We will also briefly need to explain the QNHS and the CLFS as well as perhaps some of the interesting information already provided through analysis of the UK and US figures.

- The intention of our session is to enrich the information that can be obtained from the pilot questionnaire, and to get more information about some of the issues which we cannot ask either through the pilot study or the QNHS because these are general population surveys, and because of the way in which questions have to be structured for formal data analysis. We hope that the focus group may point out some areas of omission in the questionnaire, and also help us to prioritise a more limited number of questions for the QNHS.

- For Ireland we will also need to explain that we will be asking them to complete the questionnaire on the same day (are we going to get this done altogether, or sequentially, or in parallel with several interviewers?) and we will need to include information about reimbursement of expenses.

- Verify all participants plan to attend by phone. Make sure the interviewers have all the contact details available to them in case of no-shows.

- The room/venue needs to be comfortable without being distracting and capable of arrangement so that participants can see each other and the moderator. Tea and coffee fa-

cilities are needed and a tape recorder. As we will probably try to get one of the disabled teleworkers from ICTU to attend, it should also be accessible for wheelchair users.

- The group discussion should not exceed two hours.

- The goal of the discussion is not to reach a consensus, solve a problem or make a decision but to produce qualitative information. It is the interaction between the participants that is of interest.

- The moderator gently directs conversation through the introduction of a series of not more than ten predetermined, sequenced, open-ended questions. Questions should begin with how, what, which, when, who etc. and be aimed to encourage responsiveness and reduce defensiveness. Do not begin questions with 'why'. Try to encourage a permissive, nurturing environment encouraging different points of view to be expressed. Make sure the questions are arranged in a logical order.

- There should be two moderators – one to take notes and one to ask the questions and encourage participation. The moderator asking the questions must be careful not to nod or otherwise give positive reinforcement to speakers (which might be interpreted as having a view, or favouring a participant) but at the same time needs to try to ensure that the conversation is not dominated by one person and that shyer members of the group are encouraged to contribute. The moderator has to keep discussion flowing and on track, guide back from irrelevant topics and move the discussion on to the next question when relevant. No personal opinions should be expressed. Try not to interrupt the discussion unless necessary.

- The session should begin with greetings and introductions, tea and coffee but the moderator should try to encourage small talk only, rather than allowing participants to begin discussing the topics for the discussion.

- Name plates (first name only) should be provided as the participants do not know each other.

- The moderator should begin by discussing the purpose of the group, explain that the discussion will follow a series of questions, point out that it will be tape recorded and that the second interviewer will be taking notes.

- It's also important to make clear to the participants that they are choosing to share their opinions with others in the group, but should keep what they hear confidential. The researchers also have an ethical duty to anonymise the data from the group.

- Be sure to explain the start and end time and that the aim of a focus group is to encourage interaction and the expression of views and ideas, not to achieve consensus or solve problems. Explain how the question discussion will be handled (in this case probably through a loose round-robin approach to give all participants a chance to comment on each topic but without restricting interaction).

- Explain that the tape recordings and notes will be used to construct a record of the discussion but that their contributions will be anonymised. The results will be made public to the STILE research consortium, and may also be made publicly available on the STILE website. They will be used to broaden the information provided by the pilot questionnaire and to assist in prioritising the questions for any eventual teleworking ad hoc module.

- The moderator needs to be aware of time in terms of covering all the question topics, and to ensure participation by all group members, trying to prevent domination by one or two members. It is good practice to pause for five seconds after a contribution before intervening to give other participants a chance to jump in. Probes such as 'Would you explain

that further?' or 'Would you give me an example?' can also be used if additional information is needed.

- Jumping around from topic to topic is fine.

- At the end, thank all participants for their input, ideas and time.

- The report should include field notes on:
  - any changes in the list of questions;
  - participant characteristics;
  - descriptive phrases or words used by participants as they discussed key topics;
  - themes which arise from the responses;
  - subthemes indicating a point of view held by participants with common characteristics;
  - description of enthusiasm level of participants;
  - consistency (or otherwise) between participant comments and their reported behaviours;
  - body language;
  - suggestions for new avenues of questioning if the questions should be revised;
  - overall mood of discussion.

- The report should not be just a serial transcript, but arranged by theme/question. Look for commonly used words. Give greater weight to first person responses rather than third person hypothetical answers.

2. List of questions for the focus group discussion

The introduction of the discussion should focus on clarifying that the definition of teleworking is very broad, and covers all work outside the conventional office at a distance from colleagues, or customers or clients, that involves the use of ICTs. It is important to emphasise that the research group is interested 'in homeworking, but not just in homeworking'.

As the focus group is also asked to administer the STILE pilot questionnaire, it is not important to include these in the focus group questions. Suggestions for questions that can be asked in a focus group discussion are;

1) How did you first find out that it was possible to work at a distance from the conventional office, using ICTs?
[general introductory question to get people talking]
2) What tasks do you carry out when working at a distance, and what technology do you need to do these tasks?
3) Do you find there is any mixing of work and personal life that results from working at a distance?
[This may need some extension questions from the moderator to probe for information e.g. where in the house do you work (for homeworkers)?]
4) Who are you in contact with when you are working at a distance, and how?
[This may need extension probing to find out more about their relationships with managers and colleagues and methods of communication]
5) How is your work assessed or monitored? Do the results affect your pay in any way?
6) What effect, if any, do you think working at a distance will have on your career?
7) What are the training issues that affect people who work at a distance?
8) What are the barriers to the spread of distance working?
9) What is the greatest benefit to you of distance working?
10) What is your greatest concern about distance working?

Other interesting questions which had to be omitted to keep the number down.

1) Would the opportunity to telework affect your choice of employer in future?
2) What tasks could you perform better when you are working at a distance if you had access to different equipment or services?

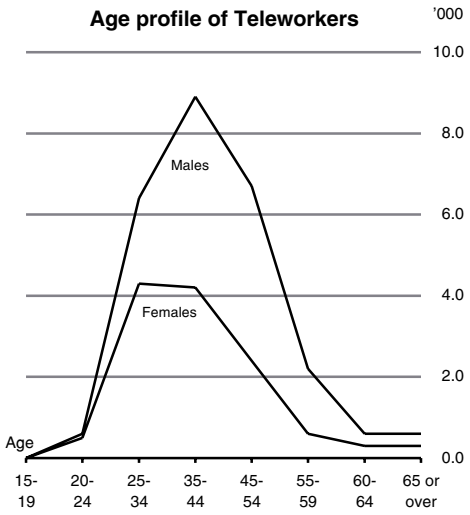
3) Has working at a distance reduced your travel mileage at all?
4) Has working at a distance reduced your working or commuting hours? [Extension question: If your hours have reduced, how are you using the time saved?]
5) What do you think of the idea of telecentres (publicly available centres where people can work at a distance)?
6) Have you experienced any communication difficulties with colleagues while you have been working at a distance?
7) Have you experienced feelings of isolation while working at a distance?

Central Statistics Office
An Phríomh-Oifig Staidrimh

20 February 2003

Quarterly National Household Survey

Module on Teleworking
Third Quarter 2002



Nearly 40,000 teleworkers in Ireland

Nearly 10% (148,100) of persons in non-agricultural employment work from home to some extent and almost 60,000 of these use a computer with a telecommunications link. Of the latter, 38,700 are home-based teleworkers, i.e. persons for whom a computer with a telecommunications link is essential for them to be able to work from home. *See background notes, table 1 and table below.*

	'000	%
Total in non agricultural employment	1,672.1	100.0
***of which* work from home**	148.1	8.9
***of which* use a computer with a telecommunication link**	59.2	3.5
***of which* need a computer with a telecommunication link**	38.7	2.3

These results are taken from the Quarterly National Household Survey module on Teleworking, which was undertaken as part of an EU sponsored project in the June to August quarter of 2002. A further 2,100 teleworkers were identified in the agricultural sector but they are not included in the analyses presented in this report. It might also be noted that mobile teleworkers who do not work from home are not covered by the survey. *See background notes.*

Two thirds of teleworkers are male

There were over 26,100 male teleworkers in the third quarter of 2002 compared with 12,600 females. These represented 2.8% and 1.7% of the male and female non-agricultural workforces respectively. However, there is little difference between the genders in respect of the proportion of all homeworkers who are teleworking i.e. just over 26% in both cases. *See table 2.*

The vast majority of teleworkers are aged between 25 and 54 and the pattern is the same for both males and females. In the case of female workers, those who are part of a couple with at least one child under five years of age are the most likely to be teleworking – 38% of female homeworkers in this category indicated that they were teleworkers. *See tables 2, 3, 4 and graph.*

Teleworking is also highly correlated with level of education with over 70% having a third level qualification compared with just over 40% of the non-agricultural workforce in general. *See table 2.*

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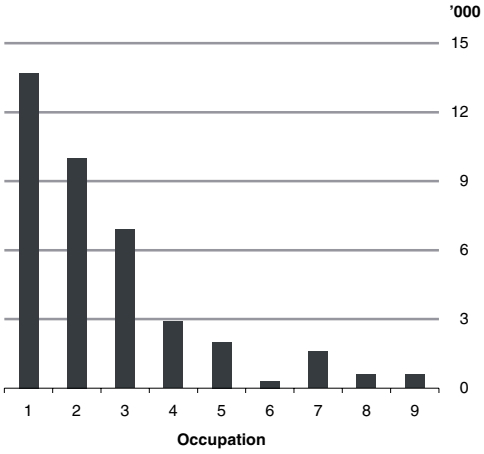
Teleworkers classified by occupation



1 - Managers and Administrators
2 - Professional
3 - Associate Professional and Technical
4 - Clerical and Secretarial
5 - Craft and Related
6 - Personal and Protective Service
7 - Sales
8 - Plant and Machine Operatives
9 - Other

Almost 40% of teleworkers reside in the Dublin Region

Over 15,000 teleworkers (39.5% of the total) reside in the Dublin Region and they account for almost 40% of the homeworkers in the region. The proportions of homeworkers who telework are significantly lower in the other regions varying from 14.7% in the Mid-West to 27.2% in the South-West.

In terms of the proportion of the working population in each region, both the Dublin and the Mid-East regions have the highest levels of teleworkers (at 2.8%), and the Midland and Mid-West regions have the lowest (at 1.5% and 1.4% respectively). *See table 2.*

Four-fifths of teleworkers are in managerial, professional or technical occupations

Nearly four-fifths (30,600) of teleworkers fall into the managerial, professional and technical occupational categories whereas these workers account for only a third of all non-agricultural workers. This pattern is similar for both males and females. *See tables 2, 3 & 4.*

Over 40% (15,600) of teleworkers work in the *Financial and Other Services* sector and they represented 54.5% of all persons homeworking in that sector. More strikingly, nearly one in ten (9.8%) of all males in this sector and 4% of females telework to some extent. *See tables 2, 3 & 4.*

Teleworkers and homeworkers, in general, worked significantly longer hours than other non-agricultural workers. The average working week for teleworkers was 43.5 and this was somewhat below the 43.9 hours worked by all homeworkers. In contrast, non-agricultural workers had an average working week of just 37.0 hours. This pattern differs for females - female teleworkers work more hours than female homeworkers. *See tables 2, 3 & 4.*

Less than half the number of teleworkers usually work from home

Only 18,000 or 46.5% of teleworkers indicated that they usually work from home. Of the remaining 20,800, almost 10,000 indicated that they actually worked from home during the week before the survey while a further 900 indicated that they used their home as a base.

In total 8,300 of the teleworkers did not work from home during the week prior to the survey and the overwhelming majority of these (7,700) had indicated that they only work from home on an occasional basis. Over 10% of teleworkers were absent from work in the week before the survey. In this regard it should be noted that the survey coincided with the summer vacation period. *See table 5.*

Tables

Table 1 Persons aged 15 years and over in employment[1] (ILO) classified by whether they work from home, QNHS q3 2002

'000

Demographic details	Work from home			Never works from home	Total
	Usually	Sometimes	Total		
State	**83.7**	**64.4**	**148.1**	**1,523.7**	**1,672.1**
Region					
Border	9.7	5.3	15.0	138.4	153.3
Midlands	6.6	1.1	7.7	76.4	84.1
West	9.1	5.4	14.5	150.9	165.5
Dublin	14.8	23.8	38.6	509.4	548.2
Mid-East	10.3	12.6	22.8	166.8	189.8
Mid-West	9.9	3.7	13.6	126.4	140.1
South-East	10.9	5.4	16.3	145.7	162.0
South-West	12.4	7.1	19.5	209.6	229.1
Sex					
Male	55.6	44.6	100.1	831.9	932.3
Female	28.1	19.9	48.0	691.8	739.8
Age Group					
15-19	1.5	*	1.7	91.9	93.5
20-24	3.6	2.2	5.8	240.3	246.1
25-34	15.1	16.1	31.2	444.4	475.7
35-44	22.7	21.9	44.6	340.5	385.3
45-54	22.1	15.7	37.8	267.5	305.4
55-59	9.3	4.8	14.1	84.8	98.9
60-64	5.2	1.9	7.1	41.0	48.2
65 +	4.2	1.6	5.8	13.3	19.1
Marital Status					
Single	23.4	18.7	42.2	728.8	771.0
Married	54.4	42.2	96.6	721.3	818.1
Separated	3.7	2.8	6.4	54.7	61.1
Widowed	2.2	0.7	2.9	18.9	21.8
Composition of household[2]					
Member of a couple, no children	14.8	11.7	26.6	204.4	231.1
Member of a couple, at least one child under 5	13.0	13.4	26.4	209.9	236.4
Member of a couple, all children aged 5 or over	30.1	21.6	51.7	398.7	450.5
Lone parent, at least one child under 5	0.3	0.4	0.7	19.5	20.2
Lone parent, all children aged 5 or over	3.0	1.4	4.4	53.3	57.7
Never married person living with one or both parents	10.6	4.8	15.4	407.4	422.8
Not in a family unit	11.9	11.2	23.0	230.4	253.5
Highest Education Level Attained					
No formal education/primary	11.2	2.6	13.9	169.3	183.2
Lower secondary	16.7	5.3	22.0	263.7	285.7
Higher secondary	20.1	10.7	30.8	440.9	471.8
Third level	34.4	44.7	79.1	612.9	692.1
Not stated	1.3	1.1	2.4	36.7	39.3

[1] Excludes workers in the Agriculture, forestry and fishing sector

[2] See Background Notes

* Sample occurrence too small for estimation

Table 1 continued - Persons aged 15 years and over in employment[1] (ILO) classified by whether they work from home, QNHS q3 2002

'000

Employment characteristics	Work from home			Never works from home	Total
	Usually	Sometimes	Total		
State	**83.7**	**64.4**	**148.1**	**1,523.7**	**1,672.1**
ILO Status					
In employment, full-time	69.0	59.2	128.1	1,265.7	1,394.1
In employment, part-time	14.7	5.3	20.0	258.0	278.0
Employment Status					
Self/Employed (with paid employees)	18.7	10.4	29.0	59.8	88.9
Self/Employed (with no paid employees)	39.4	13.9	53.3	62.5	115.8
Employee (incl schemes)	21.7	39.9	61.6	1,395.2	1,457.1
Assisting relatives	3.9	*	4.2	6.1	10.3
Occupational Group					
1 Managers and Administrators	23.5	17.5	40.9	177.5	218.4
2 Professional	10.2	20.5	30.7	152.4	183.1
3 Associate Professional and Technical	8.0	8.1	16.0	139.0	155.1
4 Clerical and Secretarial	4.9	2.8	7.7	216.9	224.6
5 Craft and Related	15.1	7.5	22.6	210.8	233.5
6 Personal and Protective Service	7.0	1.2	8.2	170.7	178.9
7 Sales	4.1	3.4	7.5	144.4	151.9
8 Plant and Machine Operatives	7.3	2.3	9.7	175.2	184.9
9 Other	3.5	1.2	4.8	136.8	141.7
NACE Economic Sector					
A-B Agriculture, Forestry, Fishing	n/a	n/a	n/a	n/a	n/a
C-E Other Production Industries	9.0	8.6	17.6	296.3	314.0
F Construction	14.1	7.6	21.7	168.3	190.0
G Wholesale and Retail	12.5	6.4	18.9	238.1	257.1
H Hotels and Restaurants	9.5	0.7	10.2	106.4	116.6
I Transport, Storage, Communication	8.4	3.3	11.7	102.5	114.2
J-K Financial and Other Services	10.9	17.7	28.6	200.3	229.1
L Public Administration and Defence	0.8	2.5	3.3	86.6	90.0
M Education	3.5	10.2	13.7	91.2	104.9
N Health	4.9	3.1	8.0	149.8	157.8
O Other	10.1	4.2	14.3	84.1	98.6
Usual hours worked					
1-9 hours	1.0	0.4	1.4	16.0	17.4
10-19	3.3	1.7	5.0	73.6	78.6
20-29	6.0	4.2	10.2	167.3	177.5
30-34	2.7	2.7	5.4	52.7	58.1
35-39	7.5	12.4	19.9	639.0	658.9
40-44	11.6	11.2	22.7	305.7	328.4
45 & over	22.5	17.8	40.3	150.9	191.3
Variable hours[2]	29.1	14.1	43.3	118.5	162.0
Average hours per week[3]	*45.4*	*42.3*	*43.9*	*36.5*	*37.0*

[1] Excludes workers in the Agriculture, forestry and fishing sector

[2] Includes *'not stated'*

[3] Average hours per week refers to all time worked, not just time spent working from home

* Sample occurrence too small for estimation

Table 2 Profile of all home and teleworkers[1,2] aged 15 and over, QNHS q3 2002

	'000				%	
Demographic details	Total in employment[1]	Homeworkers[3]	Homeworkers[3] that use a computer[4]	Teleworkers[2]	*Teleworkers[2] as a percentage of homeworkers[3]*	*total in* employment[1]
State	**1,672.1**	**148.1**	**59.2**	**38.7**	***26.1***	***2.3***
Region						
Border	153.3	15.0	5.3	2.8	*18.7*	*1.8*
Midlands	84.1	7.7	1.6	1.3	*16.9*	*1.5*
West	165.5	14.5	4.5	3.3	*22.8*	*2.0*
Dublin	548.2	38.6	21.8	15.3	*39.6*	*2.8*
Mid-East	189.8	22.8	8.9	5.4	*23.7*	*2.8*
Mid-West	140.1	13.6	3.3	2.0	*14.7*	*1.4*
South-East	162.0	16.3	6.4	3.3	*20.2*	*2.0*
South-West	229.1	19.5	7.4	5.3	*27.2*	*2.3*
Sex						
Male	932.3	100.1	39.9	26.1	*26.1*	*2.8*
Female	739.8	48.0	19.2	12.6	*26.3*	*1.7*
Age Group						
15-19	93.5	1.7	*	*	*	*
20-24	246.1	5.8	1.4	1.1	*19.0*	*0.4*
25-34	475.7	31.2	15.7	10.8	*34.6*	*2.3*
35-44	385.3	44.6	20.4	13.1	*29.4*	*3.4*
45-54	305.4	37.8	14.2	9.1	*24.1*	*3.0*
55-59	98.9	14.1	4.4	2.8	*19.9*	*2.8*
60-64	48.2	7.1	1.4	0.8	*11.3*	*1.7*
65 +	19.1	5.8	1.3	0.8	*13.8*	*4.2*
Marital Status						
Single	771.0	42.2	15.2	10.5	*24.9*	*1.4*
Married	818.1	96.6	40.9	26.2	*27.1*	*3.2*
Separated	61.1	6.4	2.3	1.4	*21.9*	*2.3*
Widowed	21.8	2.9	0.7	0.6	*20.7*	*2.8*
Composition of household[5]						
Member of a couple, no children	231.1	26.6	12.3	8.1	*30.5*	*3.5*
Member of a couple, at least one child under 5	236.4	26.4	13.6	9.0	*34.1*	*3.8*
Member of a couple, all children aged 5 or over	450.5	51.7	19.7	12.5	*24.2*	*2.8*
Lone parent, at least one child under 5	20.2	0.7	*	*	*	*
Lone parent, all children aged 5 or over	57.7	4.4	1.2	0.8	*18.2*	*1.4*
Never married person living with one or both parents	422.8	15.4	3.7	2.3	*14.9*	*0.5*
Not in a family unit	253.5	23.0	8.6	5.9	*25.7*	*2.3*
Highest Education Level Attained						
No formal education/primary	183.2	13.9	1.7	0.8	*5.8*	*0.4*
Lower secondary	285.7	22.0	4.9	2.4	*10.9*	*0.8*
Higher secondary	471.8	30.8	10.5	7.1	*23.1*	*1.5*
Third level	692.1	79.1	41.1	27.9	*35.3*	*4.0*
Not stated	39.3	2.4	1.0	0.5	*20.8*	*1.3*

[1] Excludes workers in the Agriculture, forestry and fishing sector

[2] Teleworkers refers to all persons who work from home and **need** a computer with a telecommunications link in order to do so

[3] Consists of persons who work from home usually and sometimes

[4] Computer refers to computers with a telecommunications link only

[5] See Background Notes

* Sample occurrence too small for estimation

Table 2 continued - Profile of all home and teleworkers[1,2] aged 15 and over, QNHS q3 2002

Employment characteristics	Total in employment[1]	Homeworkers[3]	Homeworkers[3] that use a computer[4]	Teleworkers[2]	*Teleworkers[2] as a percentage of homeworkers[3]*	*Teleworkers[2] as a percentage of total in employment[1]*
	'000				%	
State	**1,672.1**	**148.1**	**59.2**	**38.7**	***26.1***	***2.3***
ILO Status						
In employment, full-time	1,394.1	128.1	52.4	34.6	*27.0*	*2.5*
In employment, part-time	278.0	20.0	6.7	4.1	*20.5*	*1.5*
Employment Status						
Self/Employed (with paid employees)	88.9	29.0	12.2	7.4	*25.5*	*8.3*
Self/Employed (with no paid employees)	115.8	53.3	18.6	12.1	*22.7*	*10.4*
Employee (incl schemes)	1,457.1	61.6	27.5	18.8	*30.5*	*1.3*
Assisting relatives	10.3	4.2	0.9	0.3	*7.1*	*2.9*
Occupational Group						
1 Managers and Administrators	218.4	40.9	19.8	13.7	*33.5*	*6.3*
2 Professional	183.1	30.7	16.2	10.0	*32.6*	*5.5*
3 Associate Professional and Technical	155.1	16.0	9.8	6.9	*43.1*	*4.4*
4 Clerical and Secretarial	224.6	7.7	4.2	2.9	*37.7*	*1.3*
5 Craft and Related	233.5	22.6	4.0	2.0	*8.8*	*0.9*
6 Personal and Protective Service	178.9	8.2	0.7	0.3	*3.7*	*0.2*
7 Sales	151.9	7.5	2.4	1.6	*21.3*	*1.1*
8 Plant and Machine Operatives	184.9	9.7	1.2	0.6	*6.2*	*0.3*
9 Other	141.7	4.8	0.9	0.6	*12.5*	*0.4*
NACE Economic Sector						
A-B Agriculture, Forestry, Fishing	n/a	n/a	n/a	n/a	*n/a*	*n/a*
C-E Other Production Industries	314.0	17.6	8.7	6.0	*34.1*	*1.9*
F Construction	190.0	21.7	5.7	2.9	*13.4*	*1.5*
G Wholesale and Retail	257.1	18.9	5.6	3.7	*19.6*	*1.4*
H Hotels and Restaurants	116.6	10.2	2.6	1.2	*11.8*	*1.0*
I Transport, Storage, Communication	114.2	11.7	3.0	1.9	*16.2*	*1.7*
J-K Financial and Other Services	229.1	28.6	20.5	15.6	*54.5*	*6.8*
L Public Administration and Defence	90.0	3.3	1.5	1.0	*30.3*	*1.1*
M Education	104.9	13.7	5.4	2.7	*19.7*	*2.6*
N Health	157.8	8.0	2.1	1.2	*15.0*	*0.8*
O Other	98.6	14.3	4.2	2.4	*16.8*	*2.4*
Usual hours worked						
1-9 hours	17.4	1.4	0.3	*	*	*
10-19	78.6	5.0	1.8	1.2	*24.0*	*1.5*
20-29	177.5	10.2	3.4	2.2	*21.6*	*1.2*
30-34	58.1	5.4	1.9	1.4	*25.9*	*2.4*
35-39	658.9	19.9	9.4	6.5	*32.7*	*1.0*
40-44	328.4	22.7	9.1	6.1	*26.9*	*1.9*
45 & over	191.3	40.3	17.3	11.7	*29.0*	*6.1*
Variable hours[5]	162.0	43.3	15.9	9.6	*22.2*	*5.9*
Average hours per week[6]	*37.0*	*43.9*	*43.6*	*43.5*	*n/a[7]*	*n/a*

[1] Excludes workers in the Agriculture, forestry and fishing sector

[2] Teleworkers refers to all persons who work from home and **need** a computer with a telecommunications link in order to do so

[3] Consists of persons who work from home usually and sometimes

[4] Computer refers to computers with a telecommunications link only

[5] Includes *'not stated'*

[6] Average hours per week refers to all time worked, not just time spent working from home

[7] n/a refers to 'not applicable'

* Sample occurrence too small for estimation

Table 3 Profile of male home and teleworkers[1,2] aged 15 and over QNHS q3 2002

Demographic details	Total in employment[1] ('000)	Homeworkers[3] ('000)	Homeworkers[3] that use a computer[4] ('000)	Teleworkers[2] ('000)	*Teleworkers[2] as a percentage of homeworkers[3]* (%)	*Teleworkers[2] as a percentage of total in employment[1]* (%)
State	**932.3**	**100.1**	**39.9**	**26.1**	***26.1***	***2.8***
Region						
Border	86.6	10.7	3.6	1.9	*17.8*	*2.2*
Midlands	48.7	5.6	1.1	0.9	*16.1*	*1.8*
West	86.5	9.9	3.0	2.2	*22.2*	*2.5*
Dublin	299.1	24.9	14.6	10.1	*40.6*	*3.4*
Mid-East	110.0	15.8	6.3	3.8	*24.1*	*3.5*
Mid-West	79.3	8.8	2.1	1.3	*14.8*	*1.6*
South-East	92.2	11.6	4.1	2.2	*19.0*	*2.4*
South-West	129.9	12.8	5.0	3.6	*28.1*	*2.8*
Age Group						
15-19	49.6	1.1	*	*	*	*
20-24	128.4	3.9	0.8	0.6	*15.4*	*0.5*
25-34	252.6	19.3	9.5	6.4	*33.2*	*2.5*
35-44	216.5	30.0	13.6	8.9	*29.7*	*4.1*
45-54	177.2	26.6	10.4	6.7	*25.2*	*3.8*
55-59	63.0	10.2	3.5	2.2	*21.6*	*3.5*
60-64	32.2	4.9	0.9	0.6	*12.2*	*1.9*
65 +	12.9	4.2	1.0	0.6	*14.3*	*4.7*
Marital Status						
Single	413.4	27.0	9.2	6.3	*23.3*	*1.5*
Married	486.1	67.9	28.9	18.7	*27.5*	*3.8*
Separated	25.0	3.7	1.4	0.9	*24.3*	*3.6*
Widowed	7.8	1.5	0.4	0.3	*20.0*	*3.8*
Composition of household[5]						
Member of a couple, no children	124.2	17.9	8.2	5.4	*30.2*	*4.3*
Member of a couple, at least one child under 5	143.5	18.4	9.2	6.0	*32.6*	*4.2*
Member of a couple, all children aged 5 or over	271.9	37.1	14.2	9.3	*25.1*	*3.4*
Lone parent, at least one child under 5	0.7	*	*	*	*	*
Lone parent, all children aged 5 or over	10.0	1.5	0.4	*	*	*
Never married person living with one or both parents	245.5	10.8	2.5	1.6	*14.8*	*0.7*
Not in a family unit	136.6	14.3	5.5	3.6	*25.2*	*2.6*
Highest Education Level Attained						
No formal education/primary	118.8	10.9	1.1	0.6	*5.5*	*0.5*
Lower secondary	184.5	17.3	4.1	2.0	*11.6*	*1.1*
Higher secondary	256.8	19.6	6.8	4.4	*22.4*	*1.7*
Third level	348.2	50.7	27.3	18.7	*36.9*	*5.4*
Not stated	24.0	1.6	0.6	0.3	*18.8*	*1.3*

[1] Excludes workers in the Agriculture, forestry and fishing sector

[2] Teleworkers refers to all persons who work from home and **need** a computer with a telecommunications link in order to do so

[3] Consists of persons who work from home usually and sometimes

[4] Computer refers to computers with a telecommunications link only

[5] See Background Notes

* Sample occurrence too small for estimation

Table 3 continued - Profile of male home and teleworkers[1,2] aged 15 and over, QNHS q3 2002

Employment characteristics	Total in employment[1]	Homeworkers[3]	Homeworkers[3] that use a computer[4]	Teleworkers[2]	*Teleworkers[2] as a percentage of homeworkers[3]*	*Teleworkers[2] as a percentage of total in employment[1]*
	'000				%	
State	**932.3**	**100.1**	**39.9**	**26.1**	***26.1***	***2.8***
ILO Status						
In employment, full-time	874.7	94.0	38.0	25.0	*26.6*	*2.9*
In employment, part-time	57.6	6.1	1.9	1.2	*19.7*	*2.1*
Employment Status						
Self/Employed (with paid employees)	72.9	23.3	9.7	5.7	*24.5*	*7.8*
Self/Employed (with no paid employees)	91.7	39.4	13.5	8.6	*21.8*	*9.4*
Employee (incl schemes)	763.8	36.3	16.6	11.7	*32.2*	*1.5*
Assisting relatives	4.0	1.2	*	*	*	*
Occupational Group						
1 Managers and Administrators	136.8	28.5	14.3	10.1	*35.4*	*7.4*
2 Professional	97.1	18.2	11.0	6.9	*37.9*	*7.1*
3 Associate Professional and Technical	63.9	9.9	6.4	4.4	*44.4*	*6.9*
4 Clerical and Secretarial	52.3	1.7	0.8	0.7	*41.2*	*1.3*
5 Craft and Related	221.8	21.8	3.7	1.8	*8.3*	*0.8*
6 Personal and Protective Service	73.4	2.8	0.4	*	*	*
7 Sales	56.4	5.2	1.6	1.1	*21.2*	*2.0*
8 Plant and Machine Operatives	145.3	8.9	1.1	0.6	*6.7*	*0.4*
9 Other	85.3	3.1	0.6	0.3	*9.7*	*0.4*
NACE Economic Sector						
A-B Agriculture, Forestry, Fishing	n/a	n/a	n/a	n/a	*n/a*	*n/a*
C-E Other Production Industries	222.7	13.4	6.1	4.2	*31.3*	*1.9*
F Construction	180.5	20.2	4.7	2.3	*11.4*	*1.3*
G Wholesale and Retail	129.9	13.9	4.1	2.7	*19.4*	*2.1*
H Hotels and Restaurants	46.1	4.8	1.2	0.6	*12.5*	*1.3*
I Transport, Storage, Communication	85.0	9.3	1.9	1.2	*12.9*	*1.4*
J-K Financial and Other Services	112.8	20.0	14.4	11.1	*55.5*	*9.8*
L Public Administration and Defence	47.9	2.0	0.9	0.5	*25.0*	*1.0*
M Education	33.3	5.2	2.8	1.7	*32.7*	*5.1*
N Health	30.4	2.6	1.0	0.5	*19.2*	*1.6*
O Other	43.8	8.6	2.9	1.5	*17.4*	*3.4*
Usual hours worked						
1-9 hours	3.1	0.3	*	*	*	*
10-19	13.8	1.4	0.7	0.5	*35.7*	*3.6*
20-29	35.8	2.7	0.9	0.5	*18.5*	*1.4*
30-34	17.3	2.6	0.8	0.6	*23.1*	*3.5*
35-39	355.6	11.5	5.4	3.7	*32.2*	*1.0*
40-44	225.5	16.6	6.2	4.1	*24.7*	*1.8*
45 & over	160.3	32.3	13.8	9.1	*28.2*	*5.7*
Variable hours[5]	120.9	32.7	12.0	7.4	*22.6*	*6.1*
Average hours per week[6]	*40.8*	*47.8*	*47.1*	*46.5*	*n/a[7]*	*n/a*

[1] Excludes workers in the Agriculture, forestry and fishing sector

[2] Teleworkers refers to all persons who work from home and **need** a computer with a telecommunications link in order to do so

[3] Consists of persons who work from home usually and sometimes

[4] Computer refers to computers with a telecommunications link only

[5] Includes *'not stated'*

[6] Average hours per week refers to all time worked, not just time spent working from home

[7] n/a refers to 'not applicable'

* Sample occurrence too small for estimation

Table 4 Profile of female home and teleworkers[1,2] aged 15 and over, QNHS q3 2002

Demographic details	Total in employment[1]	Homeworkers[3]	Homeworkers[3] that use a computer[4]	Teleworkers[2]	*Teleworkers[2] as a percentage of homeworkers[3]*	*Teleworkers[2] as a percentage of total in employment[1]*
	'000				%	
State	**739.8**	**48.0**	**19.2**	**12.6**	***26.3***	***1.7***
Region						
Border	66.7	4.3	1.7	0.9	*20.9*	*1.3*
Midlands	35.4	2.0	0.5	0.5	*25.0*	*1.4*
West	79.0	4.7	1.5	1.0	*21.3*	*1.3*
Dublin	249.1	13.8	7.2	5.2	*37.7*	*2.1*
Mid-East	79.8	7.0	2.6	1.6	*22.9*	*2.0*
Mid-West	60.8	4.8	1.2	0.7	*14.6*	*1.2*
South-East	69.8	4.7	2.2	1.1	*23.4*	*1.6*
South-West	99.2	6.7	2.4	1.7	*25.4*	*1.7*
Age Group						
15-19	43.9	0.6	*	*	*	*
20-24	117.7	1.9	0.6	0.5	*26.3*	*0.4*
25-34	223.0	11.9	6.1	4.3	*36.1*	*1.9*
35-44	168.7	14.6	6.8	4.2	*28.8*	*2.5*
45-54	128.2	11.2	3.8	2.4	*21.4*	*1.9*
55-59	35.9	3.9	0.8	0.6	*15.4*	*1.7*
60-64	16.0	2.2	0.5	0.3	*13.6*	*1.9*
65 +	6.2	1.6	0.4	0.3	*18.8*	*4.8*
Marital Status						
Single	357.6	15.2	6.0	4.2	*27.6*	*1.2*
Married	332.0	28.7	12.1	7.5	*26.1*	*2.3*
Separated	36.2	2.7	0.8	0.6	*22.2*	*1.7*
Widowed	14.0	1.4	0.3	0.3	*21.4*	*2.1*
Composition of household[5]						
Member of a couple, no children	106.9	8.6	4.1	2.7	*31.4*	*2.5*
Member of a couple, at least one child under 5	92.9	7.9	4.4	3.0	*38.0*	*3.2*
Member of a couple, all children aged 5 or over	178.6	14.6	5.5	3.2	*21.9*	*1.8*
Lone parent, at least one child under 5	19.5	0.6	*	*	*	*
Lone parent, all children aged 5 or over	47.8	2.9	0.8	0.6	*20.7*	*1.3*
Never married person living with one or both parents	177.3	4.6	1.2	0.7	*15.2*	*0.4*
Not in a family unit	116.9	8.7	3.1	2.2	*25.3*	*1.9*
Highest Education Level Attained						
No formal education/primary	64.4	3.0	0.5	0.3	*10.0*	*0.5*
Lower secondary	101.1	4.6	0.8	0.4	*8.7*	*0.4*
Higher secondary	215.0	11.2	3.8	2.7	*24.1*	*1.3*
Third level	343.9	28.4	13.8	9.1	*32.0*	*2.6*
Not stated	15.3	0.7	0.4	*	*	*

[1] Excludes workers in the Agriculture, forestry and fishing sector

[2] Teleworkers refers to all persons who work from home and **need** a computer with a telecommunications link in order to do so

[3] Consists of persons who work from home usually and sometimes

[4] Computer refers to computers with a telecommunications link only

[5] See Background Notes

* Sample occurrence too small for estimation

Table 4 continued - Profile of female home and teleworkers[1,2] aged 15 and over, QNHS q3 2002

Employment characteristics	Total in employment[1]	Homeworkers[3]	Homeworkers[3] that use a computer[4]	Teleworkers[2]	Teleworkers[2] as a percentage of homeworkers[3]	Teleworkers[2] as a percentage of total in employment[1]
	'000				%	
State	**739.8**	**48.0**	**19.2**	**12.6**	***26.3***	***1.7***
ILO Status						
In employment, full-time	519.4	34.1	14.4	9.6	*28.2*	*1.8*
In employment, part-time	220.4	13.9	4.8	2.9	*20.9*	*1.3*
Employment Status						
Self/Employed (with paid employees)	16.0	5.7	2.5	1.7	*29.8*	*10.6*
Self/Employed (with no paid employees)	24.2	14.0	5.1	3.5	*25.0*	*14.5*
Employee (incl schemes)	693.4	25.3	10.8	7.1	*28.1*	*1.0*
Assisting relatives	6.3	3.0	0.8	0.3	*10.0*	*4.8*
Occupational Group						
1 Managers and Administrators	81.7	12.4	5.5	3.6	*29.0*	*4.4*
2 Professional	85.9	12.4	5.3	3.1	*25.0*	*3.6*
3 Associate Professional and Technical	91.2	6.2	3.4	2.5	*40.3*	*2.7*
4 Clerical and Secretarial	172.3	6.0	3.4	2.3	*38.3*	*1.3*
5 Craft and Related	11.7	0.9	0.3	*	*	*
6 Personal and Protective Service	105.6	5.4	0.3	*	*	*
7 Sales	95.5	2.3	0.8	0.5	*21.7*	*0.5*
8 Plant and Machine Operatives	39.5	0.8	*	*	*	*
9 Other	56.4	1.7	0.3	*	*	*
NACE Economic Sector						
A-B Agriculture, Forestry, Fishing	n/a	n/a	n/a	n/a	*n/a*	*n/a*
C-E Other Production Industries	91.3	4.2	2.6	1.8	*42.9*	*2.0*
F Construction	9.5	1.5	1.0	0.6	*40.0*	*6.3*
G Wholesale and Retail	127.1	5.0	1.5	1.0	*20.0*	*0.8*
H Hotels and Restaurants	70.5	5.4	1.4	0.6	*11.1*	*0.9*
I Transport, Storage, Communication	29.2	2.4	1.0	0.8	*33.3*	*2.7*
J-K Financial and Other Services	116.2	8.6	6.1	4.6	*53.5*	*4.0*
L Public Administration and Defence	42.1	1.3	0.7	0.5	*38.5*	*1.2*
M Education	71.6	8.5	2.5	1.0	*11.8*	*1.4*
N Health	127.4	5.3	1.2	0.8	*15.1*	*0.6*
O Other	54.8	5.7	1.3	0.9	*15.8*	*1.6*
Usual hours worked						
1-9 hours	14.3	1.1	*	*	*	*
10-19	64.7	3.6	1.1	0.7	*19.4*	*1.1*
20-29	141.7	7.5	2.5	1.7	*22.7*	*1.2*
30-34	40.7	2.8	1.1	0.7	*25.0*	*1.7*
35-39	303.3	8.4	4.0	2.8	*33.3*	*0.9*
40-44	102.9	6.1	2.9	2.0	*32.8*	*1.9*
45 & over	30.9	8.0	3.6	2.6	*32.5*	*8.4*
Variable hours[5]	41.1	10.5	3.9	2.1	*20.0*	*5.1*
Average hours per week[6]	*32.7*	*36.9*	*37.3*	*38.1*	*n/a*[7]	*n/a*

[1] Excludes workers in the Agriculture, forestry and fishing sector

[2] Teleworkers refers to all persons who work from home and **need** a computer with a telecommunications link in order to do so

[3] Consists of persons who work from home usually and sometimes

[4] Computer refers to computers with a telecommunications link only

[5] Includes *'not stated'*

[6] Average hours per week refers to all time worked, not just time spent working from home

[7] n/a refers to 'not applicable'

* Sample occurrence too small for estimation

Table 5 All teleworkers[1,2] aged 15 and over, classified by exact location of work at home during reference week, QNHS q3 2002

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Demographic details	Exact location of work from home					
	In own home	In the same grounds or buildings as your home	In different places using home as a base	Did not work at home during reference week	Absent from work during reference week	Total
State	**20.3**	**3.7**	**2.4**	**8.3**	**4.0**	**38.7**
Usually work from home	11.4	2.8	1.5	0.6	1.7	18.0
Sometimes work from home	9.0	0.8	0.9	7.7	2.3	20.8
Region						
Border	1.6	0.3	0.3	0.4	*	2.8
Midlands	0.7	0.4	*	*	*	1.3
West	1.8	0.8	*	0.5	*	3.3
Dublin	7.7	*	0.4	4.9	2.0	15.3
Mid-East	2.8	0.6	*	1.3	0.6	5.4
Mid-West	1.4	0.3	*	*	*	2.0
South-East	1.8	0.6	0.3	0.3	0.3	3.3
South-West	2.7	0.5	0.8	0.9	0.6	5.3
Sex						
Male	13.2	2.8	2.1	5.8	2.2	26.1
Female	7.2	0.8	0.3	2.5	1.8	12.6
Age Group						
15-19	*	*	*	*	*	*
20-24	0.5	0.3	*	*	*	1.1
25-34	5.5	0.6	0.9	2.8	1.0	10.8
35-44	6.7	1.0	0.8	3.2	1.4	13.1
45-54	5.0	1.0	0.5	1.4	1.1	9.1
55-59	1.5	0.4	*	0.4	0.3	2.8
60-64	0.4	*	*	*	*	0.8
65 +	0.6	*	*	*	*	0.8
Marital Status						
Single	5.4	0.9	0.5	2.8	0.9	10.5
Married	13.9	2.7	1.7	5.2	2.9	26.2
Separated	0.7	*	*	*	*	1.4
Widowed	0.4	*	*	*	*	0.6
Composition of household[3]						
Member of a couple, no children	4.8	0.6	0.4	1.8	0.6	8.1
Member of a couple, at least one child under 5	4.4	0.6	0.9	1.8	1.4	9.0
Member of a couple, all children aged 5 or over	6.4	1.7	0.7	2.5	1.2	12.5
Lone parent, at least one child under 5	*	*	*	*	*	*
Lone parent, all children aged 5 or over	0.5	*	*	*	*	0.8
Never married person living with one or both parents	1.2	0.5	*	0.4	*	2.3
Not in a family unit	3.0	0.3	*	1.7	0.7	5.9
Highest Education Level Attained						
No formal education/primary	0.5	*	*	*	*	0.8
Lower secondary	0.9	0.7	0.4	*	0.3	2.4
Higher secondary	3.5	1.2	0.6	1.1	0.7	7.1
Third level	15.1	1.6	1.4	6.9	2.9	27.9
Not stated	0.4	*	*	*	*	0.5

[1] Excludes workers in the Agriculture, forestry and fishing sector

[2] Teleworkers refers to all persons who work from home and **need** a computer with a telecommunications link in order to do so

[3] See Background Notes

* Sample occurrence too small for estimation

Table 5 continued - All teleworkers[1,2] aged 15 and over, classified by exact location of work at home during reference week, QNHS q3 2002

'000

Employment characteristics	Exact location of work from home					
	In own home	In the same grounds or buildings as your home	In different places using home as a base	Did not work at home during reference week	Absent from work during reference week	Total
State	**20.3**	**3.7**	**2.4**	**8.3**	**4.0**	**38.7**
ILO Status						
In employment, full-time	18.2	3.4	2.1	7.7	3.2	34.6
In employment, part-time	2.2	0.3	0.3	0.5	0.8	4.1
Employment Status						
Self/Employed (with paid employees)	3.6	1.6	0.7	1.0	0.6	7.4
Self/Employed (with no paid employees)	8.0	1.2	0.7	1.2	1.1	12.1
Employee (incl schemes)	8.7	0.7	1.0	6.1	2.3	18.8
Assisting relatives	*	*	*	*	*	0.3
Occupational Group						
1 Managers and Administrators	6.8	1.7	0.6	3.2	1.4	13.7
2 Professional	5.6	0.4	0.5	2.2	1.3	10.0
3 Associate Professional and Technical	4.1	0.3	0.3	1.5	0.7	6.9
4 Clerical and Secretarial	1.8	0.4	*	0.5	0.3	2.9
5 Craft and Related	0.8	0.3	0.4	0.4	*	2.0
6 Personal and Protective Service	*	*	*	*	*	0.3
7 Sales	0.8	*	0.4	*	*	1.6
8 Plant and Machine Operatives	*	0.3	*	*	*	0.6
9 Other	0.3	*	*	*	*	0.6
NACE Economic Sector						
A-B Agriculture, Forestry, Fishing	n/a[3]	n/a	n/a	n/a	n/a	n/a
C-E Other Production Industries	2.8	0.8	0.3	1.6	0.5	6.0
F Construction	1.5	0.4	0.5	0.4	*	2.9
G Wholesale and Retail	1.6	0.8	0.3	0.5	0.5	3.7
H Hotels and Restaurants	0.8	0.3	*	*	*	1.2
I Transport, Storage, Communication	1.0	*	0.3	0.4	*	1.9
J-K Financial and Other Services	9.1	0.6	0.7	4.1	1.2	15.6
L Public Administration and Defence	0.6	*	*	*	*	1.0
M Education	1.1	*	*	0.8	0.7	2.7
N Health	0.5	0.3	*	*	0.3	1.2
O Other	1.4	*	*	0.3	0.3	2.4
Usual hours worked						
1-9 hours	*	*	*	*	*	*
10-19	0.5	*	*	*	0.4	1.2
20-29	1.2	0.3	*	*	0.4	2.2
30-34	0.7	*	*	0.4	*	1.4
35-39	2.9	0.5	0.4	2.1	0.6	6.5
40-44	2.8	0.5	0.3	1.8	0.7	6.1
45 & over	6.0	1.3	0.9	2.6	0.9	11.7
Variable hours[4]	6.3	1.0	0.5	1.0	0.8	9.6
Average hours per week[5]	*44.4*	*46.1*	*47.0*	*42.2*	*38.5*	*43.5*

[1] Excludes workers in the Agriculture, forestry and fishing sector

[2] Teleworkers refers to all persons who work from home and **need** a computer with a telecommunications link in order to do so

[3] n/a refers to 'not applicable'

[4] Includes *'not stated'*

[5] Average hours per week refers to all time worked, not just time spent working from home

* Sample occurrence too small for estimation

Background Notes

Reference period

The questions on teleworking were included in the Quarterly National Household Survey (QNHS) in the three months from June to August 2002.

Purpose of survey

While the primary purpose of the QNHS is to collect information on employment and unemployment, it also includes modules on social topics of interest from time to time.

Questionnaire

The questions asked are set out below. These questions were included as part of the STILE (**ST**atistics and **I**ndicators on the **L**abour market in the **E-**Economy) project and were asked to all persons aged 15 and over in employment (ILO).

In the third quarter of 2002, 89,900 persons working in the *Agriculture, forestry and fishing* sector indicated that they work from home. This mainly represents farmers whose place of work is co-located with their home and is not typical of homeworkers in general. Therefore this category has been excluded from the analyses presented in this report.

(if respondent usually or sometimes works from home)
(in your main job) have you spent at least one FULL day in the seven days ending Sunday the xxth working

1 In own home?

2. In the same grounds or buildings as your home?

3. In different places using home as a base?

4. Not worked at home during reference week?

(if respondent usually or sometimes works from home)
Do you use a computer with a telecommunications link to carry out your work at home?

1 Yes

2. No

Note: The telecommunications link must be used to receive or convey data / information in the course of work. It is not sufficient for a link to be available on the computer but not used for work purposes.

(If uses a telephone with communications link for work at home)
Would it be possible for you to work at home (or use home as a base) without using a computer with a telecommunications link?

Stile Project Summary:

With core funding from the European Commission's Information Society Technologies (IST) Programme, the STILE project aims to provide innovative methodologies and content for the **statistical monitoring of the European labour market in the *e*Economy**. This includes the fine-tuning of statistics to match the *e*Economy and the monitoring of ICT-related work patterns. In doing so, STILE aims to contribute to the efficient functioning of the European labour market and to the prevention of social exclusion. It is the explicit project strategy to involve users in a systematic and direct way and to formulate strategies for European convergence in the statistical monitoring of the labour market in the *e*Economy.

Teleworker

While there is no absolute, agreed upon definition of telework, the definition used in this release refers to persons who work from home and could not do so without the use of a computer with a telecommunications link

ILO Economic Status

The ILO Economic Status used in these results distinguishes persons aged 15 and over as in employment if they satisfy the following condition :

In Employment: Persons who worked in the week before the survey for one hour or more for payment or profit, including work on the family farm or business and all persons who had a job but were not at work because of illness, holidays etc. in the week.

Family Composition

The family composition classifications in this release are based on family units. A family unit consists of either:

1. A married couple, or

2. A married couple and one or more of their never-married children, or

3. One parent and one or more of his or her never-married children, or

4. a couple living together (with never-married children, if any) who are not married to each other where it is clear that the couple form a "de facto" family unit.

Households may contain more than one family unit or may contain a family together with other persons not in a family unit as defined above.

However, there are problems identifying some unmarried parents with children as separate family units. This happens particularly where one unmarried parent with one or more children lives with his/her parent(s) and the information recorded in the survey on the relationship to the reference person does not clearly identify the parent/child relationships. In such cases, the unmarried parent and children may not be identified as a distinct family unit. As a result, the number of family units consisting of unmarried parents with children is probably understated to some degree.

Regions

The regional classifications in this release are based on the NUTS (Nomenclature of Territorial Units) classification used by Eurostat. The NUTS3 regions correspond to the eight Regional Authorities established under the Local Government Act, 1991 (Regional Authorities) (Establishment) Order, 1993, which came into operation on 1 January 1994. The NUTS2 regions, which were proposed by Government and agreed by Eurostat in 1999, are groupings of the NUTS3 regions. The composition of the regions is set out below.

Border, Midlands and Western NUTS2 Region

Border	Cavan
	Donegal
	Leitrim
	Louth
	Monaghan
	Sligo
Midland	Laoighis
	Longford
	Offaly
	Westmeath
West	Galway City
	Galway County
	Mayo
	Roscommon

Eastern and Southern NUTS2 Region

Dublin	Dublin
	Dun Laoghaire-Rathdown
	Fingal
	South Dublin
Mid-East	Kildare
	Meath
	Wicklow
Mid-West	Clare
	Limerick City
	Limerick County
	North Tipperary
South-East	Carlow
	Kilkenny
	South Tipperary
	Waterford City
	Waterford County
	Wexford
South-West	Cork City
	Cork County
	Kerry

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