

## Measuring telework, the QNHS experience

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### Introduction:

The Quarterly National Household Survey (QNHS<sup>1</sup>) included a module on teleworking in the third quarter of 2002. This was achieved with collaboration between the STILE<sup>2</sup> project, of which the Central Statistics Office and Cork Teleworking Centre are the Irish partners, and the e-Work Action Forum. Also motivated by participation in the STILE project a number of questions on telework were included in the 2003 Information, Communication and Technology (ICT) survey<sup>3</sup>, which was carried out in the Irish context in June of 2003.

### Main results:

The results of both the 2002 and 2003 surveys show similar patterns. About one in ten persons aged between 16 and 74 in non-agricultural employment work from home to some extent. Around 60,000 of these persons who work from home use a computer with a telecommunications link to do so. Of these, 32,700 persons were classified in 2003 as 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. This represented 2.0% of all persons in non-agricultural employment. This was a slight decrease from the number of teleworkers estimated in the 2002 survey (39,200). See *Background Notes and table below*.

	QNHS q3 2002		ICT survey June 2003	
	'000	%	'000	%
<b>Total in non agricultural employment</b>	1,676.5	100.0	1,676.6	100.0
<b><i>of which work from home</i></b>	149.5	8.9	192.7	11.5
<b><i>of which use a computer with a telecommunications link</i></b>	59.9	3.6	60.9	3.6
<b><i>of which need a computer with a telecommunications link</i></b>	39.2	2.3	32.7	2.0

Both surveys highlighted similar trends.

- Over two thirds of teleworkers are male.
- Teleworkers tend to be aged between 25 and 54.
- Teleworkers are also more likely to reside in the Dublin area and have a third level qualification.
- Teleworkers tend to work for 45 hours or more a week and be engaged in the financial and other services sector in a managerial, administrative, professional or technical role.

Further details are provided in *tables 1 & 2*.

<sup>1</sup> See Background Notes

<sup>2</sup> See Background Notes

<sup>3</sup> See Background Notes

It should be noted that mobile teleworkers who do not work from home were not covered by either set of questions. It should also be noted that persons engaged in the agricultural sector have been excluded from the analysis presented in these tables.

### **Comparability of the findings:**

It should be stressed that the results of the questions asked in the QNHS and in the ICT survey are not strictly comparable for a number of reasons.

- a) Sample size: The questions asked in the q3 2002 QNHS module were asked to the entire QNHS sample (approximately 39,000 households). The questions asked in the 2003 ICT survey were asked to a subset of the QNHS sample (approximately 8,000 households).
- b) Reference period: The questions asked in the q3 2002 module were asked to all relevant respondents during the months of June, July and August. The questions asked in the ICT survey were asked during the month of June only.
- c) Differences in questions: The questions asked in both surveys are outlined in the background notes. The differences in the questions asked gave rise to methodological differences in the identification of persons defined as homeworkers who use a computer with a telecommunications link between the two surveys. In the q3 2002 module these persons were identified by asking a single question outlined below (teleqa) to respondents who had indicated that they were in employment and that they worked from home. In 2003, homeworkers who use a computer with a telecommunications link were identified by asking respondents who indicated that they were in employment and worked from home if they used the internet for work related activities at any time **in the three months** prior to the survey.

### **Measuring telework – the future**

Following on from the success of the above exercises, plans were made to capture data on telework in the future. A repeat of the q3 2002 telework questions has been scheduled to be asked to approximately three fifths of the QNHS sample in the third quarter of 2004. At the same time, the ICT survey for 2004 will be asked during June to approximately another fifth of the QNHS sample. The additional telework questions have been re-included in the ICT survey.

Table 1 - Profile of all persons in employment<sup>1</sup> (ILO), homeworkers<sup>2</sup> and teleworkers<sup>3</sup> aged 16 to 74, QHRS q3 2002

	'000	%				
Demographic details	Total in employment <sup>1</sup>	Homeworkers <sup>2</sup>	Homeworkers <sup>2</sup> that use a computer <sup>4</sup>	Teleworkers <sup>2</sup>	Teleworkers <sup>2</sup> as a percentage of homeworkers <sup>2</sup>	total in employment <sup>1</sup>
<b>State</b>	<b>1,676.5</b>	<b>149.5</b>	<b>59.9</b>	<b>39.2</b>	<b>26.2</b>	<b>2.3</b>
<b>Region</b>						
Border	157.2	15.5	5.6	2.9	18.7	1.8
Midland	89.4	8.0	1.8	1.5	18.8	1.7
West	148.6	14.5	4.5	3.3	22.8	2.2
Dublin	546.1	37.7	21.2	14.8	39.3	2.7
Mid-East	190.3	22.9	9.0	5.5	24.0	2.9
Mid-West	140.5	13.8	3.4	2.1	15.2	1.5
South-East	167.3	17.0	6.8	3.5	20.6	2.1
South-West	237.0	20.1	7.6	5.6	27.9	2.4
<b>Sex</b>						
Male	936.2	101.1	40.5	26.5	26.2	2.8
Female	740.3	48.3	19.4	12.7	26.3	1.7
<b>Age Group</b>						
16-24	323.3	7.1	1.6	1.2	16.9	0.4
25-34	475.8	31.6	15.8	10.8	34.2	2.3
35-44	404.2	46.7	21.3	13.6	29.1	3.4
45-54	308.0	38.2	14.3	9.1	23.8	3.0
55-64	141.5	20.3	5.6	3.6	17.7	2.5
65-74	23.7	5.7	1.3	0.7	12.3	3.0
<b>Marital Status</b>						
Single	751.9	41.4	15.2	10.4	25.1	1.4
Married	840.9	98.9	41.8	26.8	27.1	3.2
Separated	62.3	6.6	2.3	1.5	22.7	2.4
Widowed	21.4	2.6	0.6	0.5	*	*
<b>Composition of household<sup>5</sup></b>						
Couple, no children	233.0	26.7	12.2	8.1	30.3	3.5
Couple, with children	662.5	76.2	32.2	20.8	27.3	3.1
Lone parent	66.8	4.6	1.2	0.8	17.4	1.2
Not in a family unit/not stated	714.2	42.0	14.3	9.4	22.4	1.3
<b>Highest Education Level Attained</b>						
Lower secondary or below	472.0	36.2	6.7	3.3	9.1	0.7
Higher secondary	471.8	31.2	10.6	7.2	23.1	1.5
Post leaving certificate	212.6	17.0	5.4	2.8	16.5	1.3
Third level - non degree	179.8	16.4	8.4	5.8	35.4	3.2
Third level - degree or above	300.9	46.4	27.9	19.5	42.0	6.5
Not stated	39.4	2.3	1.0	0.5	21.7	1.3

<sup>1</sup> Excludes workers in the Agriculture, forestry and fishing sector.

<sup>2</sup> Teleworkers refers to all persons who work from home and need a computer with a telecommunications link in order to do so.

<sup>3</sup> Consists of persons who work from home usually and sometimes.

<sup>4</sup> Computer refers to computers with a telecommunications link only.

<sup>5</sup> See Background Notes.

\* Sample occurrence too small for estimation.

Table 1 continued - Profile of all persons in employment<sup>1</sup> (ILO), homeworkers<sup>2</sup> and teleworkers<sup>2</sup> aged 16 to 74, QHHS q3 2002

				000	%	
Employment characteristics	Total in employment <sup>1</sup>	Homeworkers <sup>2</sup>	Homeworkers <sup>2</sup> that use a computer <sup>3</sup>	Teleworkers <sup>2</sup>	Teleworkers <sup>2</sup> as a percentage of homeworkers <sup>2</sup>	total in employment <sup>1</sup>
<b>State</b>	<b>1,676.5</b>	<b>149.5</b>	<b>59.9</b>	<b>39.2</b>	<b>26.2</b>	<b>2.3</b>
<b>ILO Status</b>						
In employment, full-time	1,399.3	129.7	53.1	35.0	27.0	2.5
In employment, part-time	277.2	19.8	6.8	4.1	20.7	1.5
<b>Employment Status</b>						
Self employed (with paid employees)	90.7	29.5	12.3	7.5	25.4	8.3
Self employed (with no paid employees)	117.4	53.9	18.9	12.3	22.8	10.5
Employee (incl schemes)	1,458.6	62.0	27.8	19.0	30.6	1.3
Assisting relatives	9.8	4.1	0.9	0.3	7.3	3.7
<b>Occupational Group</b>						
Managers and Administrators	220.5	41.2	19.9	13.8	33.5	6.3
Professional	183.7	30.7	16.4	10.1	32.9	5.5
Associate Professional and Technical	155.9	16.2	10.0	7.1	43.8	4.6
Clerical and Secretarial	226.1	7.9	4.2	2.9	36.7	1.3
Craft and Related	233.9	23.2	4.1	2.1	9.1	0.9
Personal and Protective Service	178.1	6.3	0.7	0.3	3.6	0.2
Sales	150.6	7.4	2.4	1.6	21.6	1.1
Plant and Machine Operatives	186.4	9.8	1.2	0.7	7.1	0.4
Other	141.4	4.8	0.9	0.6	12.5	0.4
<b>NACE Economic Sector</b>						
C-E Other Production Industries	315.5	17.9	8.8	6.1	34.1	1.9
F Construction	190.3	22.2	5.9	3.0	13.5	1.6
G Wholesale and Retail	296.4	18.9	5.6	3.6	19.0	1.4
H Hotels and Restaurants	114.4	10.2	2.7	1.2	11.8	1.0
I Transport, Storage, Communication	115.4	11.9	3.0	2.0	16.8	1.7
J - K Financial and Other Services	229.0	28.8	20.7	15.7	54.5	6.9
L Public Administration and Defence	91.4	3.4	1.6	1.1	32.4	1.2
M Education	105.9	13.8	5.4	2.8	20.3	2.6
N Health	159.8	6.2	2.2	1.3	15.9	0.8
O Other	98.4	14.1	4.1	2.3	16.3	2.3
<b>Usual hours worked</b>						
1 - 9 hours	16.7	1.4	0.3	*	*	*
10 - 19 hours	78.4	4.9	1.8	1.2	24.5	1.5
20 - 29 hours	178.8	10.2	3.4	2.2	21.6	1.2
30 - 34 hours	58.6	5.5	2.0	1.4	25.5	2.4
35 - 39 hours	658.2	19.9	9.4	6.5	32.7	1.0
40 - 44 hours	329.9	23.1	9.3	6.2	26.8	1.9
45 hours & over	193.2	40.9	17.7	11.9	29.1	6.2
Variable hours <sup>4</sup>	162.7	43.6	16.0	9.6	22.0	5.9

<sup>1</sup> Excludes workers in the Agriculture, forestry and fishing sector.

<sup>2</sup> Teleworkers refers to all persons who work from home and need a computer with a telecommunications link in order to do so.

<sup>3</sup> Consists of persons who work from home usually and sometimes.

<sup>4</sup> Computer refers to computers with a telecommunications link only.

<sup>5</sup> Includes 'not stated'.

\* Sample occurrence too small for estimation.

Table 2 - Profile of all persons in employment<sup>1</sup> (ILO), homeworkers<sup>2</sup> and teleworkers<sup>2</sup> aged 16 to 74, ICT survey June 2003

		1000			%	
Demographic details	Total in employment <sup>1</sup>	Homeworkers <sup>2</sup>	Homeworkers <sup>2</sup> that use a computer <sup>3</sup>	Teleworkers <sup>2</sup>	Teleworkers <sup>2</sup> as a percentage of homeworkers <sup>2</sup>	total in employment <sup>1</sup>
<b>State</b>	<b>1,676.6</b>	<b>192.7</b>	<b>60.9</b>	<b>32.7</b>	<b>17.0</b>	<b>2.0</b>
<b>Region</b>						
Border	170.2	19.8	4.7	1.2	6.1	0.7
Midland	93.0	5.4	0.8	0.2	3.7	0.2
West	141.7	16.7	3.4	0.9	5.4	0.6
Dublin	543.3	70.9	28.7	15.2	21.4	2.8
Mid-East	194.2	24.2	4.9	4.0	16.5	2.1
Mid-West	141.3	14.8	4.8	2.7	18.2	1.9
South-East	164.4	17.5	5.0	2.6	14.9	1.6
South-West	228.4	23.4	8.6	5.9	25.2	2.6
<b>Sex</b>						
Male	944.7	130.7	41.9	23.3	17.8	2.5
Female	731.8	62.1	19.1	9.4	15.1	1.3
<b>Age Group</b>						
16-24	326.0	10.4	2.6	1.8	17.3	0.6
25-34	488.2	42.2	19.3	10.2	24.2	2.1
35-44	413.3	57.2	19.8	11.9	20.8	2.9
45-54	285.9	50.6	14.7	7.0	13.8	2.4
55-64	140.5	23.9	3.7	1.4	5.9	1.0
65-74	22.7	8.4	0.9	0.3	3.6	1.3
<b>Marital Status</b>						
Single	750.7	52.4	17.8	7.6	14.5	1.0
Married	825.0	125.6	37.9	22.3	17.8	2.7
Separated	74.3	11.4	4.4	2.6	22.8	3.5
Widowed	26.5	3.2	0.8	0.3	9.4	1.1
<b>Composition of household<sup>4</sup></b>						
Couple, no children	285.7	44.0	14.1	7.9	18.0	2.8
Couple, with children	624.6	84.6	25.1	15.1	17.8	2.4
Lone parent	78.8	5.5	1.7	1.1	20.0	1.4
Not in a family unit/not stated	687.5	58.6	20.0	8.6	14.7	1.3
<b>Highest Education Level Attained</b>						
Lower secondary or below	441.3	39.2	2.8	0.5	1.3	0.1
Higher secondary	460.7	39.6	8.7	5.8	14.6	1.3
Post leaving certificate	217.0	19.8	4.8	2.3	11.6	1.1
Third level - non degree	217.8	23.6	10.6	7.1	30.1	3.3
Third level - degree or above	311.7	67.2	32.2	16.4	24.4	5.3
Not stated	28.0	3.2	1.7	0.7	21.9	2.5

<sup>1</sup> Excludes workers in the Agriculture, forestry and fishing sector.

<sup>2</sup> Teleworkers refers to all persons who work from home and need a computer with a telecommunications link in order to do so.

<sup>3</sup> Consists of persons who work from home usually and sometimes.

<sup>4</sup> Computer refers to computers with a telecommunications link only.

<sup>5</sup> See Background Notes.

\* Sample occurrence too small for estimation.

Table 2 continued - Profile of all persons in employment<sup>1</sup> (ILO), homeworkers<sup>2</sup> and teleworkers<sup>2</sup> aged 16 to 74,

	ICT survey June 2003			'000		%
Employment characteristics	Total in employment <sup>1</sup>	Homeworkers <sup>2</sup>	Homeworkers <sup>2</sup> that use a computer <sup>3</sup>	Teleworkers <sup>2</sup>	Teleworkers <sup>2</sup> as a percentage of homeworkers <sup>2</sup>	total in employment <sup>1</sup>
<b>State</b>	<b>1,676.6</b>	<b>192.7</b>	<b>60.9</b>	<b>32.7</b>	<b>17.0</b>	<b>2.0</b>
<b>ILO Status</b>						
In employment, full-time	1,386.7	169.2	56.5	30.5	18.0	2.2
In employment, part-time	289.8	23.6	4.5	2.3	9.7	0.8
<b>Employment Status</b>						
Self employed (with paid employees)	75.8	29.1	10.4	7.1	24.4	9.4
Self employed (with no paid employees)	118.8	67.0	15.9	7.6	11.3	6.4
Employee (incl schemes)	1,474.7	93.4	34.2	18.1	19.4	1.2
Assisting relatives	7.2	3.3	0.4	*	*	*
<b>Occupational Group</b>						
Managers and Administrators	199.8	45.0	19.3	11.7	26.0	5.9
Professional	215.3	42.3	17.4	8.4	19.9	3.9
Associate Professional and Technical	177.0	26.5	11.0	5.8	21.9	3.3
Clerical and Secretarial	220.6	12.1	2.8	0.6	5.0	0.3
Craft and Related	238.1	21.8	2.9	1.2	5.5	0.5
Personal and Protective Service	196.8	15.3	2.3	1.2	7.8	0.6
Sales	132.7	9.7	3.1	2.3	23.7	1.7
Plant and Machine Operatives	156.4	14.7	1.7	1.4	9.5	0.9
Other	139.9	5.3	0.5	0.3	*	*
<b>NACE Economic Sector</b>						
C-E Other Production Industries	311.6	24.3	8.8	7.1	29.2	2.3
F Construction	179.5	18.9	4.2	0.4	2.1	0.2
G Wholesale and Retail	246.1	23.8	7.0	4.8	20.2	2.0
H Hotels and Restaurants	104.6	9.5	1.1	0.3	3.2	0.3
I Transport, Storage, Communication	115.6	15.6	2.4	1.4	9.0	1.2
J - K Financial and Other Services	226.8	39.6	16.4	9.0	22.7	4.0
L Public Administration and Defence	97.3	4.5	0.6	0.3	6.7	0.3
M Education	127.9	22.3	9.1	4.7	21.1	3.7
N Health	173.9	13.1	4.2	1.3	9.9	0.7
O Other	93.2	21.1	7.1	3.5	16.6	3.8
<b>Usual hours worked</b>						
1 - 9 hours	15.8	1.5	*	*	*	*
10 - 19 hours	79.5	5.7	1.8	1.1	19.3	1.4
20 - 29 hours	166.2	9.7	2.0	0.7	7.2	0.4
30 - 34 hours	59.7	4.7	1.8	1.2	25.5	2.0
35 - 39 hours	663.0	33.6	10.2	4.6	13.7	0.7
40 - 44 hours	335.0	31.1	11.2	7.2	23.2	2.1
45 hours & over	167.9	50.4	20.4	12.3	24.4	7.3
Variable hours <sup>4</sup>	190.4	56.0	13.5	5.6	10.0	2.9

<sup>1</sup> Excludes workers in the Agriculture, forestry and fishing sector.

<sup>2</sup> Teleworkers refers to all persons who work from home and need a computer with a telecommunications link in order to do so.

<sup>3</sup> Consists of persons who work from home usually and sometimes.

<sup>4</sup> Computer refers to computers with a telecommunications link only.

\* Includes 'not stated'

\* Sample occurrence too small for estimation.

## Background Notes

### The Quarterly National Household Survey:

The primary purpose of the QNHS is the production of quarterly labour force estimates, however modules of special social topics are typically also included on a quarterly basis. The QNHS replaced the annual April Labour Force Survey and meets the requirements of Council Regulation (EC) No. 577/98. Information is collected continuously throughout the year and approximately 3,000 households are surveyed each week to give a total sample of 39,000 households in each quarter. The survey is carried out on laptop computers using computer-assisted personal interview (CAPI) software.

### The STILE project:

The STILE project (**S**Tatistics and **I**ndicators on the **L**abour market in the **E**-Economy) is a three-year project which was launched in November 2001 and funded as an accompanying measure under the Information Society Technologies (IST) Programme of the European Commission's Fifth Framework. STILE was actually approved under the Cross-Programme Action 8 (V.1.8) 'Statistical tools, methods, indicators and applications for the Information Society' and its focus is on "the definition, measurement and exploitation of new socio-economic statistical indicators for the Information Society".

### The Information, Communication and Technology survey:

The purpose of the 2003 ICT survey was to provide benchmark indicators for the e-Europe 2005 Action Plan which was adopted by the Seville European Council in 2002. In the Irish context the ICT questions were attached to the QNHS in June 2003. Work-related activities on the internet as referred to is defined as having done any of the following activities at home/away from employers premises in the previous 3 months:

1. Finding information relating to your work or business
2. Sending work to work place
3. Accessing files on the employer's server
4. Communication (exchanging and accessing e-mails)
5. Other work-related activities

Note that the employment figures presented calculated using the ICT survey are indicative only. The official employment figures for the third quarter of 2003 are presented in the main QNHS release for that period and are available on the website at [www.cso.ie](http://www.cso.ie).

### Questions asked:

As there is no general agreed definition for telework, the questions asked in both the q3 2002 QNHS module and in the June 2003 ICT survey were based on questions which have been asked in the British Labour Force Survey since 1997.

#### **QNHS Q3 2002 telework questions –**

The questions on telework were inserted after the existing QNHS question on working from home.

**HOMEWORK:** Do you work from home?

1. Usually
2. Sometimes
3. Never

*(If respondent usually or sometimes works from home)*

**HOMED:** (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)*

**TELEQA:** 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 )*

**TELEQB:** 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

### **June 2003 ICT telework questions –**

The questions on telework were inserted following questions on use of the internet for work related purposes

*(if respondent is in employment and used the internet for work related purposes in the previous three months)*

**TELEQD:** Would it be possible for you to work at home/away from your employers premises without using the Internet?

- 1- Yes
- 2- No

*(if respondent is in employment and used the internet for work related purposes in the previous three months)*

**TELEQE :** 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

**Definitions:**

**Teleworker:** While there is no absolute, agreed upon definition of telework, the definition presented in these tables 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 these results 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 these results 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.

<b>Border, Midlands and Western NUTS2 Region</b>		<b>Eastern and Southern NUTS2 Region</b>	
<b>Border</b>	Cavan Donegal Leitrim Louth Monaghan Sligo	<b>Dublin</b>	Dublin Dún Laoghaire- Rathdown Fingal South Dublin
<b>Midland</b>	Laoighis Longford Offaly Westmeath	<b>Mid-East</b>	Kildare Meath Wicklow
<b>West</b>	Galway City Galway County Mayo Roscommon	<b>Mid-West</b>	Clare Limerick City Limerick County North Tipperary
		<b>South-East</b>	Carlow Kilkenny South Tipperary Waterford City Waterford County Wexford
		<b>South-West</b>	Cork City Cork County Kerry