Working Conditions in Ireland Project

Employment in the

Irish Information and Communications Technology sector:

A preliminary background report

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The Working Conditions in Ireland Project investigates how jobs have been changing in Ireland from the boom through the crisis and into a possible recovery. Central to the project is a study of employment in four sectors: construction, financial services, hospitality and ICT/software. A background report for each sector summarises publicly available material and gives a preliminary indication of the questions that should be tackled in the fieldwork. The reports were originally intended as internal briefing papers. They are made publicly available because they may be of some use to the research community. Comments and corrections are most welcome and should be sent to the authors (abobek@tasc.ie; jwickham@tasc.ie).

Employment in the Irish information and communications technology (ICT) sector

Introduction

This report summarises publicly available material on jobs, employment and working conditions in the Irish information and communications (ICT) sector. It provides an overview of the structure of the sector (Section 1) and of employment (Section 2). Section 3 describes employment regulations and collective representation. Section 4 identifies the key elements of working conditions in the sector: wages and working hours, non-standard employment, training, job security and job autonomy. The final Section 5 highlights issues for the fieldwork research with some reference to international research.

Employment in the Irish ICT sector: general characteristics

1. Economic structure of the sector

Despite the recession the ICT sector (including internet companies), alongside high-tech manufacturing, has been growing in most years since the crash. Indeed, this success has made Ireland even more dependent than before on foreign direct investment (FDI). The state's commitment to this particular growth strategy rests on a broad political consensus which has now lasted for more than half a century and has not been shaken by the recent exposures of the tax strategies of international firms (Wickham 2015; O Riain 2014).

There have recently been some concerns about MNCs shifting work off-shore, especially after the relocation of Dell Limerick factory to Poland in 2009 (EEN, 2010). However, while companies have reduced or curtailed their manufacturing activities in Ireland, the same companies have also often expanded their service and even research activities here. The last decade has seen the dramatic emergence of Ireland as a location for internet firms. Companies such as Google, Twitter or Yahoo are expanding their presence in Dublin and are currently one of the main drivers for office spaces in the so-called 'Silicon Docks' in the former dockland area (Knight Frank, 2014; Newenham, 2015). Just as earlier periods of FDI in ICT also saw the emergence of parallel indigenous companies, there has also been a new wave of Irish start-ups in this sector.

The ICT sector was traditionally characterised by a rather rigid division between multinational and Irish companies. To some extent the former were concentrated in hardware manufacturing (e.g. Intel or Dell) and Irish companies were involved in software. Such division is no longer necessarily the case, especially in the light of new investments made by such companies as Microsoft or PayPal (IDA, 2014). Key subsectors currently present in Ireland include: Computer Software, Hardware and Systems, Support Services, Digital Content, Microelectronics Design, and Cloud Computing (EEN, 2010). There are 5,400 ICT enterprises in Ireland of which 233 are foreign owned (ibid.). As the Irish-owned companies tend to be smaller and many of the MCNs operate on a larger scale, employment in indigenous firms almost matches employment in the foreign-owned companies (Barry, 2008).

Skills shortage seems to be one of the most significant factors limiting the growth of this industry (Fitzgerald et al., 2014). This seems to be especially the case of the smaller, Irish-owned companies: despite the growing number of graduates in this sector, it is being argued that individuals are often more attracted by the MCNs who are able to offer better conditions and career opportunities (ibid).

On a more general level, ICT companies operating in Ireland can be divided into three groups: Hardware (e.g. Intel), software (e.g. Oracle) and Internet (e.g. Google). This sector also has significant overlaps with other industries, most notably finance. It needs to be emphasised that defining this sector is often difficult as individuals with IT occupations can often be employed in other sectors. Firstly, most of the financial firms, including traditional banking, rely massively on new technologies and thus will have their own IT departments. Secondly, many ICT companies from the Greater Dublin Area are involved in developing software for financial organizations and thus also providing support for such products. Finally, larger organisations in other sectors would also be expected to have their own IT support teams. The sectoral location of work can also change without the actual work changing, which can happen when an employer decides to outsource the IT support to another company. On the other hand, a large proportion of those who are classified as working in ICT do not have (or are not required to have) industry-specific technical skills. As will be further discussed below, there is a relatively high volume of 'back office' work conducted in Ireland, including, for example, customer service, call centres and translation services. Nevertheless, this report will focus on work in the ICT sector, not the IT occupations and therefore only the sector-related issues will be discussed in the following sections.

2. Workforce

As previously noted, despite the recession employment in the Irish 'knowledge economy' has been growing. This is a result of expanding multinationals such as Intel as well as support for indigenous SMEs and start-ups. The following table illustrates changes in employment in Information and Communication sector in Ireland:

Table 1: Employment the Information and Communication, 2006-2015 (000s)

2006Q1	2007Q1	2008Q1	2009Q1	2010Q1	2011Q1	2012Q1	2013Q1	2014Q1	2015Q1
70.2	66.8	72.2	73.6	76.1	72.6	78.5	77.4	80.7	81.8

(Source: CSO, QHNS, 2015)

Contrary to the other sectors, employment in 'Computer and related activities' experienced 14.5 per cent growth between 2006 and 2011 (36,656 in 2006; 41,978 in 2011) (CSO, 2012b: 9). There was a rise in the employment of computer programmers: the number has risen from 18,011 in 2006 to 23,246 in 2011 (ibid: 13).

This sector is gender-unbalanced with only 29.8 per cent female employed in the Information and Communication sector (CSO, 2013). While there is no statistical evidence of further gender imbalance in specific subsectors, we might anticipate that males are significantly over-represented in high-tech manufacturing. This would be especially the case of occupations involving heavy production and testing equipment. Furthermore, such sub-sectors as software and programming are also often male-dominated environments. It is argued that occupations within these subsectors have been 'masculinised'. Studies from other countries have shown that male-dominated industries tend to develop an emphasis on norms and values generally not supportive of women (Watts, 2009). These include high levels of competitiveness, a long working hours culture and preference for technical rather than soft skills. Furthermore, the Irish software sector could also be characterised by low support levels for women with families, as the career paths are not compatible with motherhood (Wickham et al, 2008). However, in the light of evidence from other countries (Guerrier et al., 2009), we might expect attempts to change this situation as gender balance is often perceived as better for team dynamics and performance. It has also been claimed that the gender gap is now narrowing and some larger employers actively support bringing more women into the industry (Burke, 2015)

Not surprisingly, this sector can be characterised by a relatively young workforce. The following table provide a detailed breakdown of the age structure within this sector:

Table 2: Age structure, Information and Communications Sector, (000s)

	Information and Communication		**Total at work**	
15 - 19 years	185	0.27%	14,261	0.79%
20 - 24 years	3,548	5.18%	116,025	6.42%
25 - 34 years	**25,830**	**37.69%**	**530,104**	**29.33%**
35 - 44 years	**22,290**	**32.53%**	**484,636**	**26.81%**
45 - 54 years	11,970	17.47%	390,373	21.60%
55 - 64 years	4,224	6.16%	226,643	12.54%
65 years and over	484	0.71%	45,318	2.51%

(Source: CSO, 2012)

As illustrated by this table, those within the age group between 25 and 44 are highly overrepresented in this sector. The underrepresentation of those between 20 and 24 years of age can be explained by qualifications required for large proportion of jobs within the ICT sector: we can assume that many of the younger people represent future workforce and are currently still in full time education.

In 2011, 50 per cent of those employed in the ICT sector worked in computer programming, consultancy and related activities. 20 per cent were involved in telecommunications (FAS, 2012). The largest proportion were employed at professional level, followed by associate professionals and technical. While numbers of those employed at these two levels has been rising, the proportion of those working as administrators and skilled trades has been decreasing. The following table illustrates the minor changes in occupational structure between 2009 and 2015:

Table 3: Occupational Structure in the ICT Sector (2009-2015)

	2009		2015	
1. Managers, directors and senior officials	5.8	7.88%	6.8	8.31%
2. Professional	**25.4**	**34.51%**	**30.3**	**37.04%**
3. Associate professional and technical	**17.0**	**23.10%**	**22.2**	**27.14%**
4. Administrative and secretarial	6.8	9.24%	5.6	6.85%
5. Skilled trades	10.0	13.59%	6.8	8.31%
6. Caring, leisure and other services	*		*	
7. Sales and customer service	5.6	7.61%	5.4	6.60%
8. Process, plant and machine operatives	*		*	
9. Elementary	*		*	
Other/Not stated	*		*	
Total	**73.6**		**81.8**	

(Source: CSO, 2015)

There are also some skill shortages within this sector. The high-tech sub-sector has been experiencing a 49 per cent gap in technical skills and a 47 per cent gap in 'other engineering' skills (EEN, 2010). Furthermore, there are shortages in IT project management (ibid). With high demands for skills, this sector continues to recruit highly-skilled overseas workers. Ireland in fact has a long tradition of importing skills to their ICT sector, which can be further explained by specific connections between education, skills and the economy (Wickham and Boucher, 2004; Wickham and Bruff, 2008). Currently, with increasing demands, there is an introduction of more streamlined processing of employment permits as well as an increase in work permits available for hi-tech companies (IDA, 2014). Overseas recruitment also involves ICT professionals with foreign language skills (Enterprise Ireland). 20.5 per cent of those working in the Information and Communication sector were non-Irish nationals in 2011. 10 percent of them were EU15 nationals (including the UK) (CSO, 2012a). Interestingly, half of those who were non-Irish were females. One of the explanations for this could be that women tend to work in non-technical occupations within the sector (for example translations or customer support) which are usually lower-paid and thus not attractive for the Irish workers. This issue would require further exploration as it might be the

case that females of migrant origin are 'pushed' into worse working conditions, in comparison to other working in this sector.

3. Employment regulations and collective representation

Due to the important presence of MNC subsidiaries in the ICT sector in Ireland, this industry tends to operate on a non-union basis (Gunnigle et al., 2007). According to available statistics, trade union density amongst those working in Information and Communication was 13 per cent in 2008 (CSO, 2010). The percentage of union membership for those working in high-tech manufacturing is not available as they are aggregated under the 'Industry' category. However, given that a large proportion of such workers are employed by the American MNCs, it is anticipated that union density would also be relatively low. While this may not be of an issue for those working in high-skilled, high-paid jobs, those employed at the lower level, for example in customer service and support, can be affected by the lack of unions' presence. This would require further exploration.

With low levels of union density, professional associations might be of importance for this sector. Furthermore, there might be some changes in terms of the unions' involvement in the ICT as there is new legislation likely to be put in place before the end of this year. This legislation will allow collective bargaining even in a situation where the employer is not willing to be involved with the unions.

4. Working conditions – 'objective factors'

- **Wages and working hours:**

As expected, those working in the ICT are relatively well paid. The following table illustrates the breakdown of average wages and working hours in the Irish Information and Communication sector:

Table 4: Information and Communication Sector wages and working hours (2010)

	All employees	Managers, professionals and associated professionals	Clerical, sales and service employees	Production, transport, craft and other manual workers
Average hourly rate	€25.87	€31.44	€18.94	€20.56
Average weekly hours of work	35.4	37.3	33.7	32.4
Average weekly wage	**€916.94**	**€1,172.5**	**€638.53**	**€667.17**

(Source: O'Farrell, 2013 and 2014)

As the Irish ICT sector was not significantly affected by the recent recession, working hours also have not decreased over the last few years (O'Farrell, 2014:15). We expect rather the opposite: there are evidences that those employed in software industry often work longer hours but do not receive overtime payment. As this is a 'silent expectation' in many companies this sector, it could be an issue for some employees and thus will affect the quality of their work.

Women working in this sector earn significantly less than men. Interestingly, while similar discrepancies in the workforce as a whole are the result of women working less hours per week – it is somewhat different for those working in ICT. In this sector women tend to work similar hours as males (only two hours less on average compared to 6 hours in the total workforce). It is in fact the hourly rate that is significantly lower: men earn €26.17 on average per hour while the same rate for women is €19.44 (CSO, 2012). This is probably the result of women being segregated into lower paid and often lower-skilled positions, often in such areas as sales and customer service. As in the construction sector, women's employment conditions require more exploration.

- **Non-standard employment**

While the existing literature does not specifically discuss non-standard forms of employment in the Irish ICT sector, there is some evidence on the different various types of work utilised in this industry. These include subcontracting, consultancy work, use of flexi-time and telework, and shift work. Most of them can be found in both software and high-tech manufacturing. Subcontracting is significant in the latter, where the main MNCs are involved in the production of particular goods (i.e. chips) but are not responsible for production and/or maintenance of equipment required for the production. In such a case this equipment is

supplied by another MNC who also provides their employees on site. This supply chain creates a quite complicated employment situation for the employees who work in Ireland, but also often have their contracts with companies located outside of the country. Consultancy, on the other hand, is expected to have a significant presence in the software industry, where individuals rather than companies provide their services on a subcontracting basis. It could be argued that this form of employment is chosen by the individual who gains more flexibility and opportunities for 'boundary-less horizontal' rather traditional 'organizational' career paths (Kunda et al, 2002; Baldry et al, 2007; Bergvall-Kareborn and Howcroft, 2013). Nevertheless, given the changing nature of labour market, this form of employment would require more scrutiny as employers may try to 'force' individuals to work as consultants rather than regular employees with secure contracts. It should also be noted that the number of self-employed individuals working in the Irish ICT sector has risen from 12.5 per cent in 2009 to 15.2 per cent in 2015 (CSO, 2015), which reflects the trends found in other countries (Smeanton, 2003).

Furthermore flexi-time and telework are often associated with this particular sector. These forms of work are normally perceived as attractive for a potential employee, but this is not necessarily always the case. Flexi-time, for example, can be utilised by an employer in order to put more pressure on the working time. Working from home, on the other hand, while being convenient for the individual, may lead to social isolation and/or blurring boundaries between work and home. Finally, shift work can be found in high-tech manufacturing where the production is conducted on the 24/7 basis. What requires further exploration is the question to what extent such shift are chosen by employees and whether or not it may suit some who are either willing to work nights for higher pay, or prefer shift work for an alternative work-life balance.

- **Training**

The Irish ICT sector is characterised by a highly educated workforce. The following table provides a detailed breakdown of the levels of education in comparison to the general workforce:

Table 5: Education Levels, Information Technology and Communication (000s)

	Information and Communication		Total in labour force	
Primary (incl. no formal education)	592	0.86%	153,568	6.88%
Lower secondary	2,843	4.15%	317,691	14.23%
Upper secondary	15,723	22.94%	777,852	34.85%
Third level non-degree	4,710	6.87%	110,180	4.94%
Third level degree or higher	**39,902**	**58.22%**	**635,022**	**28.45%**
Not stated	550	0.80%	74,797	3.35%
Total whose full-time education has not ceased	4,211	6.14%	163,093	7.31%

Source: CSO (StatBank)

This over-representation of those with third level education in this particular sector can be explained by the high-skilled nature of most of the jobs involved (Adams and Demaiter, 2008). Age is the additional factor: as previously noted, the ICT sector employs young people who are generally better educated than the older segments of the Irish population.

In addition to the university qualifications often necessary to obtain a job in ICT and high-tech manufacturing, there are also different forms of informal training required for further career advancement. Firstly companies themselves organise training courses for their employees which are often related to the rapid changes in the technology at the core of this sector. Secondly, promotion is often based on obtaining formal certificates provided by such MNCs as Microsoft or CISCO. Furthermore there is also evidence of certain jobs being linked to training abroad, mainly through gaining experience in other workplaces which are part of the MNC. While travel is often perceived as a 'privilege' of high-skilled workers, the actual situation can be much more complicated. While young graduates may be attracted by the prospect of frequent travel abroad, those at different stages of life can find it difficult, especially when they start families on their own. It could also be argued that such 'life on the road' may become less attractive after a certain period of time. Finally, we might expect that there is a different perception of those work-related journeys depending on their forced or more voluntary nature (Kesselring and Vogl, 2010).

- **Job security** and **job autonomy**[1]**:**

Given the nature of the industry, we could assume that there is a certain degree of job autonomy. Firstly, as discussed above, some employers allow working time flexibility and the possibility of working from home. Secondly, as in most of the knowledge economy related industries, 'clock was replaced by the task' (O'Carroll, 2005). In other words, there are tasks to be completed by a certain deadline, but the actual sequence of work is not necessarily defined by a nine-to-five framework (even though most of the employees are still expected to operate within the conventional office hours). Furthermore, in some more 'creative' branches of the ICT there is inevitably a degree of autonomy in relation to the task. We expect such scenarios in small start-up software companies as well as, to a certain extent, in MNCs designed around a 'fun' element, e.g. Google.

With the important presence of large MNCs however, there is also a question of imposing 'corporate culture' and 'loyalty regime' on the employees. While some of the companies are definitely introducing such policies in the Irish workplace, it is not yet clear to what extent this is internalised by the individuals involved. In addition, while some of the larger, foreign-owned enterprises still advertise themselves within the discourse of 'career advancement' and 'professional opportunities', many have now moved on to slogans revolving around 'best place to work for', 'fun', and 'creative atmosphere'. These no longer apply only to the MNCs, but are also adopted by the Irish companies within this sector. Most of the websites have a section called 'life at [name of the company] instead of 'work at…', where they describe how, for example, 'our company actively encourage employees to have fun'. Employers also offer 'social clubs' to their workers and regularly organise different social and sport events. In addition, it seems to be the case that, while such practices were first started by MNCs such as Google or Facebook, they are now also implemented by many Irish-owned companies. A large proportion of them would be involved in the 'Great Place to Work' campaign, which includes social activities offered by employers. While such workplace may seem to be attractive, especially for younger workers, there is an issue of control and blurring boundaries between work and non-work. Some of the employees may also find such 'organized fun' as disruptive to their day-to-day work routine. Finally, emphasising the need for 'attachment' can be perceived as form of control, in which the

[1] Employees' Experience report from the National Workplace Survey provides this information for other sector but in this case Information and Communication sector is not included.

balance is shifted from the commitment to the professional knowledge towards the commitment to the company (e.g. Casey 1999). All the above require more exploration.

The Irish ICT sector: Good jobs, bad jobs and changing working conditions

The continuous growth of the ICT sector in Ireland, combined with the professional nature of work and the skills required, enables this industry to be characterised by rather favourable working conditions, especially on the two levels of pay and security. Most of the workers can expect decent wages, even at an entry level (Morgan McKinley, 2015). Jobs in ICT are also relatively secure as in 2014 almost 94 per cent employees had a permanent contract. Our preliminary findings suggest, however, that some of the positions in this industry are not as lucrative as the others and could be classified as 'not-so-good' jobs. Example of such would include call centre employees and service desk workers.

Call centre workers in ICT, like those in other sectors, tend to be paid relatively low salaries. The level of technical skills required for these jobs is usually not as high as in, for example, the software sub-sector of this industry. These can also be described as back-office jobs with a high volume of routine work and mundane tasks. What has been also pointed out by studies in other countries is that in ICT call centre employees are expected to solve problems virtually without seeing them; problem-solving work is also often done simultaneously with talking to the customer (D'Cruz and Noronha, 2007:57). In addition, similarly to other customer service work, dealing with the clients can sometimes lead to physical exhaustion. There is some shift work also present in this sub-sector, as clients are not necessarily placed in Ireland (or in the same time zone). What is also important is that, similarly to call centres in other sectors, those working in ICT support are subject to ongoing surveillance as calls are monitored and often recorded. Finally, we expect that career paths in call centres are rather limited, unless such jobs are perceived as a 'stepping stone' rather than a part of long-term organizational career plan.

Service desk workers also seemed to receive relatively low rates (considering their skills). Their salaries will often not be reflected in official statistics, as they are usually employed outside of the sector, for example in finance or education. Similarly to the call centre jobs, their work involves high level of customer service, both on the phone and face-to-face. Due to the nature of the job, their skill set is also expected to be quite wide as these professionals would frequently solve a variety of hardware and software issues. In addition, there are elements of manual work which can be described as 'crawling under other peoples'

desks'. There is also evidence of situations where such employees are also given additional projects without additional financial rewards. Finally, those employed in support desk departments in the Irish banking sector are no longer secure in their positions as IT support is becoming more frequently outsourced to other companies.

In addition, despite the good pay and security, other 'good' jobs within this sector can also have elements of unfavourable working conditions. Long hours (often not paid overtime) and travel are often required from those working across all levels. While this may suit some of the younger workers, we expect it would not be welcomed by employees who have families of their own. Furthermore, international literature suggests that the growing popularity of so-called 'job hopping' and moving between employers may lead to discontinuous employment, the erosion of security, market dependency and self-exploitation (Bergvall-Kaberon and Howcroft, 2013). This is also often coupled with 'projectification' of work (Kennedy, 2010), in which case workers need to constantly update their skills in order to be attractive for potential employers. All of the above may subsequently result in burn-outs and loss of job satisfaction. Therefore, in addition to 'not-so-good' jobs, the above factors of 'good jobs' will also require further exploration throughout the fieldwork.

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