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POLICY PAPER

Telework Isn't Working: A Policy Review

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Abstract: Towards the latter end of the last decade there was growing recognition that Ireland's transport and mobility patterns were unsustainable in the context of their economic, social and environmental impacts and consequences. The State had been spatially transformed during the "Celtic Tiger" era with (sub)urban sprawl, fuelled by Ireland's chronic car dependency, a feature of everyday life. Commuting to and from work increased noise and air pollution, traffic congestion and contributed considerably to carbon emissions augmenting globally negative anthropogenic climate change. In an apparent shift in transport policy, the government published *Smarter Travel* in 2007 where more environmentally sustainable modes of transport, such as walking, cycling and public transport, were encouraged to combat the country's unusually high levels of car dependency. An essential feature of the *Smarter Travel* initiative was telework (e-Working). Working from home has the potential to reduce, or eliminate, the daily commute to and from work and was regarded by policymakers as a crucial element in reducing Ireland's unsustainable patterns of mobility whilst continuing the pursuit of unhindered economic growth. However, telework remains marginalised in business terms and lacks the regulation and guidelines essential to legitimise it for employers and employees that wish to work from home. A neo-liberal approach to the practice adopted by policymakers is evident and in the absence of legislation employers retain sole discretionary decision making powers over telework schemes and home working conditions. Indeed, many key decision makers fail to appreciate or recognise the potential benefits that may accrue from telework, which is leading to ad hoc and disorganised arrangements to the detriment of this method of working. Telework appears destined to fail even before it has been given a chance to shine as an economic, social and environmental tool of sustainability.

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I INTRODUCTION

In Ireland, people's everyday mobility – such as the daily commute to and from work – largely depends on access to a private car (Central Statistics Office, 2012). This has led to the country being classified as one of the most car-dependent countries in Europe (Wickham and Lohan, 1999; Commins and Nolan, 2010; Rau and Vega, 2012). The disadvantages of car-dependency for economies, societies and the environment has received attention in the past (Vigar, 2002; Wickham, 2006; Cahill, 2010) and transport-related social exclusion remains challenging (Kenyon, Rafferty and Lyons, 2003; Rau and Hennessy, 2009). The negative environmental impacts of excessive Greenhouse Gas (GHG) emissions, air and noise pollution and (sub)urban sprawl have increased considerably over the past number of decades to a point where current mobility patterns are unsustainable and to remain on this trajectory would mean:

...congestion will increase, making it more difficult and stressful to make even the most basic journey. For those who have to commute, it will mean longer and longer days, less time with their families, less leisure time and less involvement in their local communities. (Irish Department of Transport (DoT), 2009, p. 7).

The dominant policy paradigm in much of transport road planning is “predict-and-provide” (*cf.* Vigar, 2002) and this has largely remained unchallenged until the 1990s. In an apparent shift in policy direction, a new approach acknowledged that increased traffic congestion had serious health and environment consequences for present and future generations in Ireland and “current transport trends [were] unsustainable” (Irish DoT, 2009, p. 7). Incorporating extensive public consultation, the *Smarter Travel* document was a significant change in policy from the previous position of large-scale road construction, emphasising the importance of reducing private car usage in favour of increased modal share for sustainable means of transport such as walking, cycling and public transport. A particular focus on encouraging telework (e-Working)¹ was part of an action plan to reduce travel in the form of the daily commute to and from work. The document advocated that:

... if even 10 per cent of the working population of 2.1 million were to work from home for 1 day a week, it would result in a reduction of around 10 million car journeys to work per annum (Irish DoT, 2009, p. 35).

¹ The terms “telework” and “e-Work” are often used interchangeably in much of the Irish literature (Enterprise Ireland, 2001). For the purpose of clarity, the practice will henceforth be known as telework.

In many developed societies over the last number of decades a requirement for a new type of work has evolved, one that depends more on intellectual processing of information than on the physical labour of the past. Traditional manufacturing and labour intensive work has shifted to developing countries such as India and Bangladesh (OECD, 2013). Knowledge workers (*cf.* Kling and Scacchi, 1982; Drucker, 2000) primarily do not require industrial equipment or raw materials to carry out their tasks, but they do need access to the continuous flow of data to create information. Given access to data and the necessary technology infrastructure and competencies, these workers are not necessarily attached to one physical worksite or location in accomplishing their tasks.

Drawing on research undertaken for the ConsEnSus Project (consensus.ie), this paper seeks to explore the policy decisions (or lack of) with regards to telework in Ireland to develop a clearer understanding if and why this innovative way of working has developed (or not) since the turn of the century. The growth of ubiquitous computing and the ability to access networks more easily makes working at a central location less necessary, or so it seems. While there appears to be some obvious benefits in term of the economic, social and environmental sustainability of this method of working, to what extent have both the public and private sectors in Ireland embraced telework and what types of initiatives and direction is forthcoming from central government. Indeed, how do we compare with our European partners in this regard and what does the future hold for working from home? This paper endeavours to re-enlighten and re-energise the discussions on telework in Ireland for the benefit of policy designers, organisations and practitioners and poses the questions; can (or indeed should we) develop the practice of working from home and what are the impacts and consequences of continuing on the current policy path?

II DEFINING (TELE)WORK: A NEW WAY OF WORKING?

Telework occurs when Information Communication Technologies (ICT) enables work to be accomplished at a geographical distance from the location where the work results are needed, or would have traditionally been carried out in the past. Typically, telework takes place in the home. The practice has been heralded as a cure for a variety of organisational and social problems. It has been suggested as a strategy to help organisations reduce their infrastructural and utilities costs (Egan, 1997; Van Horn and Storen, 2000; Lister and Harnish, 2009), as a way of responding to employees' need for an enhanced work-life balance (Shamir and Salomon, 1985; Hilbrecht, Shaw,

Johnson and Andrey, 2008), or as an instrument for greater inclusion of individuals with various disabilities who have been previously excluded from the workplace (Hesse, 1995; Anderson, Bricout and West, 2001). Telework has also been proposed as a means of reducing air and noise pollution and traffic congestion in urban areas (Irwin, 2004; Banister, Newson and Ledbury, 2007; Dwelly and Lake, 2008) and efforts to oppose climate change ought accelerate this trend towards flexible distributed organisations (WWF, 2009). However, the use of communication technologies do not in themselves invariably lead to travel suppression (Mokhtarian, 1990, 1991, 2003) and there are additional environmental consequences from the need to change or update technological equipment, infrastructure, living space and other such lifestyle adjustments (Arnfolk, 2002). In the absence of more robust research, the environmental credentials of telework remains somewhat unclear (Hynes, 2013a).

Early growth projections for telework suggested that between 25 and 65 per cent of jobs are at least partly telecommutable (Weijers, Meijer and Spoelman, 1992; Gareis and Kordey, 2000; Pratt, 2000). Some researchers maintain that telework and other forms of distributed collaboration are on the increase (Andriessen and Vartiainen, 2006; Brodt and Verburg, 2007). Others argue that telework has stagnated and remains a negligible phenomenon (Brynin, 2004; Bergum, 2006). Nevertheless, it is clear that telework has failed to live up to its initial promise (for a good overview see Huws, 1991) and levels in Ireland continue to remain modest (Donovan and Wright, 2012). Despite suggestions that telework has increased “the reality remains far removed from the early forecasts in the late 1970s and early 1980s” (Pyöriä, 2011, p. 2). The actual extent of teleworking “may be much less than often imagined” (White *et al.*, 2010, p. 142) and telework as a concept may have instead experienced a decline in interest (Bergum, 2007).

III MOVING WORK: (A LACK OF) POLICY DIRECTION

With the increasing availability of ICT and broadband infrastructure, at the turn of the century the Irish Government acknowledged telework as a “... component and facilitator towards introducing and supporting a new paradigm of work, organisation and trade” (Callanan, 1999, p. 5). Much of the early impetus for telework was overseen by the then Minister for Science, Technology and Commerce at the Department of Enterprise, Trade and Employment, Noel Treacy, and such discussions took place within the framework of social partnership.² Commenting on a European award for the *Teleworking’s Code of Practice*, Minister Treacy stated that the award was “... a major tribute to our social partnership process and will be very helpful

in promoting the Code of Practice and indeed [telework] itself” (Irish Department of Enterprise, Trade and Employment (DoETE), 2000a). Recognition of the need to have a framework and way forward for telework led to the inclusion of an aspiration for its development into the *Programme for Prosperity and Fairness*, which ran from 2000 to 2003 (Department of the Taoiseach, 2000; Irish DoETE, 2000b). The programme outlined a series of measures designed to speed up Ireland’s transition to an information society including, “encouraging and supporting teleworking” (Department of the Taoiseach, 2000, p. 7). Section 4.4 of the programme indicated that:

Ireland will be developed as a “telework friendly” location, including endorsement by the social partners of the Teleworking National Advisory Council’s Code of Practice, as well as a review of the relevant fiscal and environmental structures... ..Government will introduce teleworking options into mainstream public service employment and, additionally, all publicly-funded organisations will develop a teleworking policy for implementation by 2002 (Department of the Taoiseach, 2000, p. 124).

It was anticipated that deregulation of the telecommunication market and technology price reductions and performance improvements would allow telework to become a conventional way of working in Ireland.

The National Advisory Council on Teleworking – established in April 1998 – comprised of experts from diverse areas of concern, expertise and experience in telecommunications and information technologies³ and was charged with the task of advising the Minister on telework and related employment opportunities. The first duty of the council was to produce a report on telework in Ireland and a code of practice, in collaboration with key stakeholders, and provide recommendations for further direction and policy. *New Ways of Living and Working: Teleworking in Ireland* was published at the end of the millennium (Callanan, 1999). It aimed to inform those interested in telework of the range of issues involved, from the inception of the idea to the implications of telework for the self-employed, employers and employees. The report concluded that in addition to creating an environment for new

² Social partnership was a series of negotiated agreements between Government, the main employer and business groups – Irish Business and Employers’ Confederation (IBEC) and the Construction Industry Federation (CIF) – and the trade unions – the Irish Congress of Trades Unions – and at its core was a trade-off of modest wage increases in exchange for a lighter income tax burden. There were also sectorial reforms on pay and conditions, of which telework became a component of discussion particular within the public sector.

³ The full membership of the council is provided in the Appendix.

employment the potential for improving the quality of life of workers was considerable (Callanan, 1999, p. 42). In the forty-eight page report little attention was paid to environmental issues and deliberations strongly focussed on the potential economic and social benefits of telework.

To accompany the launch of the report, a short three page synopsis was also produced laying out seven recommendations (Irish DoETE, 2000c). There was a call for an awareness campaign to encourage telework, in addition to the implementation of “telework-friendly” training and education. Furthermore, it suggested the creation of a telework action forum, the establishment of new business models and a telework-friendly state from a fiscal point of view. It also advocated for EU structural funds to be made available to help finance the upgrading of telecommunications links in rural areas. In particular, it referred to the provision of low-cost broadband access as providing the best environment for increased activity in e-Commerce and a telework-friendly setting throughout the country. The National Advisory Council on Teleworking was superseded in November 1999 by the e-Work Action Forum which assumed the role of developing tasks and strategies set out in the earlier report.

e-Working in Ireland: New Ways of Living and Working: Code of Practice was produced by a working group established by the National Advisory Council on Teleworking, the Irish Business Federation (IBEC) and the Irish Congress of Trade Unions (ICTU) and was based on pre-existing Irish employment legislation (Irish DoETE, 2000d). It sought to inform stakeholders of the range of issues involved in telework and to lay out the prevailing work-related legislation that applied, in addition to other suggested obligations for employers and employees. It established a framework of terms of employment, data protection and health and safety legislation, but no new recommendations for policy or legislation was foreseen nor suggested. It was “envisaged that the code would be regularly reviewed and updated, as appropriate” (Irish DoETE, 2000d, p. 7) but limited evidence of this is available.⁴

In October 2000 the Department of Enterprise, Trade and Employment, the e-Work Action Forum, Enterprise Ireland and the Information Society Commission provided proposals to Government in a report titled *e-Working in Ireland: Fiscal Barriers and Incentives* (Irish DoETE, 2000).⁵ This report accepted that no fiscal incentives for encouraging telework existed and

⁴ The code was updated in 2004 to facilitate the application of the European Framework Agreement but was never formally adopted or disseminated.

⁵ This was a KPMG evaluation of the principal barriers within the Irish tax system to increasing levels of telework.

recommended tax inducements and employer reimbursements, in conjunction with the adoption of the aforementioned code of practice. In addition, it advocated a range of Government measures to encourage the development of telework in Ireland. In response to this report the Office of the Revenue Commissioners issued a pamphlet dealing with the tax implications for teleworkers and employers (Revenue, 2001).

The Revenue Commissioners define telework as methods of working using ICT in which work is carried out that is not bound to any particular location (Revenue, 2001). This includes working at home on a full or part-time basis, working some of the time at home and the remainder in the office or, working while on the move with infrequent visits to the office. In relation to telework the choice of an individual's base may cause an element of difficulty. As defined by Revenue, in practice if an employee works part-time in the office and part-time at home the office is regarded as their base.

An employer can provide equipment to enable individuals work from home.⁶ Where the provision of such items is primarily for business use a benefit-in-kind charge is not imposed on the employee in respect of incidental private use. The provision of a telephone line for business use will not give rise to a benefit-in-kind charge. Likewise, the provision of office furniture will not attract such a charge where the equipment is provided primarily for business use. Teleworkers often incur additional expenditure in the performance of their duties from home, such as heating and electricity costs. Revenue allows an employer make payment up to €3.20 per day to employees without deducting PAYE and PRSI. This does not prevent employees making additional claims where the actual expenditure is in excess of this amount. The tax treatment of motor expenses and subsistence payments, which may be made by an employer without attracting a tax liability, is set out in the Employees' Motoring/Bicycle Expenses (Revenue, 2009a) and the Employees' Subsistence Expenses (Revenue, 2009b) pamphlets respectively. When a teleworking employee uses any part of the home for work purposes the capital gains tax exemption for Principal Private Residence will not be restricted.

The Electronic Commerce Act provides legal recognition of electronic contracts, electronic writing and signatures and original information in electronic form for commercial or non-commercial transactions (Irish Statute Book, 2000). The bill also provides for the admissibility of evidence in relation to such matters, the accreditation, supervision and liability of certification service providers and the registration of domain names. Although no specific

⁶ Such equipment may include computers, printers, scanners, fax machines and application software.

mention of telework is made in the bill, it does have obvious implications for individuals who work over-distance and deal mainly in electronic documents. In addition, the Data Protection Act of 1988 was amended to take cognisance of developments in the capabilities of ICT and sought to enshrine into legislation protection for individuals with regards to their personal data (Irish Statute Book, 2003).

IV THE E-WORK ACTION FORUM

The first of three consecutive annual reports from the e-Work Action Forum was released early in 2001 (e-Work Action Forum, 2001). The report discussed the key actions that could be adopted to develop telework in Ireland. It outlined a proposal to finance pilot e-Work projects with funding provided by Enterprise Ireland. A total of eleven companies were identified and funding (which on average amounted to €8,787 per organisation) was expended, "... largely on hardware, software and related infrastructure and further support" (e-Work Action Forum, 2001, p. 12). The report carried the results of an MRBI survey which indicated that the profile of a typical teleworker was male, aged between 30-40 years of age and located in Dublin.⁷

The second annual report was presented in 2002 by the Forum's Chairman William Burgess, the then Managing Director of IBM Ireland (e-Work Action Forum, 2002). The report stressed that improvements in ICT were rapidly transforming many aspects of business, but emphasised that "... while technological advances have created the infrastructure to enable work to be carried out remotely, the impetus to introduce [telework] is firmly rooted in business and human resources issues" (e-Work Action Forum, 2002, p. 3). The continuation of telework business awareness campaigns was outlined, with branding and promotion assuming a central role. The report discussed the press advertising campaign which relied heavily on the website (e-Work.ie), regarding it as an important national information resource and delivery mechanism for engagements. Furthermore, recognition that previous survey results varied significantly, in the context of telework, was noted and the Forum sought to engage with the Central Statistics Office (CSO) to include questions on telework in their *Quarterly Household Survey* for Autumn 2002.

⁷ Workers living in Dublin were not the primary target group of long-distance commuters envisaged by many telework advocates. A more appropriate group would be individuals living in the neighbouring counties (such as Meath, Offaly and Wexford) and working in Dublin.

The e-Work Action Forum concluded its work at the end of 2002 and the third (and final) annual report made available shortly after (e-Work Action Forum, 2003). It noted that training courses on the competencies necessary to support telework were now in place at FÁS⁸ and these courses were accredited by the Further Education and Training Awards Council (FETAC) and available online. The report noted:

... the Forum has achieved very considerable progress in furthering the e-Work agenda. It has raised awareness of the potential for e-Work through remedying information gaps and has addressed other factors such as the lack of certainty with regard to taxation issues and lack of specific training which previously impacted negatively on the operating environment for e-Work (e-Work Action Forum, 2003, p. 7).

In October 2002, having reviewed the work of the Forum, the Minister for Trade and Commerce Michael Ahern considered that with the completion of the awareness campaign and the launch of the training course the Forum had fulfilled its mandate and should not continue beyond the end of the year. In a written reply to a Dáil question from Fine Gael's Phil Hogan to the then Tánaiste and Minister for Enterprise, Trade and Employment, Mary Harney, the total cost for the workings of the National Advisory Council on Teleworking and the e-Work Action Forum was given as €156,856.29 (Houses of the Oireachtas, 2003). The operation of the awareness campaign was transferred to Enterprise Ireland who continue to provide limited information and advice (Enterprise Ireland, 2005). The 2004 revised Code of Practice⁹ highlighted issues to consider when introducing telework and provided an overview of the minimum legal entitlements for Irish employees (The European Social Partners, 2006, p. 12). Despite enthusiastic and encouraging initial interest no firm governmental policy proposal, development, or binding initiative to promote or develop telework in Ireland is evident, nor has been proposed.

⁸ FÁS was the National Employment and Training Authority in Ireland. In January 2012 the authority's work and programmes were transferred to the Department of Social Protection.

⁹ This revised Code of Practice was never formally adopted or disseminated so, therefore, the Irish social partners and the Government consider that the Framework Agreement has still not been formally implemented in Ireland (European Commission, 2008, p. 20).

Table 1: *Telework Development Timeline*

<i>Telework in Ireland – Timeline</i>	
Establishment of the National Advisory Council on Teleworking by Mr Noel Treacy TD, Minister for Science, Technology and Commerce	1998
The Report of the National Advisory Council on Teleworking (NACT) to the Minister for Science, Technology and Commerce – New Ways of Living and Working – Teleworking – in Ireland	1999
A Synopsis of the National Advisory Council on Teleworking Report	1999
Creation of the e-Work Action Forum (formally the National Advisory Council on Teleworking)	1999
Report of the Department of Public Enterprise Teleworking Group	2000
E-Working in Ireland: Code of Practice	2000
E-Work in Ireland: Fiscal Barriers and Incentives	2000
Electronic Commerce Bill	2000
The First Annual Report of the E-Work Action Forum	2000
e-Working and Tax – IT69 (Revenue leaflet dealing with tax implications of e-Working employees)	2000
The Second Annual Report of the E-Work Action Forum	2001
The Third Annual Report of the E-Work Action Forum	2002
Central Statistics Office – <i>Quarterly National Household Survey</i> : Module on Teleworking: Third Quarter	2003
Revised Code of Practice for teleworking (this text was never signed, published, or disseminated)	2004

V REALISING TELEWORK ACROSS EUROPE

In the context of European Employment Strategy, the European Council invited members to negotiate agreements to modernise the organisation of work across the community. As a result, on 16th July 2002 the *European Framework Agreement on Telework* was signed (Europa, 2002). This agreement was not required to be effected through a European directive but could be transposed through the non-legally binding implementation route set out in the 1992 Social Protocol.¹⁰ Most countries elected to implement their obligations through binding bipartite collective agreements, many taking

¹⁰ Article 139 of the EC Treaty provides two options for the implementation of agreements concluded by the EU-level social partners. One option is the implementation “... in accordance with the procedures and practices specific to management and labour and the Member State”. This is referred to as the so-called autonomous route or an autonomous agreement. The second option is to request a Council of Ministers’ decision (EIRO, 2010, p. 8).

place between unions and employers. However, Ireland elected implementation through *soft law*¹¹ mechanisms. The agreement was thus realised through means of a limited number of voluntary civil service agreements, a code of conduct and broad information on the practice. These were non-binding and voluntary arrangements and provided information about telework in light of national work regulations in order to facilitate the application of the European Framework Agreement (EIRO, 2010). Commenting on Ireland, this Eurofound report stated:

In Ireland, the government published a code of practice in 2000 that was updated in light of the European Framework Agreement. A number of Irish trade unions have also issued unilateral guidelines based on the European agreement to be used for negotiating telework arrangements with employers. However, company-level collective agreements incorporating telework issues have not yet been reported (EIRO, 2010).

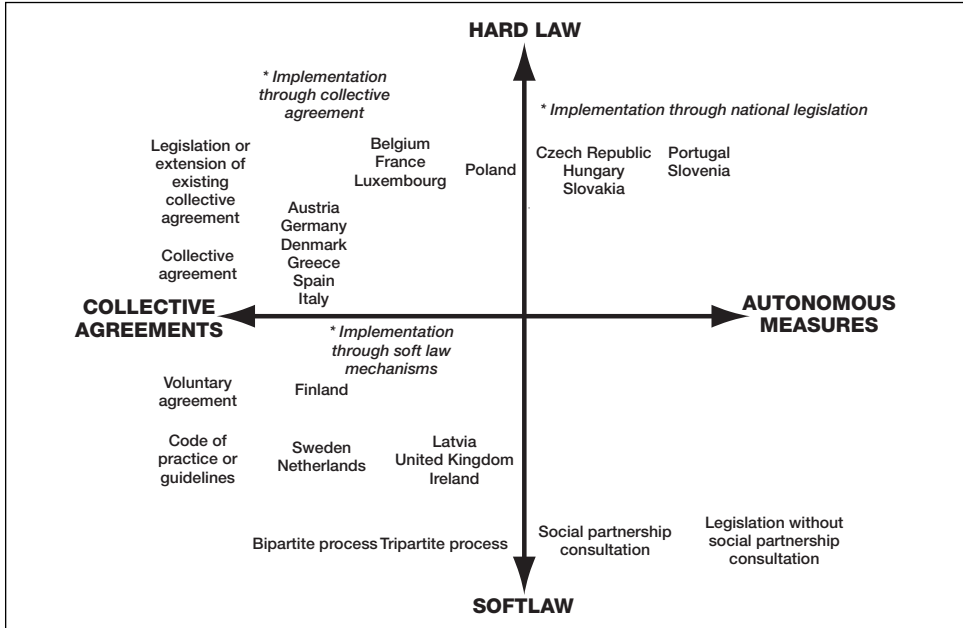
It is argued that with the Telework Agreement the type of governance it entails represents a disappointing development for Europeans who wish to see decent levels of employment protection put in place (Prosser, 2011).

Much of the initial pioneering work in developing telework frameworks and schemes within the European Community took place in the peripheral countries and regions of Europe, including Ireland. The expectation was that more dispersed populations, with significant distance and location barriers to overcome, would benefit more from individual's working from home. Early studies were mixed and inconclusive (*cf.* ECaTT, 2000a; SusTel, 2003) but initial trends were somewhat worrying for Ireland:

While there has been stronger growth in Scandinavian countries, further west development has been slow by European standards. Ireland has been to some extent a puzzle. Despite energetic early work by telework pioneers and Ireland's developing reputation as a place for high-tech investment, progress has been below the European average (Lake, 2009, p. 1).

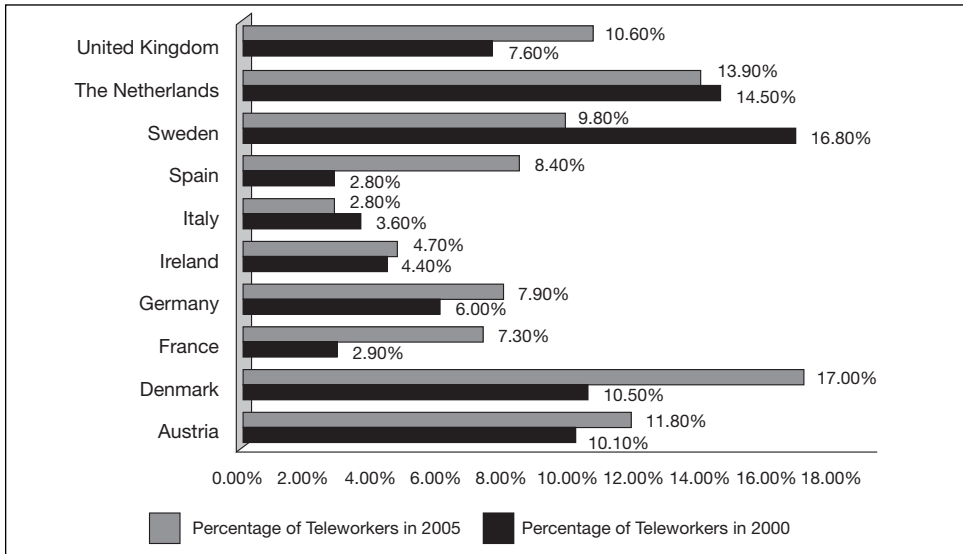
¹¹ Soft law is the term applied for measures such as guidelines, declarations and opinions which, in contrast to directives, regulations and decisions are not binding on those to whom they are addressed. Soft law involves minimum provisions only, regulates "soft issues" such as stress and telework, is incomplete, open-ended and permissive (EIRO, 2010, p. 9).

Figure 1: *Telework Implementation Across Europe*

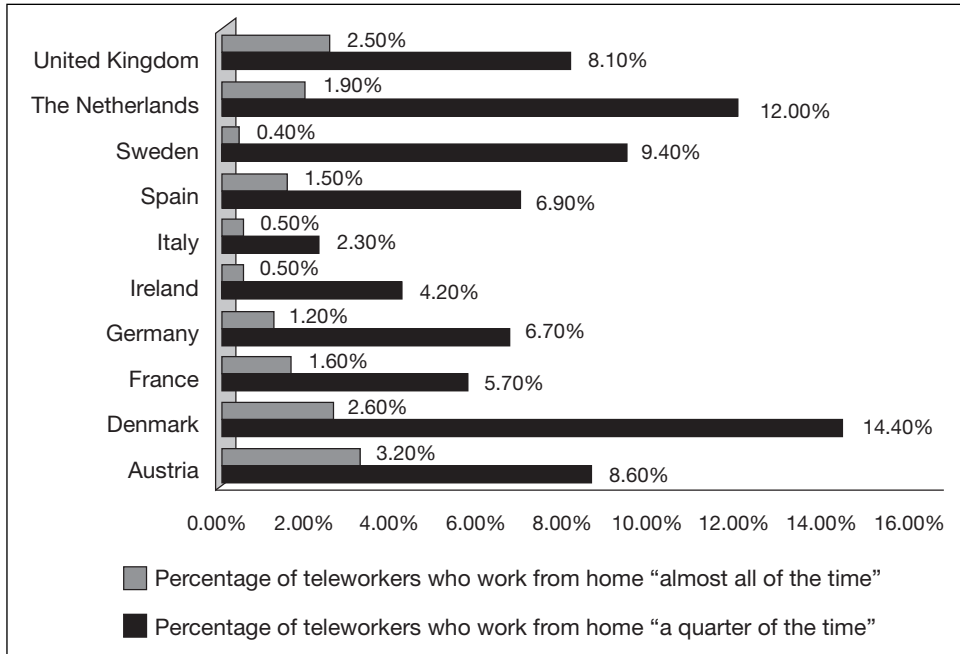


Source: Telework in the European Union (Eurofound, 2010).

Figure 2: *Teleworkers in the European Union (2000 and 2005)*



Source: The ECaTT project (www.ecatt.com) and the European Foundation for the Improvement of Living and Working Conditions (www.eurofound.europa.eu).

Figure 3: *Types of Teleworkers in 2005*

VI THE REALITY OF THE IRISH TELEWORK EXPERIENCE

Over the last number of decades ICT has “come of age” transforming and influencing the industrial terrain in Ireland with significant consequences for how people work. Telework has the potential to be one such element of change. The National Advisory Council on Teleworking’s vision of the future was that by 2010 Ireland would be a world leader in e-Organisation and human collaboration:

...where the talents and culture of the people are empowered to choose where and when to work; where businesses are enabled to sell and trade to the virtual world and an inclusive and geographically balanced economy and nation evolves (Callanan, 1999, p. 5).

There have been a number of attempts to quantify the number of teleworkers in Ireland, usually as part of larger European projects. Electronic Commerce and Telework Trends (ECaTT), a project established to generate representative information on the prevalence and spread of electronic commerce and new forms of work in Europe, estimated there were 61,000

teleworkers in Ireland in 2000 – approximately 4.4 per cent of the workforce – made up of 27,000 regular teleworkers with the remainder occasionally teleworking outside normal office hours (ECaTT, 2000b). Similarly low figures were found in the 2000 Euro barometer survey (European Commission, 2001). This cited regular teleworkers in Ireland at just 2.4 per cent of the adult workforce and occasional teleworkers at 6.1 per cent. European averages, by contrast, were 5 per cent for regular and 6.6 per cent for occasional teleworkers. Five years later this figure for Irish teleworkers had fallen to 4.2 per cent who worked “a quarter of the time” or more and a mere 0.5 per cent who work “almost all of the time” from home (Eurofound, 2010). These levels are below the European average with Ireland having one of the lowest numbers of regular teleworkers within the European Union.¹²

Further telework statistics from an Irish perspective were made available by the Central Statistics Office (CSO, 2003). Detailed questions were added to the *Quarterly National Household Survey* (QNHS) to determine levels of home-based workers outside of the large agricultural sector, teleworkers being the most significant constituent.¹³ Using the wider definition¹⁴ there were 59,200 teleworkers in Ireland representing just 3.5 per cent of the workforce. Further analysis indicated 21,800 of these workers, approximately 38 per cent, were resident in the Dublin area.

Adam and Crossan (2001) indicated that in the majority of cases where telework existed in Ireland it had been implemented in an ad hoc manner and was largely employee driven. Telework was not actively encouraged and management commitment limited. As a result, technical and other such support was not forthcoming and the practice of telework was not seen as a priority within the organisations sampled. Cross and Linehan (2006) maintain that many Irish organisations do not have a culture which embraces the concept of work/life balance and merely pay lip service to the concept. Donovan and Wright (2012) highlighted the pervasiveness of a traditional management style and an Irish culture of mistrust, which poses a particular challenge to those wishing to engage in telework. Such outcomes supported an earlier study of Irish software firms (Tsang, 2006). It appears Irish business leaders are not yet convinced of the benefits inherent in the concept of telework, or they are uncertain whether these benefits are worth the risks resulting from the introduction of this new method of (re)organising work.

¹² There are no current figures for European teleworkers, to this author’s knowledge.

¹³ Some shortcomings in the household survey need to be acknowledged. One question enquired: *if people worked from home during the previous week*. The study was carried out during the summer holiday period so this may have skewed answers to some extent.

¹⁴ The “wider definition” refers to homeworkers who use a computer with telecommunication links for work.

VII DISCUSSION

Three different areas of governance impacted early telework considerations in Ireland; Sustainable Development (SD), transport and employment. SD and transport interests considered telework as the means to suppress unnecessary travel related to the daily commute to and from work, both in terms of the environmental benefits and the reduced need for transport infrastructure. Given the nature of (tele)work it may be proper under the remit of employment legislation and policymaking, but this appears not to be the case in Ireland. The consequence of such confusion has, heretofore, remained largely unexplored. However, such uncertainty has allowed telework to “fall between the cracks” of various departments of government and responsibility. This has led to a lack of practical policy in this area, ambiguous and imprecise guidance and a vague understanding of the actual realities of telework and teleworkers’ lives. There is limited understanding of the real issues affecting individuals working from home, possibly reflecting the continuing struggle in acknowledging real sustainability concerns associated with Society-Technology-Environment-Interactions (STEI) in general (*cf.* Huesemann and Huesemann, 2011).

There is no employment legislation dealing explicitly with telework, or the status of teleworkers, on the statute books in Ireland. The development of strategies to encourage and stimulate telework has, by-and-large, fallen to quango’s¹⁵ and other organisations such as the National Advisory Council on Teleworking, the e-Work Action Forum, Enterprise Ireland and Eircom.¹⁶ More importantly, while considerable reference was made to telework, particularly in the early part of the last decade, little action is evident of the practical development of governmental policies or approaches to support companies and individuals to implement such schemes. In addition, the council and forum setup to support Government decision-making in this regards have concluded its work and the informational website and portals have been shut down for some time now.¹⁷

Telework remains underdeveloped in Ireland largely due to an absence of regulation that gives it legitimacy in the eyes of management and workers alike (Hynes, 2013b). Early efforts can be characterised as bridging an informational gap which existed with respect to the practice. While clarification of tax implications was provided, overall strategies to promote

¹⁵ A quasi-autonomous non-governmental organisation (quango or qango) is an organisation to which government has devolved some limited power.

¹⁶ Eircom is the former state-owned Irish communications service provider.

¹⁷ The official Irish Governmental telework information portals – www.e-Work.ie and www.telework.ie – are no longer accessible online.

and advance telework are lacking and where individual companies have introduced schemes this has been done in an ad hoc and unorganised manner. Indeed, the sums of monies provided for agencies and studies in this area can realistically be deemed to have been inadequate, suggesting a lack of commitment to telework. No evidence is available to indicate a willingness to investigate and better understand the complex economic, social, environmental and personal issues involved when adopting this way of working, or indeed legislate for these concerns. Responsibility for telework schemes is vested wholly with management who frequently lack knowledge, guidance, regulation, or direction on the matter.

In the case of Ireland, a neo-liberal state, chronic car-dependency and (blind) faith in technology reflect classic “shallow” Ecological Modernisation thinking (Hynes, 2013b) and a continuation of the view of environmental policy as corrective regulation rather than adopting the wider and more ambitious vision of Sustainable Development (Flynn, 2007). There is strong belief that the unrestricted market will produce positive outcomes with regards to the adoption and acceptance of the practice of telework. However, the meagre success of telework to-date reflects poorly on this judgment and simply adds to inconsistencies and confusion within and outside policymaking arenas whilst heightening the degree of helplessness and apathy amongst individuals it is meant to convince and influence. Involvement in policy design, creation, development and implementation can stimulate individuals and groups to the potential, possibilities and opportunities for environmental protection and social and economic sustainability. Furthermore, reducing and indeed in some instances eliminating consumption is a virtuous position to espouse in circumstances of continuing resource depletion and in the promotion of human and social well-being. The overall conditions exist for telework to (potentially) flourish, but there is no evidence of this occurring or of any governmental or agency initiative to champion the practice.

Much of the early enthusiasm has long since faded in an atmosphere of uncertainty, along with telework’s obsolete websites and reports. Indeed, the nebulosity of the approach to telework is reflected in the (lack of) prominence given to the practice in the most recent Croke Park Public Service Agreement. Telework was mentioned once where it was proposed:

...options for [teleworking] or redeployment (in line with the agreed redeployment arrangements) *may be considered where feasible* (Irish DoPER, 2010) [*emphasis added by the author*].

There was no reference to telework in the renegotiated Croke Park II Agreement or the Haddington Road Agreement. Government has a central

role to play in incentivising and encouraging the practice but "... needs to revitalise the efforts demonstrated at the turn of the century to encourage telework in Ireland" (Donovan and Wright, 2012, p. 11).

It is difficult to obtain current information on telework and teleworker numbers in Ireland. Many of the reports, surveys, questionnaires and information portals are now out-of-date. There is no longitudinal study or research on-going in this area, to this author's knowledge. Furthermore, the subject of telework has received little or no attention from the media, politicians and business leaders in Ireland for quite a number of years now. This suggests a significant gap in research now exists that needs to be bridged to allow organisations and individual workers decide on the real advantages and disadvantages of the practice of working from home. With many new technological developments and innovations apparent since the early optimistic rhetoric a fresh new look at the subject of telework in Ireland is essential to allow informed decision making to take place. Indeed, this paper suggests that we may need to decide if telework is a policy worth pursuing at all.

VIII CONCLUSIONS

As an innovative way of working made possible by new ICT, telework has largely failed to capture the working public's attention despite early optimist predictions and forecasts. It remains a marginal practice and its social and environmental impacts and consequences continue to be essentially unclear. One of the main reasons for this is a lack of practical regulation, direction and research. Key decision makers in Ireland have adopted a "hands-off" policy approach which prevents the development of telework in a more practical and organised manner. Indeed, telework remains absent from any current policy considerations, to this author's knowledge. Non-interventionism economics seeks to liberate markets from political interference and in the case of telework in Ireland such an attitude is indeed apparent. The rise of neo-liberalism in Ireland since the 1980s, with its ideological reliance on the power of the market and its unwillingness to accept what climate change represents, poses a major challenge to all. Yet, as Lord Stern (2007) argues, climate change is the greatest and most widest-ranging market failure ever seen. The ability to address this concern does not appear to have yet reached the point where new political realities and thought are articulated. Many politicians, policymakers and business leaders appear unable, or unwilling, to take the necessary action needed to tackle climate change in a more ambitious and long-term manner. In the modest case of telework in Ireland, this would

require employment legislation with a focus on environmental protection and organisational guidance to ensure that any such scheme has a reasonable chance of success and that there are environmental benefits. Telework continues to remain unexplored as a practical environmental tool, as well as a positive economic and social option for the future.

Indeed, across Europe actual teleworker numbers are mixed with adoption rates in some countries more positive than others. However, there is no clear understanding of why this is so. There is a need for substantial in-depth empirical research in this particular area to identify the key indicators and conditions that permit the practice to flourish or fail. A greater understanding in this regard will assist good policy design in the future. Furthermore, comprehensive interviews with current policymakers also seem appropriate with regards to their knowledge and position on the practice. However, before we rush into any new telework initiative we must fully understand the environmental and social consequences and impacts of working from home for individuals, organisations and the environment. In light of the strong economic focus inherent in much of the current rhetoric of continuous growth, a more forceful emphasis on the real issues of social and environmental sustainability of telework will provide a more nuanced perspective. It is only then that a true assessment and the practical benefits of the practice of working from home can be made and we can then decide if indeed it is a goal worth pursuing.

REFERENCES

- ADAM, F. and G. CROSSAN, 2001. "Teleworking in Ireland: Issues and Perspectives" in N. Johnson (ed.), *Telecommuting and Virtual Offices: Issues and Opportunities*, pp. 28-49. Hershey, PA: Idea Group Publishing.
- ANDERSON, J., J. C. BRICOUT and M. D. WEST, 2001. "Telecommuting: Meeting the Needs of Businesses and Employees with Disabilities", *Journal of Vocational Rehabilitation*, Vol. 16, No. 2, pp. 97-104.
- ANDRIESSEN, J. H. E. and M. VARTIAINEN, 2006. *Mobile Virtual Work: A New Paradigm?*, Berlin: Springer Verlag.
- ARNFALK, P., 2002. *Virtual Mobility and Pollution Prevention – The Emerging Role of ICT Based Communication in Organisations and its Impact on Travel*, Lund: Library at the IIIIEE.
- BANISTER, D., C. NEWSON and M. LEDBURY, 2007. *The Cost of Transport on the Environment – The Role of Teleworking in Reducing Carbon Emissions*, For: Final Report for Peter Warren and Meabh Allen (BT) from the Transport Studies Unit, University of Oxford. [retrieved from www.tsu.ox.ac.uk/pubs/1024-banister-et-al.pdf].
- BERGUM, S., 2006. *Has Telework Failed? A Survey Among 31 International Telework Experts (171-193)*. Paper presented at the the 11th International Workshop on Telework, 28th-31st August 2006, Fredericton, New Brunswick, Canada.

- BERGUM, S., 2007. "What Has Happened to Telework? Failure, Diffusion or Modification", *The Journal of E-Working*, Vol. 1, pp. 13-44.
- BRODT, T. L. and R. M. VERBURG, 2007. "Managing Mobile Work – Insights from European Practice", *New Technology, Work and Employment*, Vol. 22, No. 1, pp. 52-65.
- BRYNIN, L., 2004. *The New Economy and Home/Work Boundaries: The Role of Telework* Final eLiving Conference, 20th-21st January 2004, Essen, Germany.
- CAHILL, M., 2010. *Transport Environment and Society*, Maidenhead, UK: Open University Press.
- CALLANAN, T. A., 1999. *New Ways of Living and Working: Teleworking in Ireland*, Department of Enterprise Trade and Employment, Report of the National Advisory Council on Teleworking. Dublin 2. [retrieved from <http://www.djei.ie/publications/trade/2003/teleworking.pdf>].
- CENTRAL STATISTICS OFFICE, 2003. *Quarterly National Household Survey: Module on Teleworking*, Central Statistics Office. Cork. [retrieved from <http://www.stile.be/wp5/QNHS%20release%20module%20on%20Teleworking.pdf>].
- CENTRAL STATISTICS OFFICE, 2012. *This is Ireland: Highlights from the Census 2011, Part 2*. Central Statistics Office. Cork. [retrieved from <http://www.cso.ie/en/media/csoie/census/documents/thisisirelandpart2census2011/This%20is%20Ireland%20Highlights,%20P2%20Full%20doc.pdf>].
- COMMINS, N. and A. NOLAN, 2010. "Car Ownership and Mode of Transport to Work in Ireland", *The Economic and Social Review*, Vol. 41, No. 1, pp. 43-75.
- CROSS, C. and M. LINEHAN, 2006. "Barriers to Advancing Female Careers in the High-Tech Sector: Empirical Evidence from Ireland", *Women in Management Review*, Vol. 21, No. 1, pp. 28-39.
- DEPARTMENT OF THE TAOISEACH, 2000. *Programme for Prosperity and Fairness*. Department of the Taoiseach. Dublin 2. [retrieved from http://www.taoiseach.gov.ie/eng/Department_of_the_Taoiseach/Policy_Sections/Economic_and_Social_Policy/Social_Dialogue/Social_Partnership_Publications/Programme_for_Prosperty_and_Fairness.shortcut.html].
- DONOVAN, D. and A. WRIGHT, 2012. *Teleworking: An Examination of the Irish Dichotomy*, Irish Academy of Management Conference 2012, 6th-7th September 2012, National University of Ireland, Maynooth.
- DRUCKER, P. F., 2000. "Implementing the Effective Management of Knowledge Worker Productivity: The Biggest Challenge" in J. W. Cortada and J. A. Woods (eds.), *The Knowledge Management Yearbook 2000-2001* (267-283), Woburn, MA: Butterworth-Heinemann.
- DWELLY, T. and A. LAKE, 2008. *Can Homeworking Save the Planet? How Homes can become Workspaces in a Low Carbon Economy*, London: The Smith Institute.
- e-WORK ACTION FORUM, 2001. *Report of the e-Work Action Forum 2000*. Department of Enterprise Trade and Employment, Dublin 2. [retrieved from <http://www.djei.ie/publications/enterprise/2000/e-work/index.htm>].
- e-WORK ACTION FORUM, 2002. *Report of the e-Work Action Forum 2001*. Department of Enterprise Trade and Employment, Dublin 2. [retrieved from <http://www.djei.ie/publications/enterprise/2000/e-work/index.htm>].
- e-WORK ACTION FORUM, 2003. *Report of the e-Work Action Forum 2002*. Department of Enterprise Trade and Employment, Dublin 2. [retrieved from <http://www.djei.ie/publications/enterprise/2000/e-work/index.htm>].

- ECaTT, 2000a. The ECaTT Project. Website: *Empirica*. Accessed 12th November 2010 [retrieved from <http://www.ecatt.com/>].
- ECaTT, 2000b. *Benchmarking Progress on New Ways of Working and New Forms of Business Across Europe*. For: Electronic Commerce and Telework Trends. Bonn. [retrieved from <http://www.ecatt.com/freport/ECaTT-Final-Report.pdf>].
- EGAN, B., 1997. *Feasibility and Cost Benefit Analysis* International Telework Association Annual International Conference, Crystal City, VA.
- EIRO, 2010. Telework in the European Union. Website: *European Industrial Relations Observatory Online*. Accessed 20th March 2012 [retrieved from http://www.eurofound.europa.eu/eiro/studies/tn0910050s/tn0910050s_4.htm].
- ENTERPRISE IRELAND, 2001. e-Work Guide. *ICT Advice: Open Up*. Accessed 12th November 2011 [retrieved from http://www.enterprise-ireland.com/ebusiness/guides/e_works_guide/e_work_guide.pdf].
- ENTERPRISE IRELAND, 2005. ICT Advice: Openup.ie. Website: Accessed 24th March 2012 [retrieved from http://www.enterprise-ireland.com/ebusiness/guides/e_works_guide/e_works_guide_index.asp].
- EUROFOUND, 2010. *Telework in the European Union*. For: European Foundation for the Improvement of Living and Working Conditions (Eurofound), Dublin. [retrieved from <http://www.eurofound.europa.eu/eiro/studies/tn0910050s/tn0910050s.htm>].
- EUROPA, 2002. Teleworking. Website: *Summaries of EU legislation*. Accessed 20th November 2011 [retrieved from http://europa.eu/legislation_summaries/employment_and_social_policy/employment_rights_and_work_organisation/c1013_1_en.htm].
- EUROPEAN COMMISSION, 2001. *Benchmarking Report Following-up the Strategies for Jobs in the Information Society*. For: Commission of the European Communities. Brussels. [retrieved from <http://csdle.lex.unict.it/docs/labourweb/Benchmarking-Report-following-up-the-Strategies-for-jobs-in-the-Information-Society-/1541.aspx>].
- EUROPEAN COMMISSION, 2008. *Report on the Implementation of the European Social Partners' Framework Agreement on Telework*. For: European Commission. Brussels. [retrieved from http://csdle.lex.unict.it/Archive/LW/Data%20reports%20and%20studies/Reports%20and%20%20communication%20from%20EU%20Commission/20130506-014320_sec-2178_2008_enpdf.pdf].
- FLYNN, B., 2007. *The Blame Game: Rethinking Ireland's Sustainable Development and Environmental Performance*. Dublin: Irish Academic Press.
- GAREIS, K. and N. KORDEY, 2000. "The Spread of Telework in 2005" in B. Stanford-Smith and P. T. Kidd (eds.), *E-business: Key Issues, Applications and Technologies*, pp. 83-90, Amsterdam: IOS Press.
- HESSE, B. W., 1995. *Curb Cuts in the Virtual Community: Telework and Persons with Disabilities* (418-425), Paper presented at the Proceedings of the 28th Annual Hawaii International Conference on System Sciences, Hawaii.
- HILBRECHT, M., S. M. SHAW, L. C. JOHNSON and J. ANDREY, 2008. "I'm Home for the Kids: Contradictory Implications for Work-Life Balance of Teleworking Mothers", *Gender, Work and Organization*, Vol. 15, No. 5, pp. 454-476.
- HOUSES OF THE OIREACHTAS, 2003. Written Answers. – Departmental Committees. Website: *Houses of the Oireachtas*. Accessed 22nd March 2012 [retrieved from <http://debates.oireachtas.ie/dail/2003/06/10/00113.asp>].

- HUESEMANN, M. and J. HUESEMANN, 2011. *Techno-Fix: Why Technology Won't Save Us or the Environment*, Gabriola Island, BC: New Society Publishers.
- HUWS, U., 1991. "Telework: Projections", *Futures*, Vol. 23, No. 1, pp. 19-31.
- HYNES, M., 2013a. "What's Smart About Working from Home: Telework and the Sustainable Consumption of Distance in Ireland?" in C. Fowley, C. English and S. Thouëсны (eds.), *Internet Research, Theory and Practice: Perspectives from Ireland*, pp. 225-243, Dublin: Research Publishing.
- HYNES, M., 2013b. *Mobility Matters: Technology, Telework and the (Un)sustainable Consumption of Distance*, Unpublished PhD., National University of Ireland Galway, [retrieved from <http://hdl.handle.net/10379/3814>].
- IRISH DEPARTMENT OF ENTERPRISE, TRADE AND EMPLOYMENT, 2000. *e-Working in Ireland Fiscal Barriers and Incentives: A Proposal to Government*, Department of Enterprise Trade and Employment. Dublin 2. [retrieved from http://www.djei.ie/publications/trade/2003/ework_brochure.pdf].
- IRISH DEPARTMENT OF ENTERPRISE, TRADE AND EMPLOYMENT, 2000a. Code of Practice on e-Working Wins Major European e-Work Award *Department of Jobs, Enterprise and Innovation*. Accessed 15th December 2011 [retrieved from <http://www.djei.ie/press/2000/091100.htm>].
- IRISH DEPARTMENT OF ENTERPRISE, TRADE AND EMPLOYMENT, 2000b. Address by Mr. Noel Treacy T.D., Minister for Science, Technology and Commerce at the Seminar "E-Work – the Smarter Way to Work" Hosted by Entropy Ltd in Jury's Hotel, Ballsbridge, on 7 September, 2000 at 8.30 a.m. Website: *Seminar "E-Work – the Smarter Way to Work"*. Accessed 20th November 2011 [retrieved from <http://www.djei.ie/press/2000/070900.htm>].
- IRISH DEPARTMENT OF ENTERPRISE, TRADE AND EMPLOYMENT, 2000c. *A Synopsis of the National Advisory Council on Teleworking Report*, Department of Enterprise Trade and Employment. Dublin 2. [retrieved from <http://www.djei.ie/publications/enterprise/2000/e-work/index.htm>].
- IRISH DEPARTMENT OF ENTERPRISE, TRADE AND EMPLOYMENT, 2000d. *e-Working in Ireland: New Ways of Living and Working: Code of Practice*, Department of Enterprise Trade and Employment. Dublin 2. [retrieved from <http://www.djei.ie/publications/enterprise/2000/e-work/index.htm>].
- IRISH DEPARTMENT OF PUBLIC EXPENDITURE AND REFORM, 2010. *Public Service Agreement 2010-2014 (Croke Park Agreement)*, Dublin: Government Publications.
- IRISH DEPARTMENT OF TRANSPORT, 2009. *Smarter Travel: A Sustainable Transport Future. A New Transport Policy for Ireland 2009-2020*, Department of Transport. Dublin. [retrieved from <http://www.smartertravel.ie/english>].
- IRISH STATUTE BOOK, 2000. Electronic Commerce Act 2000. Website: Accessed 24th February 2010 [retrieved from <http://www.irishstatutebook.ie/2000/en/act/pub/0027/index.html>].
- IRISH STATUTE BOOK, 2003. Data Protection (Amendment) Act 2003. Website: Accessed 31st March 2012 [retrieved from <http://www.irishstatutebook.ie/2003/en/act/pub/0006/index.html>].
- IRWIN, F., 2004. *Gaining the Air Quality and Climate Benefit for Telework*. For: World Resources Institute. [retrieved from <http://www.distributedworkplace.com/DW/Research/Gaining%20the%20Air%20Quality%20and%20Climate%20Benefit%20from%20Telework.pdf>].

- KENYON, S., J. RAFFERTY and G. LYONS, 2003. "Social Exclusion and Transport in the UK: A Role for Virtual Accessibility in the Alleviation of Mobility-related Social Exclusion?", *Journal of Social Policy*, Vol. 32, No. 3, pp. 317-338.
- KLING, R. and W. SCACCHI, 1982. "The Web of Computing: Computer Technology as Social Organization", *Advances in Computers*, Vol. 21, pp. 1-90.
- LAKE, A., 2009. "Teleworking in Ireland; Slow but Typical Growth Patterns on the Edge of Europe", Blog Title: *Flexibility*. Accessed 25th February 2010 [retrieved from <http://www.flexibility.co.uk/flexwork/location/Teleworking-Ireland.htm>].
- LISTER, K. and T. HARNISH, 2009. *Undress for Success: The Naked Truth about Making Money at Home*, Hoboken, NJ: John Wiley and Sons.
- MOKHTARIAN, P. L., 1990. "A Typology of Relationships Between Telecommunications and Transportation", *Transportation Research Part A: General*, Vol. 24, No. 3, pp. 231-242.
- MOKHTARIAN, P. L., 1991. "Telecommuting and Travel: State of the Practice, State of the Art", *Transportation*, Vol. 18, No. 4, pp. 319-342.
- MOKHTARIAN, P. L., 2003. "Telecommunications and Travel: The Case for Complementarity", *Journal of Industrial Ecology*, Vol. 6, No. 2, pp. 43-57.
- ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, 2013. *Perspectives on Global Development 2013: Industrial Policies in a Changing World*, Paris: Organisation for Economic Co-operation and Development (OECD) Publishing.
- PRATT, J. H., 2000. "Home Teleworking: A Study of its Pioneers", *Technological Forecasting and Social Change*, Vol. 25, No. 1, pp. 1-14.
- PROSSER, T., 2011. "The Implementation of the Telework and Work-related Stress Agreements: European Social Dialogue through 'Soft' Law?", *European Journal of Industrial Relations*, Vol. 17, No. 3, pp. 245-260.
- PYÖRIÄ, P., 2011. "Managing Telework: Risks, Fears and Rules", *Management Research News*, Vol. 34, No. 4, pp. 1-15.
- RAU, H. and C. HENNESSY, 2009. "The Road to Sustainable Transport: Community Groups, Rural Transport Programmes and Policies in Ireland" in J. McDonagh, T. Varley and S. Shortall (eds.), *A Living Countryside?: The Politics of Sustainable Development in Rural Ireland*, pp. 361-379. Farnham, UK: Ashgate Publishing Ltd.
- RAU, H. and A. VEGA, 2012. "Spatial (Im)mobility and Accessibility in Ireland: Implications for Transport Policy", *Growth and Change*, Vol. 43, No. 2, pp. 667-697.
- REVENUE, 2001. eWorking and Tax – IT69. Website: *Revenue*. Accessed 25th February 2010 [retrieved from <http://www.revenue.ie/en/tax/it/leaflets/it69.html>].
- REVENUE, 2009a. Employees' Motoring/Bicycle Expenses – IT51 Accessed 12th March 2011 [retrieved from <http://www.revenue.ie/en/tax/it/leaflets/it51.html>].
- REVENUE, 2009b. Employees' Subsistence Expenses – IT54 Accessed 12th March 2011 [retrieved from <http://www.revenue.ie/en/tax/it/leaflets/it54.html>].
- SHAMIR, B. and I. SALOMON, 1985. "Work-at-Home and the Quality of Working Life", *Academy of Management Review*, Vol. 10, No. 3, pp. 455-464.
- STERN, N., 2007. *The Economics of Climate Change: The Stern Review*, Cambridge, UK: Cambridge University Press.
- SUSTEL, 2003. SUSTainable TELework – Assessing and Optimising the Ecological and Social Benefits of Teleworking. Website: *SusTel*. Accessed 12th November 2010 [retrieved from <http://www.ist-world.org/ProjectDetails.aspx?ProjectId=7bd1d8d1af094dccb0573f9570fee636>].

- THE EUROPEAN SOCIAL PARTNERS, 2006. *Implementation of the European Framework Agreement on Telework: Adopted by the Social Dialogue Committee*, European Social Partners, EU. Brussels. [retrieved from http://www.ueapme.com/docs/joint_position/061010_telework_implementation_report_final.pdf].
- TSANG, D., 2006. *The Entrepreneurial Culture: Network Advantage Within Chinese and Irish Software Firms*, Cheltenham: Edward Elgar Publishing Ltd.
- VAN HORN, C. and D. STOREN, 2000. *Telework: Coming of Age? Evaluating the Potential Benefits of Telework*. US Department of Labor, Washington, DC pp. 3-32.
- VIGAR, G., 2002. *The Politics of Mobility: Transport, the Environment and Public Policy*, London: Spon Press.
- WEIJERS, T., R. MEIJER and E. SPOELMAN, 1992. "Telework Remains 'Made to Measure': The Large-Scale Introduction of Telework in the Netherlands", *Futures*, Vol. 24, No. 10, pp. 1048-1055.
- WHITE, P., G. CHRISTODOULOU, R. MACKETT, H. TITHERIDGE, R. THOREAU and J. POLAK, 2010. "The Impacts of Teleworking on Sustainability and Travel" in T. Manzi, K. Lucas, T. L. Jones and J. Allen (eds.), *Social Sustainability in Urban Areas: Communities, Connectivity and the Urban Fabric*, pp. 141-154, London: Earthscan Publications Ltd.
- WICKHAM, J. and M. LOHAN, 1999. *The Transport Rich and the Transport Poor: Car Dependency and Social Class in Four European Cities*, National University of Ireland, Maynooth: Employment Research Centre Dublin.
- WICKHAM, J., 2006. *Gridlock: Dublin's Transport Crisis and the Future of the City*, Dublin: New Island Books.
- WORLD WILDLIFE FUND, 2009. *From Workplace to Anywhere: Assessing the Global Opportunities to Reduce Greenhouse Emissions with Virtual Meetings and Telecommuting*, World Wildlife Fund. WWF Sweden. [retrieved from <http://www.worldwildlife.org/who/media/press/2009/WWFBinaryitem11939.pdf>].

APPENDIX

Table A1: *The National Advisory Council on Teleworking*

<i>Name</i>	<i>Organisation</i>
Prof Tom Callanan (Chairman)	University of Limerick
Mr Liam Breslin	Strategic Developments, Telecom Éireann
Ms Maureen Breslin	Irish Wheelchair Association (resigned in December 1998)
Ms Paula Carey	Research Officer, ICTU
Ms Riona Carroll	Executive Officer, Telework Ireland
Ms Claire Foley	Manager, International Teleservices Course, Cavan College of Further Studies
Mr Niall Hayes	Lucent Technologies
Prof Deirdre Hunt	University College Cork
Mr Terry Landers	Ericsson Systems Enterprise
Ms Mary Leahy	College of Commerce Cork (resigned in May 1998)
Ms Helen Mullins	College of Commerce Cork
Mr John Lowery	Deputy Chief Executive, Údarás na Gaeltachta
Mr Charles Lynch	Chief Executive Officer, Galway County and City Enterprise Board
Ms Sheila McCaffrey	Managing Director, KITE
Mr Joseph McCormack	Managing Director, McCormack and Associates
Mr Gerry McGovern	Managing Director, Nua Ltd
Mr Declan Murphy	Enterprise Ireland (resigned September 1998)
Mr Tom Maguire	Enterprise Ireland
Ms Una Murphy	TELSI
Ms Maebh O'Connor	Business Development Manager, PKS Systems
Dr John O'Flaherty	Managing Director, National Microelectronics Applications Centre Ltd, Limerick
Mr Frank Ryan	Frank Ryan and Associates
Mr Joseph Sweeney	Managing Partner, O'Donnell, Sweeney and Co
Secretary to the Council	Mrs Theresa Fitzpatrick, Department of Enterprise, Trade and Employment
Editorial Consultant	Dr Aedin McLoughlin, Glenwood Research