CATCHING A BUTTERFLY?
Mapping eWork in Europe and Australia

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ABSTRACT
Drawing on the results of surveys carried out by the EMERGENCE project in 18 European countries in 2000 and Australia in 2002, this paper gives an overview of the relocation of telemediated work in Europe and Australia, highlighting the persistence of traditional regional and national locational patterns. It concludes by reflecting on some of the implications of the new possibilities for the relocation of telemediated work for regional policy.

Introduction
While the last decade has seen growing media interest in aspects of eWork such as home-based telework, remote call centres, back offices and eOutsourcing, the EMERGENCE study reported here was the first systematic attempt to map the geography of all these arrangements on a multinational scale, using primary data from an employer survey.

A central concept in the EMERGENCE project (Huws, this volume) is that of ‘eWork’. This term refers to a variety of practices whereby work is shifted to or from remote workers using information and communications technologies (ICTs). In this paper, eWork includes employees and contractors, employed either singly or collectively, in a range of business service functions (see below).

One of the aims of the EMERGENCE project was to map the geographical movement of eWork, from its ‘sources’ (the sites where the work has historically been carried out) to its ‘destinations’ (the sites to which it has been relocated). With current technologies, source and destination can be very far apart, potentially anywhere in the world with suitable infrastructure. This capability has led some commentators to announce the ‘death of distance’ as a factor in many business service industries (Cairncross 1997), and continues to tantalise policy makers with prospects of generating employment and economic development in areas too remote to compete in the service sectors of the ‘old economy’. However, it is also clear that these technologies allow work to move quickly to new locations; eWork can appear as an economic

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1 EMERGENCE stands for Estimation and Mapping of Employment Relocation in a Global Economy in the New Communications Environment. The work described here was financially supported by the European Union’s Information Society Technologies program and two Australian Government funds, the Targeted Research Alliances program of the Department of Industry, Science and Resources and the Understanding Regional Australia program of the Department of Transport and Regional Services.
‘butterfly’ moving across the globe in search of more favourable labour markets, access to consumers, or regulatory environments (Huws, Jagger & Bates; Richardson & Belt; 2001).

Such possibilities grow in significance as telemediated work spreads across a broader range of business services and employment types. Experiments with home-based computer programmers and clerical workers in the 1970s evolved in subsequent decades into remote call centres and back offices processing financial or accounting data. Today, eWork is found in a wide range of business services from human resource management to R&D and various creative services, and many employment arrangements, going beyond teleworkers to mobile workers, self-employed freelancers, outsourced contract workers and remote office or telecentre workers.

These trends appear to bring the potential for large scale shifts in the location of jobs in many areas of the world as the ‘new economy’ expands. However there is so far very little reliable empirical evidence on such developments. The EMERGENCE employer survey was designed to provide sound empirical insight into fundamental questions about telemediated work. To what extent are destination sites located in regions, nations or continents remote from source sites? Which business services are most involved? Which regions are making most use of eWork? Are large workforces involved at source and destination sites? Which forms of eWork (telework, call centres, outsourcing, mobile workers, freelancers) are most prevalent?

While the EMERGENCE project examined these issues in the global context, obtaining sufficiently fine-grained data required restricting the employer survey to a large-scale European study and a separately funded, smaller-scale Australian study. These two continents form an interesting contrast, as discussed below. The combined data shed light on the role of many other countries and provides a useful background to the case studies reported elsewhere in this volume.

Studying eWork requires a methodology sensitive to its dynamism and complexity, features that compromise conclusions drawn from much existing data. National statistical agencies, for example, usually do not separate electronically-mediated services from physically-mediated ones, and their data are often collected infrequently. Furthermore, such data as exist are primarily based on distinct aspects of eWork, such as ‘telework’ or ‘outsourcing’. EMERGENCE is a response to the clear need for a more comprehensive approach.

The employer survey was designed to focus broadly on telemediated work, avoiding restrictive definitions by providing data on a diverse set of business services and practices. A conceptual map of the organisation (Figure 1) led to a two-dimensional definition of eWork (Figure 2).

To achieve the most effective use of resources the sample focused on the seven groups of business services considered most likely to show evidence of eWork practices, based on academic studies and media reporting. These were: first, sales (including telemarketing and mobile sales work); second, customer services, including providing information, counselling and advice; third, data processing typing and other forms of data input; fourth, software development, maintenance and support; fifth, accounting and other financial services; sixth, human resource management, training and

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2 see especially the papers by Flecker, Gurstein, Schatz & Johnson and Weiss in this volume.
management support; and finally, creative functions including editorial, design and other media-related activities as well as research and development.

**Figure 1: a conceptual map of the eOrganisation**

![Diagram of an eOrganisation](image)

**Source:** Huws, 2004

**Figure 2: Typology of eWork Practices**

<table>
<thead>
<tr>
<th>Type of workplace</th>
<th>Contractual</th>
<th>Outsourced</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Internal/employees</td>
<td>Outsourced</td>
</tr>
<tr>
<td>Individualised (away from 'office' premises)</td>
<td>Employed telehomeworkers</td>
<td>Freelance eWorkers or mobile workers</td>
</tr>
<tr>
<td>Collective (on shared 'office' premises)</td>
<td>Remote back offices/call centres</td>
<td>Specialist business service supply companies</td>
</tr>
<tr>
<td></td>
<td>Employees working in telecottages or other third party premises</td>
<td>Outsourced call centres</td>
</tr>
</tbody>
</table>

**Source:** Huws, 2004

The design and management of such a broad study involved certain challenges. The European survey was overseen by researchers from across Europe, a group with expertise in the economies and cultures of the 18 surveyed countries. Along with partners from Canada and Australia, they also represented a broad mix of academic disciplines, a significant advantage because eWork ‘pushes the envelope’ of traditional forms of work organisation. For example, in the process of moving its call centre work from London to Scotland and then to India, a firm may come to reinvent its business to cover a range of services. New expertise in technology, outsourcing, and international legal, cultural and business environments allows it to telemediate new business processes. Understanding where the jobs from London went, and why, raises, amongst others, issues of technology, labour relations, international business and the sociology of work organisation.
Given the complexities of defining and measuring eWork, the choice of a research methodology necessarily involves compromise between competing aims. The EMERGENCE survey builds on considerable prior experience in empirical studies of related phenomena (e.g., Huws 1996), and significant resources were allocated to developing the sample and instrument and to managing the data collection and analysis. While its aims were ambitious, attention to such details should ensure that the findings provide a reliable picture of the state of eWork in two parts of the globe in the years 2000 and 2002.

Research methodology

The survey sought information from managers in establishments producing or using business services, whether telemediated or physically mediated, across 18 European nations and subsequently in Australia. The unit of analysis was the ‘establishment’, the physical site at which work takes place. The geographical focus of EMERGENCE suggested this choice rather than the ‘firm’, a legal entity, or the ‘organisation’, a sociological entity.

A computer-aided telephone interview (CATI) survey was chosen in view of the logistical difficulties of conducting mail surveys or interviews across multiple nations and to ensure a high response rate. Using CATI methodology, calls could be made from a single site (a multilingual call centre in London) to managers across Europe over a short time. Interviewers could be briefed and monitored from a single point, and the instructions and CATI script could be centrally modified as necessary.

CATI methodology also allows interviewers to work efficiently through a complex set of questions that branch according to prior answers; any other methodology would have required significantly more time of busy manager respondents, or would have reduced the survey’s scope. Interview length was critical as it was necessary to ask equivalent questions about eWork practices for up to seven business service functions; for each function to ask about home-based telework, mobile telework, eOutsourcing and back offices; and for each type of eWork to ask about its location and obtain details of the workforces engaged, potentially in multiple sites. This created a very complex structure.

The sample was restricted to establishments with 50 or more employees. Although smaller establishments may be an important part of eWork, these are very numerous in most countries and very often found in sectors that have little to do with eWork, such as agriculture, retailing or artisanal manufacture. Consequently, sampling this group would have produced too many instances that did not involve eWork.

Non-proportional sampling was used to determine sample sizes for each country, reflecting both the country’s importance and its population size. This meant that larger economies such as Germany and the UK were undersampled while smaller ones such as Luxembourg and Denmark were oversampled. Within each country, samples were stratified by business service sector and size. The samples in most countries were drawn from two commercial directories, Dunn and Bradstreet and Kompass Direct, supplemented by lists of public organisations which tend to be under-represented in the former sources. The final sample was 7,268 establishments. Further details of the sample can be found in Huws and O’Regan (2001).
The use of commercial databases invites the question of how well these represent business establishment populations in relevant countries. While there are clearly limitations in this, the experience of both the researchers and the market research firms used in this study was that such databases are superior to the alternatives, having good representation of branch offices and remote facilities and being up-to-date due to constant updating by their owners. The lists used in Europe and Australia (below) come from different commercial sources but appeared to be compiled through similar processes from very similar data. Differences between such databases, and the need for subjective appraisal in comparing them, appear to be inevitable in multinational research of this sort.

The size and geographical complexity of the survey necessitated considerable attention to quality. The draft questionnaire was circulated to EMERGENCE partners for inspection on the relevance and validity of questions from each nation’s perspective. The resulting pilot questionnaire was translated into 14 languages by native speakers, back-translated into English by other native speakers, checked against the original, and finally vetted by partners to verify technical terms such as ‘call centre’. The final instrument was programmed into CATI script by the agency contracted for fieldwork, NOP Business and Financial, in London. Following intensive briefing with NOP supervisors and interviewers, pilot interviews were conducted in the 18 European countries. Debriefing with supervisors and analysis of data led to further refinements and briefings, and the European survey interviews were conducted between June and October 2000.

The results reported here are weighted to reflect the distribution of employment in Europe, using the New Cronos database cross-referenced with the European Labour Force Survey (1998), with adjustments for some countries where these were inadequate (see Huws & O'Regan 2001). The weighting was based on the number of establishments by size and sector as reported in this database. In countries where the SME data was incomplete or unreliable, the distribution was adjusted on the basis of the number of people in the workforce as reported in the European Labour Force Survey (LFS) 1998. The LFS data were also used to estimate the distribution of establishments in the three Central and Eastern European countries. Data were collected and cleaned in Quantime, and converted to SPSS for analysis.

The Australian survey used the European instrument, modified to improve the analysis of eWork in non-metropolitan areas and to follow Australian business language conventions. The fieldwork was carried out by AC Nielsen from a variety of call centres around Australia, using briefing notes from the European study to train operators. A pilot test of 20 establishments was used to refine the wording.

A sample of 1027 establishments was chosen from a proprietary sampling frame used by the market research firm contracted to perform the interviews, AC Nielsen. This frame is considered superior to publicly available Australian commercial databases. Unlike the European study, the Australian sample involved small establishments which form the great majority of Australian businesses. The sample was stratified as in the European study, with the addition of a variable reflecting rural vs metropolitan location.
The Australian survey was conducted in February and March 2002. Similar analysis procedures to the European study were used. Full details of the methodology are presented in Standen and Sinclair-Jones (2002).

**eWork in Europe: the perspective of users**

Respondent were asked about their establishment’s involvement in eWork from two perspectives, as users of remotely generated eServices and as suppliers of such services. We will consider the users’ perspective first.

The first question to be asked was: how common is eWork in Europe? Almost half the establishments surveyed in Europe (49%) were using eWork as defined earlier. By the year 2000, eWork has become a very significant phenomenon in Europe. Outsourcing is clearly the most prevalent form of eWork (Figure 3), with an estimated 43.0% of establishments using it to obtain business services from remote providers. In comparison, only 11.8% of firms had eWorking employees located away from their premises – multilocation teleworkers, telehomeworkers or employees in a call centre or telecentre.

**Figure 3: eWork in Europe by type of eWork**

Source: EMERGENCE European Employer Survey, 2000 (IES/NOP). Weighted figures; establishments with >50 employees in EU (15) plus Hungary, Poland and Czech Republic. Weighted base: 7,305 cases
Two findings from Figure 3 are surprising given media images of eWork. Remote call centres and telehomework were reported by very few respondents, 1.4% in each case. Call centres appear in the media as sites of low-paid ‘routine’ work that can be conveniently located in remote areas, while telehomeworking receives much publicity as a ‘new way of working’ with many supposed advantages to employees and employers (see Huws 1996). Despite their supposed advantages, both, it seems, are statistically very small parts of the eWork phenomenon.

In contrast, and perhaps with less potential for dramatic media stories, the most common forms of eEmployment are multi-locational work (9.9% of establishments) and remote back-offices (6.8%). While not common practices, both show significant use of new technology to communicate with remote workers.

Another important group are the self-employed ‘eLancers’; 11.4% of establishments reported their use. While these may not contribute to employment statistics as much as the larger workforces in eService supply firms, with over one in ten establishments using it, eLancing does offer a significant number of individuals access to remote employment.

In summary, in 2000 eWork was already broadly established across Europe, with the different forms falling into three levels of use. Outsourcing to a remote supply firm is the dominant form; freelance suppliers, multilocational workers and remote back office workers are less often reported, and telehomeworking and employees working out of telecentres, telecottages or other non-domestic premises belonging to third parties form a third and minor category. We now examine each of these practices in detail.

**eOutsourcing: a new geography of business services?**

Does the significance of eOutsourcing amongst European businesses indicate the emergence of a new geography of business service production? The employer survey allowed comparison of telemediated services with their physically-mediated counterparts at the level of individual services supplied to or from respondents’ sites.

It is clear that electronic delivery is now the norm for the services examined here, with around four cases in five being telemediated. Despite this, the geographical distribution of suppliers of outsourced services (Figure 4) was similar for electronic and traditional outsourcing regardless of whether the work was sourced within a respondent’s own region, from another region in the same country or from another country. This result suggests that telemediation has produced little real change in the role of distance, at least at a gross level.

It is interesting to note the role of call centres in Figure 4. Only 11.1% of arrangements involved a telemediated remote call centre, while 15.0% involved a non-telemediated arrangement with a remote call centre. Telemediated centres involve the use of new technology to maintain continuous communications with other parts of the organisation, while non-telemediated centres are more like discrete departments, located away from other parts of the organisation and functioning more independently. Telemediation allows work to be sent rapidly to such centres, and in some cases to be switched between multiple centres located in different time zones, or in different geographical areas having high levels of flexible labour, as work flows change. An extreme case of telemediation involves virtual call centres, where calls are routed...
to employees scattered across multiple sites, including homes. Again, however, the common perception of call centres as the face of new eWork practices appears quite misleading, in terms of both the low use of telemediated call centres and the relatively high use of non-telemediated call centres.

**Figure 4: Geographical location of outsourced supplier of business services in Europe (per cent of establishments)**

<table>
<thead>
<tr>
<th>Outsourcing Type</th>
<th>All</th>
<th>with telecommunications link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any outsourcing</td>
<td>56.4%</td>
<td>43.0%</td>
</tr>
<tr>
<td>Outsourcing to freelancers</td>
<td>17.3%</td>
<td>11.4%</td>
</tr>
<tr>
<td>Outsourcing to companies</td>
<td>51.0%</td>
<td>40.7%</td>
</tr>
<tr>
<td>Outsourcing within own region</td>
<td>45.0%</td>
<td>34.5%</td>
</tr>
<tr>
<td>Outsourcing to other region in own country</td>
<td>24.0%</td>
<td>18.3%</td>
</tr>
<tr>
<td>Outsourcing to companies in other countries</td>
<td>6.0%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Outsourced call centre</td>
<td>18.3%</td>
<td>15.0%</td>
</tr>
</tbody>
</table>

**Source:** EMERGENCE European Employer Survey, 2000 (IES/NOP). Weighted figures; establishments with >50 employees in EU (15) plus Hungary, Poland and Czech Republic. Weighted base: 7,305 cases.

eOutsourcing was used across the whole range of business functions (Figure 5), with software development (38.9% of establishments) and creative functions (27.3%) predominant. While the role of remote software developers is familiar to the public through the media stories of workforces in India, Ireland or Eastern Europe, the significance of creative workers is not so well appreciated. And here again the role of customer service or telesales workers, the common image of call centre occupations, is less than expected on the basis of media reports.

The survey examined the demographics of workforces involved at eOutsourcing sites, although this was somewhat limited by respondents’ lack of familiarity with the remote workforce: 53.1% did not know the number of people involved and 21.6% could not estimate the gender breakdown. Nonetheless, the reports of those answering these questions are intriguing.

First, the evidence on size suggests that many cases involved either individual freelancers or a small number of workers (up to 50) in the remote establishment; we did not find much evidence of large-scale remote workforces involved in eOutsource supply. Second, the gender composition of eOutsourced workforces was skewed towards males, with only 18.2% of cases having a predominance of female workers. The predominance of small and male-dominated workforces in our results contrasts with
certain public images of business services as a female-dominated industry conducted in factory-like workplaces. This no doubt reflects the dominance of software development in eOutsourcing.

**Figure 5: Functions involved in eOutsourcing**

![Figure 5: Functions involved in eOutsourcing]

Source: EMERGENCE European Employer Survey, 2000 (IES/NOP). Weighted figures; establishments with >50 employees in EU (15) plus Hungary, Poland and Czech Republic. Weighted base 5,567 cases involving outsourcing with an electronic link to the surveyed establishment.

**Remote offices: large scale sites of routine work?**

The survey suggests significant use of remote company-owned facilities for the provision of business services. While around 7% of establishments reported these (Figure 3), this figure is likely to be an underestimate as only back offices outside the respondents’ own region were included in the survey. Regions defined by NUTS1 boundaries may comprise large areas and even whole countries in less populous areas (e.g., Denmark, Ireland, Luxembourg, Sweden and continental Portugal), and the absence of instances of remote offices within such regions may be a significant limitation.

Media reports depict large-scale ‘back office’ facilities located in remote areas to take advantage of lower site and labour costs. Our evidence on workforce size was limited in that 26.2% of respondents could not estimate how many employees were in the remote office (not surprisingly, given that these were in another region). Of the reports from those who did know, almost a third (33.0%) had less than 6 employees and nearly three quarters (71.0%) had less than 50 employees working in that business function. As with eOutsourcing arrangements, small and very small establishments form a very important part of the picture. On the other hand, a significant proportion of remote offices had more than 250 workers (14.7%), suggesting a useful employment opportunity for some ‘remote’ locations. Such large facilities are more common than those used for eOutsourcing, where the equivalent figure is only 2.7%.

Customer services was by far the most common service obtained from remote offices (48.5%, see Figure 4), followed at some distance by management/training/HR (14.8%) and software development (14.3%). One in five (20.5%) of the remote offices
were identified as call centres, consistent with the importance of customer services. At the same time there is clearly much more to back offices than call centres and customer service functions.

The gender of remote office workers was somewhat more likely to be male than female, although the difference was not large and the number of establishments where more than 75% of eWorkers were males was close to that with more than 75% females. In summary, remote office workforces, like eOutsource suppliers, tend to be small and male-dominated. As with similar previous results, this is somewhat contrary to expectations.

**Telemediated Call Centres: Primarily Customer Service Workers?**

We noted earlier that call centres form a smaller percentage of eWork cases than media reporting might suggest. However, they are clearly a growing phenomenon with significant employment consequences for less favoured regions (see also Richardson & Belt 2001) and are therefore worthy of examination in their own right. In our sample 15.0% of establishments had outsourced call centres, 1.4% had remote office call centres in company-owned premises in another region, and 0.3% had call centre employees in an office owned by a third party in another region. More than four in five cases of call centres were linked electronically with the establishment using their services. It should be noted that as establishments with on-site call centres are not included in these figures, they should not be taken as indicative of call-centre use in general.

While the public image of call centres is of customer service or telesales work, our results show software development and support is by far their most common function (47% of tele-linked call centres), followed by customer services, creative functions and management/training/HR (12-17% each). Telesales forms only 6% of such cases. Thus, a broad range of functions is delivered through telemigrated call centres. It is interesting to note that the third most common function is ‘design, creative and editorial’ services, services not commonly linked with call centres. The users of these tended to be large head offices, often in Southern or Eastern Europe, who had outsourced such work. Although we did not record the nature of this work in greater detail, possibilities include translation, editorial work, corporate communications and even graphic design. Anecdotal evidence suggests that in parts of Europe specialised ‘style consultants’ work in call centre environments.

It is also noteworthy that a significant range of management/training/HR functions can be delivered from a call centre, including recruitment, appraisal, payroll, leave management, booking of training, employee entitlement information, interviews and counselling. Anecdotal evidence suggests that a culture of remote delivery of such services is sweeping through HR and training departments in many countries. A second important part of the management function as picked up here may be logistics.

Finally, it is interesting to note that the highest frequency of call centre use in Europe was by establishments in Eastern Europe (Poland, Hungary and the Czech Republic), Southern Europe (Spain, Greece and Italy) and Finland. In Eastern

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3 See also the cases reported in Flecker (this volume)
and Southern Europe this probably represents a cultural emphasis on outsourcing, stemming from a lack of in-house expertise and/or a preference for networked organisational arrangements, stimulated, at least in Italy, by government policies that give preferential tax treatment to small firms. The CEE results also reflect the fact that a very high proportion of establishments in these countries are branches of large multinational corporations (Mako and Keszi, 2003).

**Individuals away from the office – telehomeworkers and multilocalional workers**

We turn now to the individualised forms of eWork. Telehomebased work has been the subject of many case studies, experiments and surveys (see Huws 1996). It has generated a considerable amount of media coverage as a new form of work organisation, with some commentators predicting a significant exodus of work from Central Business Districts to suburban homes set up as on-line offices.

By contrast, our results show that only 1.4% of establishments have employees who are full-time telehomeworkers. It should be noted, however, that this survey covers many countries in which the notion of working at home for office employees is less familiar than in the countries of the academic studies and press reports, notably the UK and Scandinavia. It should also be noted that fully home-based telework is less common than arrangements based in both home and office. People working partly from their homes and partly in an office were included in the category ‘multilocalional ework’, discussed below.

Telehomeworking was most commonly used for software development (28.2% of cases) and customer service work (24.6% of cases, Figure 6), two groups well-represented in the many published studies of this phenomenon. Telehomeworking arrangements tended to be on a small scale, involving less than six employees in nearly six out of ten cases (58.9%). Only 3.1% involved more than 50 employees. In contrast to the public perception of telehomeworkers as women working at home to accommodate children or family, our data showed men were well represented amongst telehomeworkers: 46.2% of establishments had male-dominated workforces while only 30.1% were female-dominated. While such figures do not necessarily reflect the overall numbers of males and females involved, they do stand in contrast to the public image of a female-dominated homeworking workforce.

Multilocalional eWorkers were present in one in ten establishments (9.9%), a reasonably significant proportion. Over four in ten cases (41.2%) involved customer services, followed in importance by software (17.0%) and management/training/HR functions (12.8%).

As with telehomework, the number of multilocalional eWorkers in an establishment was generally small, with 41.2% of cases involving fewer than six employees. Unlike telehomeworking, there was a significant number (18.6%) with more than 50 workers, possibly technical, mobile sales or service workers. The gender profile showed a significant number of male-dominated workforces (47.2%), and much fewer where females predominated (25.3%).
The similarities between the two individualised forms of eWork are striking: both are most often used to deliver customer service and software development or support services, and both tend to have small workforces that are somewhat more likely to be male-dominated. This profile is in keeping with that exhibited in the results of UK Labour Force Surveys which show that partial teleworking is strongly dominated by professional, technical and managerial staff with a relatively high level of education, who are also somewhat more likely to be male than female (Bates and Huws, 2003).
eWork in Europe: the suppliers’ perspective

We turn now to establishments supplying eServices, more than one in five respondents (21%), representing a significant segment of the business service sector.

The function most commonly reported by suppliers was customer services, followed by creative functions and software development (Figure 7). While the prevalence of customer services is not surprising, the proportion of suppliers in software development seems surprisingly low. This may reflect a significant buying in of IT from outside Europe. It is also affected by the restriction of the sample to establishments with more than 50 employees.

An interesting question in this context is whether there is geographical specialisation within Europe and, if so, which regions of Europe are gaining advantage from growth of jobs in the telemediated services market. Our analysis, though limited to regions as classified at the level of NUTS1, showed some interesting trends.

From the demand side interviews a list was constructed of the 10 regions most involved in supplying eServices, in both absolute numbers (Table 1, left column) and adjusted for the region’s population (right column). The majority of regions in both lists are concentrated around capital cities and therefore do not obviously represent advantages derived from eWork (though these may be present), as capitals usually have significant ‘old economy’ business service markets. One interesting feature is the role of Poland and the Czech Republic as leaders in terms of both absolute and relative contribution to the European economy. This may well indicate advantage from the new technology, perhaps combined with a business culture more favourable to outsourcing than in Western and Northern Europe. This picture is consistent with the hypothesis that CEE countries are taking on a role as back offices for the Western EU. Overall, it is clear that eWork supply tends to grow in regions where large economies are already established.

Table 1: Top ten destinations for eWork, absolute and per capita

<table>
<thead>
<tr>
<th>Absolute</th>
<th>Per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL Poland</td>
<td>BE1 Region Bruxelles</td>
</tr>
<tr>
<td>CZE Czech Republic</td>
<td>DE5 Bremen</td>
</tr>
<tr>
<td>UKI London</td>
<td>NL1 Noord-Nederland</td>
</tr>
<tr>
<td>DE1 Baden-Wurttemberg</td>
<td>CZE Czech Republic</td>
</tr>
<tr>
<td>DEA Nordrhein-Westfalen</td>
<td>POL Poland</td>
</tr>
<tr>
<td>ES2 Noreste</td>
<td>DE6 Hamburg</td>
</tr>
<tr>
<td>ES3 Comunidad de Madrid</td>
<td>UKI London</td>
</tr>
<tr>
<td>IT2 Lombardia</td>
<td>DE3 Berlin</td>
</tr>
<tr>
<td>HUN Hungary</td>
<td>LUX Luxembourg</td>
</tr>
<tr>
<td>DE2 Bayern</td>
<td>ES6 Sur</td>
</tr>
</tbody>
</table>

Source: EMERGENCE European Employer Survey, 2000 (IES/NOP). Weighted figures; establishments with >50 employees in EU (15) plus Hungary, Poland and Czech Republic. Weighted base: 7,305 cases.

Another unexpected feature of Table 1 is that all the supplying regions are in Europe: considerable publicity has focussed on India, the Caribbean, the Philippines and

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4 NUTS1 is the largest size category in the EU’s standard classification of regions.
other developing countries as eServices providers. The survey did identify supply arrangements with a number of countries outside Europe, notably the US but also Russia, Australia, Japan and India; however these were all very minor sources compared with the major European regions.

Why do managers choose remote eSuppliers?
What attracts firms to these remote suppliers? Answers to this question are found in interviews with both users and suppliers. The user interviews explored the reasons for choice of suppliers outside the respondent’s own region. When these were aggregated for the top 10 supply regions (on a per capita basis), by far the most important reason cited was the existence of technical expertise, often combined with reputation, reliability or quality. The second most important reason was proximity to customers, with proximity to other parts of the organisation also important in some regions. Thus service quality and geographical proximity constitute two quite distinct aspects to this market.

A third factor in some countries was referral through managers’ personal networks, notably in the Czech Republic and Poland but also in the UK, Spain and the Netherlands. Here again, business culture variations in different countries appear influential in shaping eWork use. Further, historical links and informal networks were more important than the marketing strategies of subcontractors or government officials, suggesting a strong human element to the development of eWork at this time. Language, cultural similarity and time zone factors were quite minor influences – somewhat in contrast to some journalistic accounts, particularly on eOutsourcing. The supply-side interviews produced similar findings.

Are the attractions of remote suppliers in less favoured regions different from those of the ‘winners’ shown in Table 1? In general the attractions were the same, except for cost which, as might be expected, becomes a factor outside the populous and industrialised regions of Europe.

A more detailed analysis involved identifying the top 10 locations for each service function. The most common pattern was the involvement of major capital cities such as those listed in Table 1. However, there were many variations, some unexpected: customer service was dominated by Germany, telesales by Switzerland; data processing by regions with relatively low labour costs such as Attiki in Greece and the North East UK; software by Poland, Hungary and the Czech Republic; financial and accounting services by the metropolitan regions of Germany, the UK and the Netherlands; management/training/HR by a number of major cities; and creative functions showed a concentration in Southern Europe. While there is not room here to explore the full meaning of these patterns (some of which are a simple effect of the major size differences between EU member states), they do highlight the issue of regional specialisation in eServices and the possibility of regions gaining advantage from developing certain skills or trading on lower labour costs.

eWork in Australia
In examining the global context of eWork, Australia forms an interesting comparison with Europe. While sharing similar cultural and industrial practices to parts of Europe,
geography has a greater impact on management innovation for several reasons. Australia is geographically isolated from its historical sources of cultural identity and trade in Europe and North America; before ICTs became common and affordable, communication with partners in these locations relied on arduous and expensive travel, slow document delivery systems or expensive phone calls. ICTs have also brought new options for trade between Australian and Asian firms at a time when geopolitical and social changes were increasing trade with Asia and decreasing the relevance of European and North American partners and markets. Finally, within Australia there are often great distances between major population centres and options for travel are less convenient than for equivalent distances in more populated areas of the world.

The potential of ICTs to transcend distance in these cases might be expected to make eWork attractive to Australian managers. On the other hand, both the findings above and the EMERGENCE case studies reported elsewhere in this volume show the importance of human networks in the spread of eWork practices. Australian managers might be considered isolated from the face-to-face networks through which business innovation spreads within and from Europe or North America. In dealing with Asian business partners, face-to-face meetings become crucial for transcending cultural and linguistic differences. Distance, along with certain institutional rigidities in the Australian business environment, can be blamed for Australia’s relatively low participation in business export services during the late 1990s compared to other OECD nations generally (Morris 2000). And in dealing with wholly Australian supply chains or markets, face-to-face encounters remain important to gaining trust, especially as the great majority of enterprises are small and lack resources to develop wide networks.

Thus, there is a significant role for eWork in Australian business, but there are also questions about the extent to which it can truly overcome the barrier of distance. Comparing the use of eWork in Australia with that in Europe appears, then, as an interesting test of the general hypothesis that eWork is a sign of the ‘death of distance’.

Overall 27.2% of the Australian establishments surveyed used some form of eWork. In order to make a comparison with Europe, small establishments (less than 50 employees) are excluded from many of the analyses here. Considering only medium and large establishments, 39.5% used eWork compared with 49% in Europe. Whilst clearly less frequent, the difference is smaller than might be expected from the most negative perspective.

While telemiated work is less common in Australia than in Europe taken as a whole, it is nevertheless quite well established. Interestingly, within Europe two of the largest economies had lower eWork uptakes - France (29%) and Germany (31%) – while the UK showed a quite similar figure (42%). Huws and O’Regan (2001) suggest that eWork might be inhibited in some regions by factors such as industrial relations systems with a corporate focus or the greater availability of a well educated workforce within large firms, and enabled in other regions by industrial networks with a long history of outsourcing and a widespread culture of business networking. The Australian result tends to reinforce these suggestions in that it shares more of the cultural features

of these countries than those with higher uptakes. Its small economy also suggests that size per se may not be as important as such structural and cultural factors.

**Figure 8: eWork use in Australia and Europe.**

![Bar chart showing eWork use in Australia and Europe](chart)

Source: IES/NOP and Edith Cowan University. Weighted figures, % of establishments; Sample sizes: Australia 1,023, Europe 7,268. European data from Huws & O’Regan (2001).

Looking at the forms of eWork, Figure 8 shows that overall the relationships between the various categories in Australia are remarkably similar to those in Europe: eOutsourcing is more common than the use of eEmployees; multilocational employees are more common than remote office workers; the latter more common than telehomeworkers; and eContractors are more common than eLancers. The major difference is that eOutsourcing is significantly less common in Australia and the use of eEmployees much more common. This appears to reflect a less developed outsourcing culture amongst Australian businesses, as the business press has noted (Kirby 2003), and a concomitantly greater use of in-house workers in remote locations.

It is also instructive to look at the Australian results categorised by establishment size. Figure 8 shows that larger firms are significantly more likely to have in-house eEmployees, as might be expected, but only a little more likely to use eOutsourcing, especially when large and medium establishments are compared. The latter result may again reflect the limited role of outsourcing in Australian business culture: while large firms have the resources and networks to engage in outsourcing, it is not yet common practice.

A final similarity between the continents is that very little Australian eWork involves offshore suppliers or users, with less than 1% of establishments having
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international suppliers, and just over 1% supplying services to international users. Australian media stories predicting a significant loss of jobs overseas through eWork are, like their European counterparts, not statistically validated here.

**Figure 9: eWork in Australian establishments by size.**

Source: IES/NOP and Edith Cowan University. Weighted figures, % of establishments of that size; Sample sizes: Small 699, Medium 248, Large 84.

**eOutsourcing**

In Europe around 80% of cases of outsourcing were telemediated. In the Australian study, figures were calculated separately for different functions and varied from 37% to 75% . The notion that outsourcing is generally less common in Australia than in Europe for cultural reasons therefore seems to only partly explain the lower uptake of eWork in Australia: there also appears to be a greater reluctance to use ICTs to mediate outsourced work.

Does the location of eOutsourcing suppliers in Australia show the ‘death of distance? Distance in the Australian survey was analysed with a slightly different ‘metric’ to the European study, distinguishing between cases with suppliers in the same town/city, in the same state, or in another country (Fig 10). The results, though, are the same: distance has a clear effect. Further analysis of the Australian results at the level of states and regions within states (Standen & Sinclair-Jones, 2002) shows the same pattern in each case. A fourth analysis, done only in the Australian study, compared the location of eSuppliers with that of business establishments generally. This showed primarily similarities, further reinforcing the conclusion that eWork follows trade patterns strongly influenced by distance.

The functions involved in Australian eOutsourcing are broadly similar to those in Europe, as can be seen by comparing Figure 11 with Figure 5, dominated in both cases.
by software development/support and design/editorial/creative work. Management/training/HR appears much less commonly in Australia than in Europe; we speculate that this is due to both ‘outsourcing-culture’ and ‘ICT-culture’ differences between the communities of HR professionals in the two continents.

Figure 10: Location of eOutsourcing Suppliers: Australian Establishments.

Source: IES/NOP and Edith Cowan University. Weighted figures, % of establishments of that size; Sample sizes: small 699, medium 248, large 84.

Figure 11: functions eOutsourced by Australian establishments.

Source: IES/NOP and Edith Cowan University. Weighted figures, % of establishments of that size; Sample sizes: small 699, medium 248, large 84.
Finally, the eOutsourced workforce showed similar characteristics to that in Europe, with a tendency towards small workforces (54.2% of reported instances had less than 5 employees), and little evidence of being a female-dominated industry (male and female-dominated workforces occurred in equal proportions).

**eEmployees**

Telehomeworkers were more common in the Australian sample (4.7%) than the European average (1.4%), although this concealed considerable national variation. It is also interesting to note that these workers were much more likely to be reported in Australian organisations of less than 50 employees: such small organisations were not included in the European study. The size and gender composition of the workforce in both locations were quite similar.

Multilocational workers, although more common overall in Australia, presented a similar profile to their European counterparts. Workforces were generally small (78% involved less than six employees), although with a significant number of larger ones (100 or more employees). There was a tendency towards male-dominated workforces (78% of cases), as in Europe. Finally, the three most common functions in Europe, customer service, software and HR/management/training, appeared in the same order and showed very similar levels in Australia. Overall, telemEDIated work involving employees in Australia seems very similar to that in Europe.

**eWork Suppliers**

The percentage of respondents involved in eWork supply was very similar in Europe (21%) and in Australia (19.7%). It is interesting to note that the latter figure did not vary much by the size of the responding establishment (15.2%, 18.1% or 20.2% for small, medium and large establishments, respectively), contradicting a common perception of outsourcing suppliers as small establishments. The most common functions were the same in each study – customer support, creative functions and software – and the overall pattern of the two sets of results was very similar.

Australian respondents most often chose remote suppliers for their technical expertise, followed by a long-standing relationship and reliability/quality. Cost was also a factor for large firms. The emphasis on expertise and reliability accord with their role in Europe, and while the Australian demand-side respondents placed less emphasis on location, their supply-side counterparts made significant mention of this, along with reputation. The emphasis on relationships and cost are reminiscent of findings for European countries with smaller populations and less industrialisation. Finally, as in Europe, time zone and marketing strategies were not significant attractors. Once again, despite some variations that appear to reflect the Australian business environment, the picture is quite similar to that in Europe.

**The persistence of national differences**

The EMERGENCE survey was designed primarily to answer general questions about global patterns in the distribution of eServices and did not directly address issues specific to particular national or regional environments.
Nevertheless, the establishment survey did produce a large amount of data which made it possible to compare eWork practices by country and region, as well as by various other indicators such as sector, number of employees and ownership structure (whether the establishment was a branch or a head office). One of the biggest surprises in analysing the data using a regression analysis was that when looking at the propensity of any given establishment to practice each of the various forms of eWork, the national differences systematically emerged as more important than any of the other differences. For example being based in the Netherlands made it more likely that a company would employ telehomeworkers regardless of what sector or size category that company was in. Similarly being a Danish employer was a more important determinant of employing multilocational eWorkers than any other characteristic. The propensity to outsource was also strongly linked to certain groups of countries.

Table 2 summarises the results of this analysis and shows that whilst the country variable was significant for every type of eWork, company size was only a significant factor in relation to eOutsourcing to companies and, as a result of this (eOutsourcing being by far the most prevalent form of eWork) in relation to the propensity to practice any form of eWork from the demand side perspective. The analysis also aimed to establish whether eWork was especially likely to be carried out in the ‘knowledge economy’. A definition of the ‘knowledge sector’ was therefore constructed in order to test the significance of sector (Huws, 2004:21). This was found to be significant in relation to the use of some individualised forms of eWork (multilocational eWork and the use of eLancers) but not other forms of eWork on the demand side. Unsurprisingly, whether or not a firm was in the knowledge sector also made a significant difference to its likelihood of being a supplier of outsourced eServices.

Table 2: eWork in Europe: significance of differences

<table>
<thead>
<tr>
<th></th>
<th>Country</th>
<th>Size</th>
<th>Knowledge sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telehomework</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multilocational</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>eWork</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remote back office</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telecottage</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>eOutsourcing to</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>companies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>eOutsourcing to</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>eLancers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any eWork</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Any eSupply</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Source: EMERGENCE European Employer Survey 2000 (n =7,305). Analysis by HIVA

As Huws notes:
‘These results give credence to the view put forward by what has come to be known as the ‘Varieties of Capitalism’ school (Hall and Soskice, 2001). It seems to be the case that, despite the universalising tendencies of an increasingly
global economy, strong nationally-determined differences still exist in the specific forms in which economies are organised. This tendencies towards global convergence include: the increasingly global scope of markets; strong convergence in the regulation of employment (driven by supra-national standards set, inter alia, by the WTO, the ILO and – in Europe – an array of Europe-wide directives); work cultures which are increasingly shaped by the practices of large transnational corporations and the use of global languages, notably English; work practices which are increasingly determined by international quality standards; labour processes which are increasingly “designed in” to standard software, notably Microsoft products; and the all-pervasive and insidious normative influence of global mass media representations of working life. In view of these weighty pressures to conform to international standards, the persistence of these strong national differences is indeed surprising. {'(Huws, 2002:8)'}

Further analysis of the results by country made it possible to identify some underlying geographical patterns in this strong national diversity. In general, the Nordic countries (Denmark, Sweden and Finland) showed high levels of all forms of eWork, suggesting highly networked economies but also a high level of willingness to trust individual employees to work away from the employer’s direct control. The Central and Eastern European countries (Czech Republic, Poland and Hungary) also showed high levels, but related much less to eEmployment and much more to eOutsourcing, on both the supply and demand side. This is consistent with the very rapid development of these economies in the late 1990s in their progress towards integration into the EU and development as back office sites for work relocated from Western Europe. In Southern Europe, especially Italy, the high levels of eOutsourcing seem closely linked to economies dominated by small firms and with a large informal sector. There were, however, strong differences between these countries with Greece, Spain and especially Portugal each showing its own distinctive pattern. In general the lowest levels of eWork were to be found in the ‘corporatist’ (Esping-Anderson, 1990) economies of the European heartland states of France, Germany, Austria and the Benelux countries. Here too there was a spectrum, with the Netherlands approaching the Nordic pattern in some respects, Austria and Belgium occupying intermediate positions, and France and Germany exhibiting consistently low levels (Huws, 2004). The UK and Ireland showed moderate levels.

Figure 12 shows the overall picture in Europe broken down by country clusters. However this does not reveal the considerable intra-cluster and intra-national differences by type of eWork which space does not allow to be presented here in full.

Interestingly Australia, with its relatively high levels of eEmployment and relatively low levels of eOutsourcing is in many ways closer to the Nordic pattern than to the UK and Ireland, which might be expected to me more similar because of the shared cultural heritage resulting from its colonial history.
Figure 12: any eWork in Europe by country cluster

Source: EMERGENCE European Employer Survey, 2000 (IES/NOP) Weighted figures; % of establishments with >50 employees in EU (15) plus Hungary, Poland and Czech Republic. Weighted base: 7,305 cases

Conclusions: the growth of eWork

Despite these national differences, the EMERGENCE employer survey shows eWork to be a significant phenomenon in both Europe and Australia. Indeed, there is a remarkable similarity between eWork development in the two locations, with only relatively minor differences that can be explained in terms of different business cultures and levels of industrialisation. This similarity is even more striking given Australia’s distance from Europe and strong Asian trade orientation. While Australia is only a single comparative case in a study of globalisation, the strong similarities, taken together with the intra-European patterns, do suggest that eWork is spreading rapidly across the globe, at least amongst more industrialised countries.

The survey shows a telemediated business services market that by the turn of the century had achieved a significant spread amongst European and Australian establishments: in each location such services were used by over four in ten establishments, and supplied by two in ten. Predictably, this market was prominent in delivering certain services that are easily telemediated, such as call centre-based customer services, telemarketing, data entry and software development. However it also showed significant evolution into functions previously less easily delivered through ICTs, notably creative and design work, HR and management-related functions and aspects of accounting and financial services.

In Europe this market showed significant regional variations, with concentrations in both advanced economies (especially Scandinavia and the Netherlands) and areas of Eastern and Southern Europe that are assisted by high levels of outsourcing and perhaps other aspects of business culture such as an emphasis on networking. Interestingly, it is the larger economies that are least represented in eWork, apparently due to historical factors.

One quite surprising result is the very low incidence of intercontinental eWork in both Europe and Australia. Media stories implying an enormous flow of jobs to places such as India, the Caribbean or the Philippines are not corroborated by the present survey, despite its very large sample and careful attempt to map geographical movements represented by individual cases of eWork.

A central issue concerning eWork is whether it bodes the ‘death of distance’ in the business services market. Our results show a strong effect of distance in a number
of areas, and many signs of a critical role for human networks. It is striking that suppliers of outsourced telematized services were distributed in much the same way as traditional suppliers, with more suppliers in the same region or state than in different ones, and more in the same country or continent than across those borders. This pattern held in both Europe and Australia. Further, the uptake of eWork appears to be constrained both by business cultures and national cultures. It is likely that face-to-face contact will continue to have a strong role in mediating business relationships in the ‘information economy’.

Policy Issues

If distance remains an issue, does eWork offer any opportunities for regions that are remote from economic centres? The survey results suggest some distinct possibilities. The most common form of eWork is outsourcing, and while the extent of eOutsourcing appears to vary according to the emphasis on outsourcing generally in a culture, the central role of expertise and quality in this market suggest opportunities for policy makers and businesses to develop eWork capability in new areas. Software development and call centre work in Eastern Europe (and in third world locations) have received some publicity in this regard, but creative services, accounting and financial services, and some management services are also significant markets. Industrial development policy should carefully examine the future implications of telemediation in such service sectors.

More remote areas also have an opportunity to attract services through remote offices. Again, where these might have previously supplied telephone-based customer services, sales or paper-based data processing, telemediation now underpins delivery of a broad range of services.

Individuals also have opportunities for more flexible employment through multilocal or telehome-based work, or freelancing. As many studies have shown, ‘flexibility’ for employees may come at the price of reduced rewards or conditions of work, including isolation from co-workers, issues that need to be considered by policy makers. Nonetheless, there are clearly more opportunities for individuals to access remote employers or service buyers than ever before. All three of these practices also offer managers more flexibility to spread work over greater distances, with varying degrees of advantage to the firm and the worker.

The results presented here are elaborated and extended in other contributions to this volume. They also raise many questions that call for cross-sectional quantitative studies, for example concerning their extension to other places and times. Future research in this area would do well to build on the detailed methodology of the EMERGENCE surveys, including their attention to conceptual issues, sample construction and management across cultural and linguistic boundaries.

The picture presented here shows the value of such careful empirical research. The images of eWork and eWorkers in the media – those that influence policy-making – have often been found misleading or compromised. The overall nature and role of eWork have been widely misapprehended when public discussions are based on small samples, narrow definitions, anecdotal evidence or culturally-specific research. Our
findings show eWork to be a very widely used phenomenon, expanding across a wide range of business services, and being actively developed in many places not prominent in the ‘old economy’. At the same time, geographical distance retains a strong influence on its distribution.

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REFERENCES


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