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INTERNET MOBILITY, CO-PRESENCE AND PURPOSE: CONTEXTUALISING INTERNATIONALISATION IN RESEARCH CAREERS

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Abstract: This paper addresses the role that co-presence plays in the process of researcher and research internationalisation. Put simply, it considers how much time researchers need to spend in particular places (outside of their own country) in order to generate optimal conditions for knowledge creation and transfer. Drawing on empirical evidence gleaned from a range of recent research projects, it suggests that the need for co-presence is highly contextualised reflecting disciplinary and field-specific considerations.

On the basis of this evidence, the paper critiques the received wisdom that permeates research policy in many national contexts equating excellence with internationalisation, and internationalisation with physical (and usually long stay) mobility. In so doing, it supports a growing concern that 'researcher mobility should never be seen as an end-point in itself' (ESF, 2013b:3). It builds on the author's previous work on the relationship between gender, mobility and career progression (Ackers, 2008; 2010). This work, supported by that of other authors such as Cox (2008), established the importance of a growing 'mobility imperative' to the career progression of women. It also highlighted the role that the progressive institutionalisation of metrics associated with internationalisation was playing in this process (Ackers and Gill, 2008).

Supporting a more evidence-based and nuanced approach to internationalisation, metrics goes some way to remove unintended consequences or discriminatory outcomes[1] (Ackers, 2008) and to encourage a more merit-based approach to researcher evaluation.

Key Words: Mobility, researchers, internationalisation, gender.

[1] Metrics focused on international mobility may specifically disadvantage women or researchers with family responsibilities, for example.

Introduction

This paper addresses the significance of place or, more specifically, co-presence in place to the internationalisation of research. Despite the emphasis on internationalisation in policy debates and a powerful awareness among researchers of its growing importance, the lack of conceptual clarity impedes both the policy (and evaluation) process and the relationship between that and researcher behaviour. Analysis of policy documents at European, national and institutional levels reveals the emergence of a variety of approaches to the definition of internationalisation linked primarily to concerns around scientific competitiveness and global labour (or student) markets. Interviews with researchers, on the other hand, indicate a more organic association of internationalisation with measures of research reputation (individual excellence), access to quality positions, research collaboration and communication always highly contextualised within the frame of their own research.

There has been a tendency to conflate concepts of researcher mobility with internationalisation so that mobility, in itself, becomes a convenient and theoretically measurable metric of internationalisation. This process privileges particular forms of mobility (such as long-stay migrations) which feature in statistical sources (employment data and labour force surveys, for example), irrespective of outcomes.

The paper distinguishes the diverse forms of mobility that together constitute 'internationalisation', and in particular it categorises two types. First, it deals with those activities that can best be described as 'migrations' or physical moves across borders to take up research positions abroad. These may be employment positions or scholarships involving longer periods of mobility entailing employment or registration in a research institution abroad. The moves also imply a change in residence, although this does not necessarily imply that the researchers have severed employment relationships or left their residency in the home or sending country (Ackers, 2013; Golynker, 2006). I refer to this type of behaviour as moves for positions. The second group of activities takes place within positions in the course of a researcher's main employment or doctoral registration. We are not focusing on different individuals here but on distinct, if inter-linked processes (King, 2002). Indeed, the inter-meshing of these processes (mobilities and migrations) is of signal interest to my analysis in this paper.

Those activities that fall within the moving for position group include a very dominant component of researcher mobility; namely the negotiation of global labour markets for positions (Coey, 2010; Smetherham et al., 2010). This typically involves early career researchers searching for positions

with some degree of security and quality in difficult domestic contexts. It may also involve searching for progression opportunities and access to resource-rich environments conducive to more productive research. The moving for position group encompasses another type of activity primarily focused on CV-building, often in response to a growing 'mobility imperative' (Cox, 2008; Rothwell, 2002) and linked to fuzzy and ill-defined perceptions of what it means to be international. Demonstrating 'mobility capital' on CVs is fast becoming a non-negotiable rite of passage in academic labour markets and may prove critical not only to accessing positions abroad but also to accessing positions and securing progression at home. This activity is linked to the growth of credentialism as foreign doctorates and post-docs are ascribed a particular value and status (Ackers and Gill, 2008). Rainbird (2000) refers to a similar process distinguishing 'skills' from technical competences and noting the tendency for 'qualifications to serve as a sorting mechanism in recruitment rather than an indicator of productive potential' (cited in Williams and Balaz, 2008: 35).

The moving within positions group encompasses a range of disparate and distinctive activities. These typically involve different kinds of mobilities, usually shorter-term in nature, potentially repeated and often to diverse locations. Mobility is not an end in itself but rather the means to an end, and connected directly to the substantive quality of research and to the development of relationships (ESF, 2013). It is this specific aspect of 'internationalisation' that forms the focus of the current paper: namely forms of international relationship-building focused on knowledge outcomes (knowledge acquisition, transfers and exchanges).

Up to this point the discussion has taken place at a certain level of abstraction. In practice the importance attached to the constituent elements of internationalisation is highly contingent, with important differences evident between countries, institutions and disciplines. The particular location and positioning of a researcher will shape the environment of constraints and opportunities influencing their behaviour. Perhaps the most significant 'driver' here, but one often overlooked in policy discourses, concerns the negotiation of field and country-specific career paths. Although it is common to refer generically to research, in practice career paths and performance indicators vary hugely between disciplines, generating a complex myriad of incentives and disincentives for international mobilities (ESF, 2013).

Through analysis of in-depth empirical work with researchers, the paper builds a picture of researcher internationalisation, grounded in their own practices, to juxtapose with the more top-down policies of funding bodies and research institutions. In the process it focuses on a very specific concern: namely the significance of place, and of co-presence in place, for

internationalisation processes. Engaging qualitatively with researchers to capture what internationalisation means for them in the context of their own research and personal circumstances increases our understanding of the kinds of mobilities that are necessary to ensure optimal research outcomes. It also reduces the risk of institutionalising forms of behaviour (through metrics) that may prove unnecessary or counterproductive to effective research, damage the quality of life of researchers, and have potentially discriminatory outcomes. The importance of gender to understanding the processes and outcomes of highly skilled migration is discussed at length by authors such as Kofman (2000 and 2004) Raghuram (2004) Kofman and Raghuram (2005 and 2006) and Boyle et al. (2009). More specifically, the impact that 'mobility frictions'[2] play in shaping progression in research careers is discussed in Ackers (2008 and 2010) and Cox (2008).

The paper distinguishes two main types of within-position internationalisation. The first activity – international networking and dissemination– is common across all disciplines, although the particular nature and location of events may vary. The second activity reflects the specific nature of the research. It is in this area that considerable discipline/field specificities emerge, reflecting the different kinds of knowledge that researchers are seeking to engage with (Williams and Balaz, 2008).

Methods and Data

Empirical data is drawn from qualitative interviews with researchers across a range of recent projects which I have been responsible for or involved in. These include, firstly, an on-going study of internationalisation amongst research staff at the University of Liverpool. Fifty interviews were conducted with staff from a range of disciplines and career stages to assess the kinds of mobilities they engage in. Further examples are drawn from interviews conducted during an evaluation of the experiences and impacts of researcher mobility in the frame of the European Commission's Marie Curie Fellowship Scheme, which focuses on early career researchers (Ackers et al., 2010), and a study on the drivers and outcomes of doctoral mobility in the social sciences (Ackers and Gill, 2008). This latter study included face-to-face interviews with doctoral researchers in six EU member-states. Finally, the sample is extended to include qualitative interviews undertaken in the

[2] Mobility frictions may include the tensions between career and life-course, for example, with researchers trying to balance their need/desire to make an international move with their personal responsibilities or commitments.

UK as part of the POCARIM project[3]. All of the cases cited in this paper are drawn from a UK-based sample which means that all of the respondents are working and competing within the UK research system and within the frame of the performance indicators developed as part of the UK's Research Evaluation Framework (REF)[4]. Taken together, the studies referred to in this paper embrace a wide disciplinary spectrum. Examples are drawn from across that spectrum (and individual studies) to illustrate the relationship between discipline and internationalisation.

Communication and Dissemination Spaces

All researchers, irrespective of discipline or national origin, specifically acknowledge the importance of travel for dissemination and network-building purposes. This kind of activity lies at the business travel end of the migration-mobility continuum (King, 2002). Beaverstock et al. (2009: 194) refer to the 'compulsion for international business travel' across many employment sectors and the role that short-term face-to-face contact plays in building 'trusting relationships'. Attendance at conferences is one of the most common and important objectives associated with the kinds of 'business travel' engaged in by researchers. Conferences represent both dissemination and communication spaces, and place is often not of specific relevance to the activity. Indeed, many large annual conferences now rotate. However some locations, especially in more resource-rich contexts, will have a higher volume of events, giving locals or more proximate individuals greater access to opportunities. Presenting the findings of research in international arenas is a major motivation driving researcher mobility, closely linked to research reputation and benchmarked external peer review. Brandenburg and Federkeil (2007) specifically identify the need for a 'qualified contribution' at such events as one of a range of excellence indicators.

The Marie Curie Fellowship Scheme is explicitly aimed at increasing researcher mobility, initially within the European Research Area (ERA) but more recently throughout the world. Applications to the scheme require an international move[5]. Previous evaluations have focused on this dimension of obligatory mobility (i.e. the migration component) as the main indicator of internationalisation. The

[3] The POCARIM study focuses on the careers and mobilities of doctorate holders in the social sciences and humanities. Further details can be found at http://www.liv.ac.uk/law-and-social-justice/research/pocarim/.

[4] This is the system developed by the funding bodies to assess individual and departmental research performance and replaced the previous Research Assessment Exercise (RAE).

[5] http://ec.europa.eu/research/mariecurieactions/.

most recent evaluation (Ackers et al., 2010) included a question designed to capture within-fellowship mobility. The results indicate a growth in the prevalence of short-stay, within-fellowship mobility over time. Research stays funded under the Fifth Framework Programme (1998-2002) would have taken place up to 10 years before 'Current Fellows' stays funded under the Sixth Framework (2002-2006). By far the most common purpose of overseas visits was conference attendance (79 per cent of current fellows) with trends indicating an increase in this kind of mobility (Table 1).

Table 1: The Marie Curie Scheme: within-fellowship mobility

Category of Fellow	**Stays abroad of 3 months or more**	**Stays abroad of 1 to 3 months**	**Short stays abroad, academic visits**	**Conferences**	**No national or foreign travel / stays**
Former FP5 Fellows	***335*** ***70.4%***	48 10.1%	95 20.0%	185 38.9%	23 4.8%
FormerFP6 Fellows	865 38.8%	339 15.2%	932 41.8%	***1412*** ***63.4%***	85 3.8%
CurrentFP6 Fellows	541 35.7%	344 22.7%	879 58.0%	***1195*** ***78.9%***	40 2.6%

Source: Ackers et al. (2009)

When using this form of mobility (conference attendance) as an indicator of excellence or internationalisation, an element of complexity enters the equation. For example, does the term international conference describe any conference which implies foreign travel? Or does it imply presence at an event that has some kind of international recognition and, as such, attracts the best experts or 'global research stars' irrespective of location (Mahroum, 2002; Favell, 2008)? The latter is the implicit interpretation of the concept of international associated with conferences and events. Put that way, a well-located researcher (eg. in London or Paris) could attend many international conferences without exercising international mobility. In other words, the conference population may display a high level of mobility and foster significant opportunities for international engagement without every actor being physically mobile.

Whilst the concept of dissemination has a functional tone, conference participation typically

involves more than 'selling your wares' or familiarising the research community with your work. It also builds opportunities to develop networks that will enhance career outcomes both in terms of publications, future positions and collaborations (Ackers and Gill, 2008; Avveduto, 2001; Davenport, 2004; Meyer, 2001; Puustinen-Hopper, 2005; Williams et al, 2004). Dissemination is a critical component of networking. For most researchers it provides opportunities to build know-who and social or reputational capital. One respondent, for instance, describes the role of conferences as a *'good source of new collaborations. What they mainly do is present an informal opportunity to catch up with your colleagues in the same area so it depends on the sort of person you are but there is the opportunity for further collaborations'*.

In this form of mobility, place is often not relevant in an immediate geographical sense (national location), but is in terms of the institutional and/or individual reputation of participants. Whilst co-presence continues to play an important role in this network-building and intellectual investment process, this is of particular significance at early career stage rather than later in careers when network maintenance can often be managed with more limited co-presence through a combination of virtual mechanisms substituting for or enriching physical encounters (Ackers, 2010b):

> *[I have contacts] in many countries and have kept building them up... your address book is kind of all done for you virtually... it's become much easier to communicate by internet. Nobody really asks which country you're based in any more. It's more like, what you do is the important thing and so I am working with groups in Bulgaria, Romania and Hungary, in Germany, the States....*

Whilst virtual communication has revolutionised transnational academic contacts, Jöns (2007: 101) suggests that *'personal interaction remains pivotal for experiencing different research contexts, for mobilising new and unexpected scientific resources and for building up trust for successful collaborations and informal networks across the globe'*.

A smaller population of researchers will also engage in short-term visits for team-building meetings to plan or operationalise international projects. This is much more common in fields where external funding and international or comparative projects play an important role. As with conference travel, place is not especially significant to what has been described as a variant of the communication spaces discussed above or, more functionally still, 'transit' or 'connectivity' spaces (Kesselring, 2006: 269). The extent to which this kind of activity engages with 'place' rather depends on the kind of research, the nature of the team and research finances, etc. In many cases the location of the meeting is entirely disconnected from any research-relevant place significance (although place may

contribute to the touristic side of international research collaboration). Meetings typically last between one and five days. In order to meet as regularly as the project demands and as efficiently as possible for all team members, these transit spaces include airports, hotels in close proximity to airports or 'neutral' convenient locations. They may be tagged on to obligatory management meetings with funders (in Brussels for example). What becomes significant is the composition and quality of these international relationships and collaborations rather than where they take place. The following researcher describes the kinds of mobility he is engaged in: *'We had project meetings, 25, 30 or so. Lots of short trips to England [of] two or three days. Short trips and meetings at Schiphol Airport'*.

Cresswell (2006: 31) refers to the distinction made by humanist geographers between 'significant' places where 'place is a centre of meaning and field of care', and to other locations characterised by the 'absence of commitment, attachment and involvement. Places marked by an abundance of mobility become placeless'. The kinds of meetings engaged in by the previous researcher are a case in point. Although the place itself may lack significance to the activity, the repeated quality of the exchanges plays an important role in building relationships of trust and mutual respect that consolidate research teams and foster collaboration either in new funding applications, through collaborative publication or exchanges of research students. As Beaverstock et al. (2009) contend, there is a certain 'compulsion' to engage in these kinds of mobilities, irrespective of discipline, although researchers benefiting from grant income will experience greater pressure.

The following section discusses the relationship between place and the substantive characteristics of the research process (or knowledge acquisition). A number of discipline or field-specific variables emerge, including marked diversity in career paths and performance indicators (particularly the valuation of different forms of authorship), the funding/organisational continuum (ranging from huge externally-funded international teams to public/institutionally-funded lone scholar models), and finally, the degree of context-specificity or standardisation associated with the specific type of research (the significance of geographical 'place' to the research/empirical processes)[6].

Field and 'Approach' Specificity: Understanding the Needs of Research and Researchers

The empirical examples are presented below according to the kind of standardisation-

[6] The strength of this relationship with discipline varies with a degree of individual autonomy evident in some areas where researchers can 'choose' whether to work in externally funded teams or not (in some areas of the social sciences and humanities for example).

contextualisation continuum proposed by Jöns (2007)[7]. Although presented here rather differently, this continuum maps neatly onto Williams and Balaz's (2008) work on international migration and knowledge which distinguishes different types of knowledge, with more explicit, codified and 'embodied' knowledge at one end of the spectrum, to more tacit forms of 'embedded' and 'encultured' knowledge at the other.

I start with what is generally accepted to be the most standardised discipline –namely maths. Breinbauer (2009) explains the empirical focus on mathematicians in his work on scientific mobility on the grounds that 'Mathematics conveys qualifications largely independent from cultural contexts and apparatus [and] qualifications can be transferred comparatively easily worldwide' In Williams and Balaz's scheme, maths could be categorised as a 'technical competence' that 'can be transferred across cultural boundaries, in an unproblematic manner' almost like 'luggage' (2008: 36)[8]. Mathematicians (in general) do not require subjective engagement with their 'data' or access to large infrastructures or teams. In that sense their work is highly standardised. They are the personification of what it is to be 'footloose' or free-agents. By paring away the more complex variables shaping mobility decisions, Breinbauer illustrates the human-resource dimensions of research migrations (based on employment quality etc.), and precisely not place which becomes irrelevant.

Interviews with mathematicians suggest that many are not lone scholars and often work in international research collaborations funded by large grants. However, the kinds of professional connections and relationships that are important to their research transcend place. One respondent described maths as 'a small world and a close community'. Individual researchers are keen to connect with those experts who 'dominate the field' but mathematicians, as Breinbauer (2009) indicates, are highly mobile with collaborators spread across international space. In an interesting aside, the respondent above speaks of opportunities for him in the US, France, Germany and Japan. And language poses no barrier to professional communication although it did influence his personal mobility decisions. The following respondent, an established senior mathematician, moved to the

[7] More 'standardised' research is that which is less dependent on place or context, such as mathematics, for example. 'Contextualised' research refers to forms of data collection that are highly place-dependent, such as anthropology or history, for example, where date is deeply embedded in the context.

[8] I am referring here to mathematical competences and not mathematicians as human beings. More tacit forms of knowledge may prove of critical importance to their ability to function in organisations and integrate in society.

UK from the Soviet Union. His response to a question about his own mobility is answered by reference to the kinds of things he seeks funding for in grant applications:

> *'All the infrastructure we need is computers and nowadays we just plug in the socket and work. [Funding applications include] no large equipment, just computers, or perhaps computing time on a national supercomputer facility. Travel is of course important'.*

He goes on to suggest that the decision about how much co-presence is required to develop or sustain research relationships in his field is really quite personal:

> *'I can maintain a relationship by email without ever seeing that person but I am sure there are also people not like that and they need to actually see a person –look into their eye before they can talk meaningfully'.*

It is also interesting to note that this researcher's international collaborators tend to come to him. He is a kind of magnet for overseas visitors because of his reputation. This underlines the importance of capturing the context within which internationalisation is taking place rather than the metrics of outgoing mobility. A similar point can be made about another respondent (a marine biologist) who spoke of having strong research connections with Australia but explained how the person he is working with there is actually an ex-colleague from the UK. In this way the mobility of his colleague has generated an international stretch to his own networks without any necessary mobility or concurrent co-presence (in Australia).

Perhaps the next most standardised discipline which has a long history and culture of international mobility is physics. Physics was chosen as a case study in some of my earlier research for precisely this reason given its connection with the 'BTA' (Been to America) metric (Enders and De Weert, 2003). In physics, the 'expectation of mobility' has been a metric for some time (Ackers, 2003). What distinguishes at least some areas of physics, and particle physics in particular, from maths is the importance of co-presence with machines (large scale infrastructures). Spending time in another location (if not place) becomes very necessary in order to conduct the kinds of experimental research scientists are involved in.

Location As 'Facility'/Infrastructure

In many areas of research access to specific facilities or infrastructures is essential to experimental work. In astrophysics this may imply regular visits to a particular telescope located in Arizona or Tenerife, for example. In this kind of research, place is only of relevance to the extent that it is

where the facility is based. Co-presence is required in order to undertake experiments rather than to engage in the local culture or community. Depending on the nature of the experiment, researchers may be working with other colleagues from abroad or experiencing co-presence with machines (object co-presence as opposed to subject co-presence). Professional communication within the facility will typically take place in English and researchers will work intensively to complete their experiments as quickly as possible. Indeed the intensity of engagement very much restricts wider relationships with place. The following respondents describe the mobility patterns they and their peers engage in specifically related to the kinds of in-situ data collection their research requires:

> *'We go [to the Sainsbury laboratory in Great Britain] for one experiment of 10 days, and then we come back. So we use the facilities. But when we go there, we work day and night on experiments'.*
>
> *'We had another place that belongs to our department in Italy. There, it's like 24 hours working. So whenever we are there, we work 24 hours per day'.*

In this process, the researchers are not engaging with place in any meaningful way. In fact, one researcher describes himself as a 'mole-in-a-hole' during his visits abroad, as he focuses 100 per cent on completing his work without the 'distractions' of friends, family and leisure pursuits (Ackers, 2010a; Perista, 2009). This behaviour could be described as 'shallow internationalisation' from the perspective of contextualisation, at least. Whilst this form of mobility, to access research infrastructures (or data collection spaces), has historically been very important in disciplines such as physics, the level of co-presence (through repeat or extended visits) is beginning to change as opportunities for remote access and computer modelling increase.

Although researchers may not be engaging immediately with the local culture or country, in other cases, facilities may form the focus of critical networking, team-building and dissemination activity. Co-presence may therefore be required to engage with international teams in situ. The following case illustrates these points. The respondent (a doctoral researcher in particle physics) lives in the UK and travels to CERN (a large-scale experimental facility based in Geneva) every four months to spend a 'solid week' in meetings with around 200 researchers working on a collaborative project. For her, location (place) is not important. Infrastructure is, as is the international composition of the team;

> *'In particle physics, it [place] doesn't make that much difference. We always joke at conferences that we bump into the same people and they say, 'I've changed jobs but all*

> *that's changed is my email address. You're still working with the same people. It doesn't necessarily matter where your home institute is. You have to be prepared to travel all the time but the pressure to live abroad is declining as the opportunities for remote access and shorter trips increase'.*

Her situation illustrates the declining importance of place, at least in terms of employment location and the ease with which an individual can work remotely. In this area of research, a degree of co-presence is important to networking and communication. However, it is not the place that matters but the people gathered in that place. Her description of working practices in particle physics illustrates the ways in which virtual forms of communication/data access have come to at least partially substitute physical mobility.

The Production of Place-Contextualised Knowledge: Fieldwork and The 'Safari' Method

In contrast with more experimental research involving objects, research in the social sciences and humanities often involves capturing data from human subjects. This may involve trips to another country to interview or observe people in situ. Hantrais refers to this approach as the 'safari method' in her book on International Comparative Research (2009). In some respects the activity may not differ significantly from that of the researcher accessing large-scale infrastructure. In other situations, they may not be attached to large international teams and may be working as lone scholars in the field. Fieldwork may involve mobility in order to access a research site whether this involves plants, an arctic survey, a geological cruise or in-depth ethnographic research. What these activities have in common is that the mobility involved is directly concerned with knowledge acquisition and the data they seek to collect (whether plants or artefacts) is physically embedded in geographically significant places. It may also be socially and/or culturally embedded in cases where the research involves human processes and subjects.

An Austrian archaeologist describes her stays abroad as primarily concerned with 'digs'. Her research is focused on the excavation and analysis of materials (ceramics) from a site in Egypt. In that respect her data is physically embedded in a particular location and she must spend time at that location to gain access to it. In practice this is augmented with a degree of circulation of samples following extraction. Indeed she first came into contact with the British research team she is now working with as one of them offered to send her samples obtained from the Egyptian location. This site has been a very long-term attraction and she has been visiting it periodically, usually with stays of several months since her undergraduate degree, throughout her doctorate and subsequently

during a post-doctoral fellowship. She may well continue to make repeated stays for the rest of her career. Whilst the raw materials of her research are physically embedded, the place she visits is not in itself of contemporary relevance to her work. She does not need to achieve a high level contemporary cultural awareness of that place. However these sites form the locus of international team gathering in a way that is not so distinct from the particle physics example. Networking within the international team is part and parcel of her work and supports the circulation of ideas and artefacts. Co-presence in situ helps to build strong research relationships within networks that often operate as 'internal' labour markets disseminating information about research and employment opportunities. The 'subjective' component in her work involves engagement with the international research community and not with the 'data' nor, necessarily, with Egyptian academics.

Historians are often engaging directly and in a very intense way with the local context. In the following case the historian specialises in Spanish history. On the face of it he looks quite immobile, not having engaged in the kinds of longer-stay migrations that trigger traditional indicators. However, he travels to a research location in Spain 6-12 times every year; 'As a result of Easy Jet I travel to Spain – endlessly.'

Williams and Balaz identify the impact that low-cost airlines (LCAs) have had on knowledge transfer processes, increasing not only the frequency of travel but also the 'social distribution' of travel, potentially opening up opportunities for this kind of engagement to a wider population of researchers including those who do not apply for or win large grants. They contend that 'LCAs have an important contribution to make: the more people travel, the more tacit knowledge potentially can be transferred' (2008: 141; 2009). Our historian aptly demonstrates this process and its contribution to his research. His empirical work is focused on one location. Travel for him is essential. But it presents a serious challenge in terms of the level of linguistic skills he needs to perform his research (notably reading texts in archives):

> *'Few physicists have any command of the languages of the countries in which they spend time. Most historians working on other countries have to speak at least two foreign languages -sometimes more'.*

This emphasis on language was common in interviews with historians. Another historian describes his topic as 'Russianism' and explains how he visited Russia 50 times over a period of eight years. He suggests that the multi-lingual aspects of his [biographical] work demand very sophisticated language skills and a close connection to a significant place. The kinds of knowledge this researcher is seeking to acquire and engage with are described by Williams and Balaz as 'encultured and

embedded' and 'grounded in particular places and institutions'. As such, they are 'only partially transferable by corporeal mobility' (2008: 43). And such transfers may demand either long stays or repeated stays which eventually enable such 'circulatory migrants' (mobile researchers) to 'acquire embedded and encultured knowledge in more than one place' (2008: 45). Although the respondent suggests that co-authorship of individual papers is not highly valued in history, he does engage in ambitious multi-volume forms of collaborative publication.

Not all historians are working with archival material in this way. In another case, a historian specialising in British history suggests that he has no need to travel for research purposes. The critical place for him is the place in which he is currently located (the UK or even his office). As with many researchers in the humanities, he is a lone scholar and does not require large external grants or teams to further his research or demonstrate (by proxy) research excellence. He will be judged ultimately on the 'international quality' of his publications. And in history this implies a focus on single authored pieces either as research monographs or peer-reviewed journal articles. Co-authorship in this context is a risk and not an asset. If he does apply for research grants, applications will typically be for research fellowships to relieve him of teaching so that he can focus on his research. In his words: '[In history] we don't have very expensive materials or labs. I have book cases that probably need polishing but it's mainly the human investment'.

The kinds of fieldwork described in the previous cases are place-relevant to the extent that the research data is embedded in place and needs to be 'mined' there. This is quite different to research involving human subjects, either as the means of accessing data or in order to engage with society. This kind of fieldwork is very context-specific and demands a high level of cultural and, on some occasions, linguistic competence where the target respondents speak a different language or the sensitivity or complexity of the subject under investigation may demand communication in the locally relevant language or dialect. Location, with all its cultural, political and social meanings, becomes the 'lab', demanding a high degree of co-presence in place. The following Portuguese doctoral researcher is working in an inter-disciplinary field of social history. She moved to the UK as she was attracted by the opportunity to engage in more inter-disciplinary approaches. Having started her doctorate in the UK she planned a study that required her to spend extended periods of time travelling around Portugal conducting life history interviews with Portuguese war veterans. During her stays in Portugal she is working effectively as a lone scholar with little, if any, contact with the Portuguese research community. The subjective or interactive component of her research is with the subjects of her study (her data) and not with the research community. What distinguishes her from many other 'safari' researchers is that she is a Portuguese national and has the relevant

cultural understanding and language skills. This topic and approach could pose serious challenges to a non-Portuguese researcher. As a 'returnee' she is in the rather unique position of possessing embedded and encultured knowledge of the research location. Co-presence in place is central to this researcher's knowledge acquisition objectives and requires extensive stays in that location.

The final case presented here illustrates the specific challenges of multi-method approaches and the dangers of presenting caricatures of discipline. This respondent specialises in Russian history with a focus on the history of medical research. Rather unusually (for his discipline), he has obtained external funding for this work. He describes two rather different types of stay. The first type of visit involves spending time working in an archive in Moscow. Because of visa restrictions he is only able to stay for three months at a time. He refers to this as a data 'mine' and describes his work schedule as follows: 'The archive is open 24 hours per week. I get there before it opens and leave after it closes each day'. When it closes he goes directly to the library to undertake further archival research until that closes at 8pm. He then sets to work on various specialist documents and books loaned to him for the duration of his stay. Much as he would like to engage with Russian society and the local research community, he has to work intensively and is unable to find the time and energy to make these links. In that respect he is engaging with objects/artefacts and not subjects during this type of stay. He then describes a different kind of research visit entirely, linked to the same project but this time in the field, conducting life history interviews in a remote part of Russia. Some of these interviews last 4-6 hours with some repeat interviews taking place during subsequent visits, enabling him to build up relationships with the subjects of his research (but few with members of the academy in Russia).

This case illustrates the importance of taking care when using discipline as a key variable shaping mobility. Many researchers are engaged either concurrently or consecutively with different research methods and approaches, and moreover research agendas shift over time. These different approaches have important implications for the amount and quality of co-presence (and mobility). As with the previous cases, spending time in place is of critical importance to this form of in-depth qualitative research and demands a high level of linguistic and cultural awareness. It could be described as a form of 'deep' or intense internationalisation. It does not necessarily demand extended stays but repeated short stays and the product may not be manifested in metrics based on co-authorship, external income or large teams.

The emphasis on linguistic sophistication is clear but it appears to be achievable with adequate training. An interview with a post-doctoral philosopher suggests that this may not always be the

case. He is engaged in what he describes as 'very theoretical work' and points out that his branch of philosophy is tied to a specific supra-national geography (Western Philosophy) ruling out many locations in the East. He does all his research from his UK base and argues that working in other countries or with non-native speakers is prohibitively difficult not just because, 'the linguistic subtleties would be lost' but also because of the problems of conceptual equivalence (Hantrais, 2009):

> *'We are in a different position to, for example, computing science. They can manage because of the symbolic nature of computing even if their language is poor. In philosophy this isn't the case. If we spend time talking about the two different meanings of liberty and your language isn't that good you will struggle to pick up the nuances. The subtleties of meaning may be lost'.*

Williams and Balaz identify the importance of language to an understanding of the relationship between migration and the transfer of different types of knowledge. Whilst, in 'some jobs, a limited functional fluency may be enough, if skills other than communication are central to the work [in other cases] migrants may find it takes a long time to understand the nuanced use of language' (2008: 27). The fact that language is bound up with cultural meaning presents more serious challenges for researchers in the social sciences, arts and humanities where knowledge is socially constructed and situated.

This example raises other issues connected to the research approach. More theoretical approaches may imply less mobility. According to Jöns, those who deal with theoretical work 'are as mobile as the embodiment of these immaterialities allows them to be' (2007: 97). The philosopher quoted above also refers to the priority attached to single-authored monographs and journal articles in his discipline. Progression in philosophy is focused on the latter and not on the generation of external income or the size and composition of research teams.

Parallels can be drawn with law or at least traditional forms of 'black letter' or doctrinal legal research. This is undertaken most commonly on a lone scholar basis with researchers accessing legal texts and theoretical material from their desks with increasing use of electronic systems. This does not require high levels of external project funding to trigger excellence indicators, which focus on single-authored monographs and articles. Indeed, engagement in project-based research may detract from this privileged output. Where legal researchers do engage with external funding this usually takes the form of fellowships, but no specific performance metric is attributed to spending time abroad. Rather it is the reputational capital associated with the fellowship scheme or with the

host institution that enriches a CV. In an interview with a researcher about to commence her doctorate working in the area of European law, the respondent identifies a potential need to spend time in another country, perhaps on quite short-term visits, to access archives or European Documentation Centres. A follow-up interview three years later indicated that she had not in fact found the need to do this as most of the materials were available via the internet. She is engaged in comparative research on European law but suggests that spending time in other member-states is not essential. As she put it, with reference to one of the selected countries she was studying, *'I did some work on it but not in it'*.

Rather than contesting the importance of contextualisation, she critiques the assumption that undertaking long periods of field work in another country necessarily facilitates that objective. In the first instance, her comparative research spans a number of countries arguing that there may be a trade-off between depth and breadth. She asks the question: *'Which is more important, a sophisticated cultural experience or more focused topic-based nationally diversified knowledge?'* She then questions the degree of cultural sensitivity that can be achieved via medium-term co-presence in place:

> *'It's important to remember, what are you going to learn in one year? It is slightly dangerous to delude yourself that you will get an in-depth understanding and think you are an expert. You need to be very conscious of your own cultural limitations. There is no such thing as objectivity.'*

In an interesting twist the respondent refers to what she terms the 'artificial cosmopolitanism of the modern university':

> *'It can be tempting to believe you've been part of another culture and engaging with life in another country when actually you've been engaging in a bubble within that country. I think the social mores of university life are really quite distinct. I suspect that regardless of how similar they are to universities in other countries they are different to non-university life'*.

With performance metrics in mind she reflects:

> '*I'm not sure that [spending time abroad] would add to my productivity'*.

Law (in the UK context at least) is a discipline in which career paths and career progression are tightly linked to single-authored publications in highly ranked journals. The dominant association of internationalisation, in legal research at least, with internationally validated research excellence

through peer-reviewed publications is expressed by the following respondent:

> *'Internationalisation? In law it isn't about spending time abroad. It's about the international standard of your publications'*.

This interpretation of internationalisation, especially prevalent amongst more theoretical approaches in the social sciences and humanities more generally, is not about mobility or place in a geographical sense, but the quality of outcomes assessed by the highest level international standards. Internationalisation, in this perspective, is about benchmarking research outputs.

The place that many researchers spend time in may be a somewhat artificial or at least distinct academic space and may not support the kind of 'deep' and challenging cultural immersion that other researchers engage in. Jöns (2007) argues that the mobilisation of researchers in the social sciences and arts and humanities is more difficult because language skills and cultural knowledge are often necessary for conducting research projects. She goes on to support my own arguments in this paper by pointing out that the expectation of mobility varies in different fields of academic work. Her empirical analysis (in the German context) defines context-dependency as the 'extent to which they are bound to a particular setting'. Her analysis reveals: 'striking differences between different fields and types of work. Research projects in the arts and humanities, and particularly those that involve empirical work, are most frequently tied to the German context and less frequently possible in countries other than Germany' (2007: 92)[9].

Internationalisation, Inter-disciplinary and Impact

We have noted the importance of a fine disciplinary mesh capable of capturing the relationships between mobility and field or approach. The growth of inter-disciplinarity, specifically encouraged by funding bodies, often embraces multi-method approaches. And inter-disciplinarity is increasingly connected with impact which generates new mobility dynamics. Williams and Balaz (2005) raise interesting questions about the 'translation' of different types of knowledge via migration. This becomes particularly relevant where research has a clear impact dimension and where impact is planned to take place in a specific place/context. Translating research knowledge to inform and bring about social change generates complex dynamics requiring a higher level of

[9] To be more specific, Jöns (2007) asked her diversified sample of researchers whether 'The project was only possible in Germany'. Percentages of respondents answering positively to this question were: natural sciences (theoretical work) 18, natural sciences (empirical work) 22, arts and humanities (theoretical) 50, arts and humanities (empirical) 58.

'embedded knowledge'[10]. Achieving impact outcomes in translational research may require complex forms of knowledge combinations.

The following example illustrates the significance of place in research that combines inter-disciplinary methods with specific impact objectives. This veterinary researcher combines a range of methods to explore the relationship between animal health, human well-being and social progress in a developing country. The project is externally funded and includes participatory research aimed at achieving place-significant (localised) impact. In this case, not only is the researcher engaging with human subjects as sources of 'data' but also as agents of change. This project thus has both inter-disciplinary and impact (knowledge transfer) elements that together determine the need for co-presence in place. For the duration of the empirical work the researcher is place-bound. Researchers are under increasing pressure from funding bodies to generate and demonstrate 'impact' in research. In such cases researchers will be working with more composite forms of knowledge combining knowledge of a more substantive nature with very contextualised understandings of the translational dynamics operating within organisations or systems (depending on research objectives). Achieving impact usually involves the building of trust relationships with key actors. Researchers may need to combine explicit knowledge (for example the factors causing eclampsia in pregnancy) with contexualised knowledge of health system dynamics in order to achieve impact (Ackers, 2013 and 2013 forthcoming). Impact/translational research will also often take place in the context of multi-disciplinary and potentially international research teams deploying a combination of methods. In such situations the significance of place may vary over the life course of a project and between members of the team.

It is interesting to note how this kind of long-stay mobility has restricted her ability to engage in other forms of international mobility:

> *'I spent a substantial amount of time overseas which limited how much travel I could do. [Since then] I presented at a number of conferences nationally within the UK and a big international epidemiology conference in South Africa. Tomorrow I'm going to France to present some work and later this year, I'm going to India.'*

Reflecting on this she suggests that the kinds of international behaviour researchers engage in are

[10] These issues are discussed in a paper on migration and knowledge transfer in the context of systems change in Ugandan Healthcare (Ackers, 2012).

linked not only to field but also to different stages in the life of a research project (and the academic life-course).

Conclusions

This paper has endeavoured to move beyond caricatures of 'internationalisation' in research that essentialise place or foreignness. Grounded in empirical work with researchers from a wide range of discipline and field specialisms, it identifies subtle but critical differences in the ways in which researchers relate to place. According to Smetherham et al. (2010: 425), 'Academic transfers (of people and knowledge) depend to a considerable extent on 'sameness: the universality of scientific and engineering knowledge systems makes transfers more readily possible (higher maths for instance, is pretty much the same game wherever you are). Mobile researchers are ... a ready-made fit.'. It is not so much, if at all, about inter-cultural exchanges or even 'foreignness' but universality and the intensification of competition. Echoing the work of other researchers, Smetherham et al. (2010: 422) argue that 'evidence suggests that subjects are absolutely critical to analysis'. The opportunities for both people and knowledge to circulate freely are discipline and field dependent.

Where research is more intensely context-bound and closely tied to developing relationships with local cultures, and perhaps also engaging with local policy-makers and users, then neither researchers nor knowledge are so 'footloose'. Embeddedness in local communities may be a requisite of the research rather than a touristic 'option'. Research that demands a low level of contextualisation and a high degree of standardisation (sameness) renders a researcher more footloose (in professional/career terms) and individuals are effectively free to locate in a range of locations. On the other hand, they have less need to spend time abroad. They can work anywhere so long as they have access to the right resources.

Researchers working in highly contextualised areas (such as law) may find it less easy to move in general but may experience a greater need to spend time in significant places especially in comparative law (for example). They are not footloose but their research is more place-bound and, when they do move, they are often engaging in more intense forms of internationalisation. Jöns (2007: 97) makes a similar point: 'Many arts and social science researchers deal with physically embedded material research objects such as archives, field sites, landscapes, groups of people and events. The more people deal with this the less they can do certain parts of their work elsewhere'.

Discipline becomes a key variable but this is also too broad a brush. In many cases it is the specific approach or method that has place-defining implications. Analysis of quantitative data can be undertaken at any location even if some mobility/co-presence is required to collect it. Equally, as Jöns (2007) suggests, more theoretical work has become less place-dependent as sources have become more ubiquitous and virtual. Experimental work in physics and the life sciences may demand co-presence with specific locations/infrastructures, but often only for short periods as data collection and analysis may be undertaken remotely.

The degree of place-specificity may also reflect the life-course of a project with some stages demanding a high level of presence in a significant place followed by a period of footlooseness for data analysis, writing and dissemination. The same researcher may adopt different approaches to internationalisation depending on the work they are doing at any point in time.

A much greater degree of commonality is experienced by researchers in relation to dissemination and networking behaviour. Here, short-term mobility remains highly important and the volume of travelling for business visits is constantly increasing. The connection with significant places is perhaps in decline, however, as key conferences circulate and location may bear little relationship with the subjective dimensions of research. Interaction here is with the research community in the 'artificial cosmopolitan' environments of universities. A distinction can be made here with those forms of research that explicitly seek a high level of place-significant impact in a particular locale or jurisdiction. Respondents also made the interesting and important connection between international activity, mobility and performance metrics in their discipline.

The research presented in this paper supports the contention that lies at the heart of the recent European Science Foundation Policy brief (ESF, 2013) that mobility is not an end in itself and must be evaluated according to the research context. Place, and time-in-place(s), is linked to scientific purpose. Spending time in a country as a foreigner (non-national) in itself bears no relation to excellence. On the other hand, inability to respond to scientific need to spend time-in-place(s) can hinder research and researcher development. Often, but not always, the same scientific objective can be achieved through different combinations of mobilities. No one form of mobility should be privileged in research assessment protocols. More specifically, the particular means of achieving requisite co-presence in place may reflect an individual researcher's balancing of professional and personal commitments and/or desires. A focus, in performance review, on outcomes and an evidence-based assessment of co-presence, supports more effective and targeted mobility policies. In the process it undermines some of the externalities and inequalities associated with mobility-

forcing mechanisms allowing excellence to flourish in all its forms.

From a policy perspective, the findings presented in this paper suggest that policy makers at national and European/international level should begin to question more critically traditional approaches to mobility and develop mechanisms to capture the outcomes associated with a more diverse range of mobilities. Systems of recruitment and progression systems should require researchers to 'make the case' for mobility in the context of their own research and career development needs and ensure that appropriate forms of mobility are rewarded and encouraged but never forced.

References

Ackers, H.L. (2003). *The Participation of Women Researchers in the TMR Marie Curie Fellowships*. European Commission: Brussels.

Ackers, H.L. and Gill, B. (2008). *Doctoral Mobility in the Social Sciences.* NORFACE.

Ackers, H.L. and Gill, B. (2008). *Moving People and Knowledge: Scientific Mobility in an Enlarging Europe.* Edward Elgar.

Ackers, H.L. (2008). Internationalisation, mobility and metrics: a new form of indirect discrimination?, *Minerva* 46: 410-435.

Ackers, H.L., Balch, A. and Coey, C. (2009). *Unpublished summary report on the initial analysis of the results of the 5 surveys* (Former FP4, FP5 Host and FP6 Fellows: Current FP6 Fellows and FP6 Supervisors) as part of an Ex-post Impact Assessment study concerning the 'Marie Curie Actions' under the Sixth Framework Programme managed by the Evaluation Partnership (TEP).

Ackers, H.L. (2008). Internationalisation, Mobility and Metrics: A New Form of Indirect Discrimination?, *Minerva* 46 (4) 410-435

Ackers, H.L. (2010a). Internationalisation and equality: the contribution of short stay mobility to progression in science careers, *Recherches sociologiques et anthropologiques,* 41: 83-103.

Ackers, H.L., Gutheil, M., Harrap, K., Ludden, V., Van de sande, D., and Watson, J. (2010). *Ex-post Impact Assessment Study concerning the Marie Curie Actions under the Sixth Framework Programme*. Final Report to the European Commission, Research Directorate General: Brussels

Ackers, H.L. (2010b). 'The impact on research careers'. Annex to, Ackers, H.L., Gutheil, M., Harrap, K., Kitchener, M., Watson, J., and Zadrozny, T., *Evaluation of the Impact of the*

Framework Programme on the Formation of the European Research Area (ERA) in the Social Sciences and Humanities (SSH). Final Report to the European Commission, Research Directorate General: Brussels.

Ackers, H.L. (2013a). 'Mobilities and Knowledge: Understanding the dynamics of knowledge transfer and translation processes in North-South Healthcare Partnerships', *International Migration* 50(5) (Epub ahead of print, doi: 10.1111/j.1468-2435.2012.00773.x).

Ackers, H.L. (2013b). From 'Partial Migrations' to Mundane Transnationalism: Socio-legal (Re) Conceptualisations of Contemporary Intra-EU Migration, *On-Line Journal on Free Movement of Workers within the EU*, Issue 6. http://ec.europa.eu/social/main.jsp?catId=737andlangId=enandpubId=7601andvisible=1

Ackers, H.L. (2013). Managing Professional Mobile Voluntarism for International Development: Relationships, Reciprocity and the Role of Host Institutions, *Tijdschrift voor economische en sociale geografi*e (forthcoming).

Avveduto, S. (2001). 'International mobility of PhDs'. In Avveduto, S. (ed.) *Innovative People: Mobility of Skilled Personnel in National Innovation Systems*. Paris: OECD.

Beaverstock, J.V., Derudder, B., Faulconbridge, J.R. and Witlox, F. (2009). International business travel: some explorations. Geografiska Annaler: Series B, *Human Geography,* 91: 193-202.

Boyle, P.J., Cooke, T.J., Gayle, V. and Mulder, C.H. (2009). The effect of family migration on Union dissolution in Britain'. In Stalford, H., Currie, S. and Velluti, S. (eds.) *Gender and Migration in the 21st Century*, Farnham: Ashgate.

Brandenburg U, Federkeil G. (2007). *How to measure internationality and internationalisation in higher education institutions! Indicators and Key Figures*. Centre for Higher Educational Development. Berlin: Germany, Working Paper 92.

Breinbauer, A. (2009). *Long Term Mobility of Highly Qualified Scientists (Brain Drain) from Austria and Hungary – a Case Study of Mathematicians, Paper presented to the Workshop.* International Student Mobility and Migration in Europe, University of Vienna, 4-5 June.

Coey C. (2010). *International Staff at the University of Liverpool and Comparator Institutions: Trends and Patterns 2004-05 to 2008-09*. Unpublished paper presented to the University of Liverpool's Internationalisation Committee.

Cox, D. (2008). *Evidence of the main factors inhibiting mobility and career development of*

researchers, Rindicate. Final Report to the European Commission. Contract DG-RTD-2005-M-02-01.

Cresswell, T. (2006). *On the Move, Mobility in the Modern Western World*. Routledge: London.

Davenport, S. (2004). Panic and panacea: brain drain and science and technology human capital policy, *Research Policy*, 33 (4), 617–630.

Enders, J. and De Weert, E. (2003). The International Attractiveness of the Academic Workplace in Europe - a Synopsis Report. In J. Enders and E. De Weert (eds) *The International Attractiveness of the Academic Workplace in Europe*, vol. 107. Gewerkschaft Erziehung und Wissenschaft. Hauptvorstand, Frankfurt, Main, pp. 7-27.

European Science Foundation (2013a). *Developing Research Career In and Beyond Europe*. A Report by the ESF Member Organisation Forum 'European Alliance on Research Career Development (EARCD).

European Science Foundation (2013b). *New Concepts of Researcher Mobility*. Science Policy Briefing, April.

Favell, A. (2008). *Eurostars and Eurocities. Free movement and mobility in an integrating Europe*. Oxford: Blackwell Publishing.

Golynker, O. (2006a). *Ubiquitous Citizens of Europe: The Paradigm of Partial Migrations*. Oxford: Intersentia.

Hantrais L. (2009). *International Comparative Research: Theory, Methods and Practice*. Palgrave Macmillan: Basingstoke.

Jöns, H. (2007). Transnational mobility and the spaces of knowledge production: a comparison of global patterns, motivations and collaborations in different academic fields, *Social Geography* 2: 97-114.

Kesselring, S. (2006). Pioneering mobilities: new patterns of movement and motility in a mobile world, *Environment and Planning* 38: 269-279.

King, R. (2002). Towards a new map of European migration, *International Journal of Population Geography*, 8 (2), 89-106.

Kofman, E. (2000). The Invisibility of Skilled Female Migrants and Gender Relations in Studies of Skilled Migration in Europe, *International Journal of Population Geography*, 6, 45-59.

Kofman, E. (2004). Family-related migration: a critical review of European studies, *Journal of Ethnic and Migration Studies*, 30(2), 243–262.

Mahroum, S. (2000). Scientists and global spaces, *Technology in Society*, 22 (4), 513–522).

Meyer, J-B. (2001). Network approach versus brain drain: lessons from the diaspora, *International Migration*, 39 (5), 91–110.

Perista H. (2009). *Living with Science. Time for Care and Career Progression –A Gendered Balance?* Unpublished doctoral thesis.

Puustinen-Hopper, K. (2005). *Mobile Minds: Survey of Foreign PhD Students and Researchers in Finland*. Helsinki, Finland: Academy of Finland.

Kofman, E. and Raghuram, P. (2006). Women and global labour migrations: incorporating skilled workers, *Antipode*, 38, 2, 282-303.

Kofman, E. and Raghuram, P. (eds) (2005). Gender and Skilled Migrants: Into and Beyond the Workplace, *Special issue of Geoforum*, 36, 2, 149-154.

Raghuram, P. (2004). The difference that skills make: gender, family migration strategies and regulated labour markets, *Journal of Ethnic and Migration Studies*, 30, 2, 303-323.

Rainbird, H. (2000). 'Skilling the unskilled: access to work-based learning and the lifelong learning agenda', *Journal of Education and Work*, 13: 183-97.

Rothwell, N. (2002). *Who wants to be a scientists? Choosing Science as a Career*. Cambridge, UK: Cambridge University Press.

Smetherham C, Fenton, S, Modood, T. (2010). How global is the UK academic labour market? Globalisation, *Societies and Education*, 8: 411-428.

Williams, A.M., V. Baláž and C. Wallace (2004). International labour mobility and uneven regional development in Europe, *European Urban and Regional Studies*, 11 (1), 27–46.

Williams, A.M., Balaz V. (2005). What human capital, which migrants? Returned skilled migration to Slovakia from the UK, *International Migration Review*, 39: 439-468.

Williams, A.M., Balaz V. (2008). *International Migration and Knowledge*. Routledge: London.

Williams, A.M., Balaz V. (2009). Low cost carriers, economies of flow, and regional externalities, *Regional Studies*, 43: 677-691.