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**Cluster Benefits and Costs
Does Industry or Multinationality Matter?**

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Cluster Benefits and Costs Does Industry or Multinationality Matter?

This study has two objectives. Firstly, to compare cluster benefits, costs, and processes in two different highly productive clusters holding city location constant: financial services and media in London. To what extent are cluster forces similar and different in these two clusters? The second objective is to compare cluster benefits, costs, and processes for MNEs and UNEs within the two clusters. To what extent are cluster forces similar and different for MNEs and UNEs? Via exploratory factor analysis and logit analysis of derived factor scores, we find that similar factors are at work in each cluster: the factors are largely generic and not industry/cluster specific. We also find that some factors are similarly valued by MNEs and UNEs, some are valued more by MNEs, and some are valued more by UNEs. Importantly, factors falling into each category varies by cluster. So, multinationality matters and what matters is industry/cluster specific.

Keywords: Clusters; Location; FDI; MNEs; Financial Services; Media. JEL classification codes: F2, L2, O3, R3

1 Introduction

Foreign direct investment (FDI) has been extensively studied in the field of international economics (Teece, 2014). Similarly, in the fields of economic geography and strategic management, the advantages, disadvantages and processes that arise in geographical clusters has received sustained attention (Karlsson *et al.*, 2014). However, empirical research on the *interface* of these two topics is limited but is being increasingly called for (Beugelsdijk and Mudambi, 2013). One reason for the neglect could be that highly productive clusters are equally attractive to multinational enterprises (MNEs) and unational enterprises (UNEs) and therefore, whilst such clusters should attract direct investment, we should not expect them to disproportionately attract *foreign* direct investment. However, against this idea, there is a growing body of evidence that suggests that highly productive clusters can particularly attract *FDI* (Cook *et al.*, 2013). A re-evaluation of the spatial organization of MNE activities and FDI has been underway since Dunning's (1998) call for more research on location, and in particular, location in clusters, as a determinant of FDI. He concluded: "The extent to which MNEs promote, or gravitate to, spatial clusters within a country or region is an under-researched area." (Dunning, 1998: 58). The conclusion is based on the following conjecture:

"... we suspect that the fact that this subject has not been given much attention by international business scholars is partly because scholars have believed that the principles underlying the locational decisions of firms within national boundaries can be easily extended to explain their cross-border locational preferences." (Dunning, 1998: 49)

The persuasiveness of this perspective is strong and this explains its longevity: If a cluster is highly productive, then it should attract investment, both domestic and foreign, in proportion to the domestic and foreign make up of the particular industry. Indeed, given liability of foreignness (Zaheer, 1995) and restrictions to international trade, a highly productive cluster should attract a more than proportionate amount of *domestic* investment. A test of Dunning's conjecture would be to compare the motivation for foreign and domestic

investment in a highly productive cluster. If the cluster is equally attractive to MNEs and UNEs, we would expect to observe no difference in motivation. If the cluster is unequally attractive to MNEs and UNEs, we would expect to observe a difference in motivation. In-between, we may expect certain cluster benefits to be more attractive to MNEs, other benefits to be more attractive to UNEs, and a final set of benefits that are equally attractive to MNEs and UNEs. Whatever the case, we would need to explain observed similarities and differences to augment our understanding of FDI in clusters.

Whilst the attraction of FDI to clusters is a neglected empirically, the relationship between FDI and the *costs* of clustering has been completely ignored. Clustering does have its costs and these relate to the congestion that naturally arises when economic activity is geographically dense. These costs can reduce the productivity of a cluster and can even lead to its decline (Swann, 2009).

A second lacuna is fine-grained industry comparative empirical research on the benefits, costs and processes that arise in clusters. Existing studies tend to be either focused on a particular cluster or a particular industry (e.g., Cook *et al.*, 2011) or are industry comparative but at a high level of abstraction. A series of econometric studies (Swann and Prevezer, 1996; Beaudry *et al.*, 1998 and Pandit *et al.* 2002) use a common methodology to investigate clustering in three high technology manufacturing industries, computing, biotechnology and aerospace and two service industries, broadcasting and financial services. In all cases, two types of model were estimated. The first, a growth model, estimated the extent to which cluster strength enhanced the growth rate of firms located within the cluster. The results show strong similarities between the high technology manufacturing industries and the service industries. The second type of model was based on firm entry and investigated the extent to which cluster strength in sub-sectors within each industry either appeared to attract or repel entry of firms into each sub-sector. These models are more difficult to compare than

the growth models but, once again, do reveal some very similar patterns. These broad-brush econometric investigations cast no light on the specific reasons why the identified patterns have emerged but the degree of similarity across five different industries does suggest that similar forces are at work in different strong clusters.

On the basis of the above, this study has two objectives. Firstly, to compare cluster benefits, costs and processes in two different highly productive clusters holding city location constant: financial services and media in London. To what extent are cluster forces similar and different in these two industrial clusters? The second objective is to compare cluster benefits, costs and processes for MNEs and UNEs within the London financial services and medial clusters. To what extent are cluster forces similar and different for MNEs and UNEs?

Because findings on both the interface of FDI and clusters and cluster comparison are limited, the study takes an exploratory inductive approach in the empiricist tradition of Bacon, Hume and Pearson among others (Mulaik, 1987). The next section therefore presents the theoretical framework that was used to determine the variables for which data were collected. Section 3 details the research design of the study by describing its units of analysis and its method of data collection and analysis. Section 4 presents the results and discusses these in the context of extant literatures. The final section concludes and states the managerial implications and the limitations of the study.

2 Theoretical Framework

The clusters literature splits variables of interest into two categories: the *benefits* of a cluster location and the *costs* of a cluster location. Very simply, the extent to which a cluster's benefits outweigh its costs indicates cluster strength. What are these benefits and costs? A firm may be attracted to a cluster because of so called 'fixed factors'. These are benefits that exist at a location that are *not* a function of the co-presence of related firms and

institutions and include climate, time zone and language. Beyond these fixed factors, cluster theory maintains that there are benefits and costs that are *directly related* to the co-presence that exists within a cluster. These can emanate on the demand or supply side and furthermore, some are dynamic in that they increase as geographical concentration increases. Table 1 provides a summary.

Table 1: Cluster Benefits and Costs

	Demand Side	Supply Side
Benefits	Customer proximity	Knowledge spillovers
	Reduced consumer search costs	Specialised inputs
	Informational externalities	Infrastructure benefits
		Better motivation and measurement (benchmarking)
		Experimentation at lower cost
		Informational externalities
Costs	Congestion and competition in output markets (overheating)	Congestion and competition in input markets (overheating)
	Technological discontinuities	Cartels and isomorphism
		Powerful trade unions
		Stagnant local infrastructure

2.1 Cluster Benefits

On the demand side, the firm may benefit from *customer proximity* (von Hippel, 1988) which can be especially important when customers are sophisticated. Such customers can encourage innovation by being demanding and by alerting suppliers of new trends and innovations. Such knowledge exchange between customers and suppliers can be problematic because the value of knowledge is difficult for users to gauge before they have acquired or absorbed it. Accordingly, it is difficult for a market for the exchange of knowledge to arise. Clusters provide a solution to this problem. Roberts *et al.* state:

“The risks and uncertainties that arise in the market exchange for knowledge are reduced by the development of networks and a relationship of trust between the parties involved. Reputation and accreditation by relevant professional bodies are important mechanisms for reducing uncertainty.” (2000: 17)

The clustered firm may also benefit from *reduced consumer search costs* (Swann *et al.*, 1998). The idea here is that the firm is more likely to be found by customers when it is

located in a cluster. This is particularly important when consumers have specific requirements (and so explains why antique shops tend to cluster). *Information externalities on the demand side* may also exist, that is, a cluster's reputation rubs off on the firm that is located in it (Kalnins and Chung, 2004). This can be a major benefit when a cluster has a high reputation (e.g., Harley Street and Saville Row for medical and tailoring services respectively).

On the supply side a major benefit is that *knowledge spills over* in a cluster and this is particularly important when valuable industry knowledge is tacit rather than codified. In a sense, tacit knowledge becomes a public good (Marshall, 1890). When this happens, innovation can be more prolific. Mechanisms for knowledge spillovers include labour market churn, social interaction and diffusion via clients and suppliers.

A second supply side benefit is access to *specialised inputs* (Marshall, 1890). As a result, the firm benefits from lower search costs because it can easily recruit from a pool of specialised labour and can tap into a specialised supplier base. *Infrastructure benefits* (Porter, 2008) can go beyond access to a good transport network to include institutions that coordinate activities across companies in order to maximise collective productivity, for example, trade associations which set standards and/or conduct marketing for the cluster as a whole. *Better motivation* can also exist within a cluster as local rivalry can act as a powerful spur. Also, it can be *easier to measure performance* (benchmark) against local rivals as they share a similar context leading to lower monitoring costs (Porter, 2008). Another important supply side benefit is that it can be easier to try out new ideas in a cluster since it is possible to gain instant feedback and all of the inputs (including sympathetic venture capital) required for *experimentation* (Swann *et al.*, 1998) are likely to be present in the cluster. Finally, a clustered firm may benefit from *informational externalities on the supply side* (Swann *et al.*, 1998): The firm enjoys lower risk by observing successful production at a location.

2.2 Cluster Costs

On the demand side, *congestion and competition in output markets* (Swann *et al.*, 1998) can lead to lower prices and so profits can fall. Also, a cluster *specialised in a particular technology* can go into decline if that technology is substituted. Porter (1998) provides the example of New England's loss of market share in golf equipment to California as the industry moved from traditional materials (steel and wood) to advanced materials.

On the supply side, *congestion and competition in input markets* can lead to higher wages and rents which in turn could lead to movement out of the cluster (Pandit *et al.*, 2002). The final three decline factors can all tempt behaviour that erodes competitive advantage. Being close to competitors tempts *cartel formation and isomorphism* (herd behaviour) which can have a detrimental effect on innovation within the cluster. A large labour pool tempts the formation of *powerful trade unions* which can stifle the cluster's flexibility. Finally, a successful cluster can be taken for granted by local government resulting in *stagnant local infrastructure*. These potential supply side decline factors provide the main agenda for government industrial policy (Porter, 1998).

2.3 MNEs and Clustering

The idea that firm-specific advantages can be developed in strong clusters has been a mainstay of Porter's (2008) work and that such advantages developed in home markets can be leveraged into foreign markets has a long tradition in theories of the MNE (Dunning, 2003). In strong clusters, cluster benefits significantly outweigh cluster costs and so provide a platform for indigenous firms to succeed in international business, Porter's (1990) chief thesis, but, increasingly, it is also argued that strong clusters *attract* FDI. There is a well developed literature that attempts to generally explain FDI in terms of the benefits that certain

locations provide for investing MNEs. Dunning (1993) presents an FDI typology differentiating between investments that are ‘resource seeking,’ ‘market-seeking,’ ‘efficiency-seeking,’ and ‘strategic-asset seeking.’ More recently, he has drawn from economic geography (Dunning, 1998) to elaborate the location element of his ‘OLI’ framework by incorporating clusters thinking. On the subject of MNE location in *clusters*, Birkinshaw & Hood (2000) find such activity to be rational as subsidiaries located in clusters make greater strategic contributions to parent companies than subsidiaries that are not located in clusters. Enright (1998) elaborates a typology of such contributions. ‘Listening posts’ aim to absorb knowledge from the cluster and then disseminate it within the wider enterprise (Dupuy & Gilly, 1999). Nachum & Keeble (2003) state that the ability to tap into cluster specific knowledge is particularly important when important knowledge is tacit. ‘Stand-alone corporate portfolio investments’ serve as centres for particular business activities perhaps benefiting from the reputation spillover of a particular location. Nachum (2000) supports this line of thinking by identifying the increased importance and autonomy of foreign subsidiaries.

Another type is the subsidiary that ‘supplies products and activities’ for the MNE’s other activities and finally there is the subsidiary which absorbs ‘skills and capabilities’ from the cluster and then transfers these to the wider enterprise. Beaverstock’s (1994) study of multinational banks elaborates this type of FDI by finding that such firms benefit from the ability to transfer skills and capabilities between subsidiaries in their worldwide operations through international personnel movements. This may be particularly the case when an industry has more than one prominent location and so the MNE may benefit from locating in all prominent locations in order to pick up skills and capabilities in one to pass on to the others.

An additional motivation for MNEs locating in clusters is that a cluster location may enable MNEs to concentrate on their core competences and outsource non-core activities to specialist suppliers (Harrison, 1994). This trend of both outsourcing and geographical dispersion has been much in evidence in recent years, giving rise to complex global production networks (Dicken, 2011; Mudambi, 2008) and the phenomenon of the ‘global factory’ (Buckley, 2009). In some cases this will simply be to take advantage of favourable factor costs, but for core activities more enduring and inimitable sources of advantage will be sought. The thrust of recent literature in International Business is that clusters may offer a particularly attractive environment for the development of such advantages (Dunning, 2009).

A challenge to cluster theory is to account for why some firms appear to benefit more than others from membership of a particular cluster. Drawing from the Resource-Based View (Barney 1991), Tallman *et al.* (2004) make an important and bold attempt to meld insights from strategic management and economic geography to argue how membership of strong clusters can be the foundation for sustained competitive advantage. While not gainsaying the importance of other types of resource, these authors place particular emphasis on *knowledge-based* resources and lay importance on the firm’s *absorptive capacity* to assimilate and make use of new knowledge (Cohen & Levinthal, 1990). They argue for the existence of cluster-level knowledge systems, which some firms are better able to exploit than others. This ability, in turn, depends on the firm’s ability to *embed* itself in the cluster, formal linkages typically bringing more substantial benefits than informal relationships (Jenkins & Tallman, 2010). MNEs may, at least initially, lack the cognitive and organizational proximity required to fully embed and exploit potential knowledge spillovers in a cluster (Jenkins & Tallman 2010) and so there are good reasons to suppose that UNEs will be better-placed to profit from location in domestic clusters, though not uniquely so as the O advantages of foreign MNEs may be sufficient to counter-balance their ‘liability of

foreignness' (Zaheer, 1995). Indeed, the idea that MNEs may have capabilities which more than compensate for their liability of foreignness has been central to theorising in the international business literature since Hymer (1960). What is more, as MNEs gain experience of operating internationally, their ability to manage the complexity of operating in different institutional environments is apt to strengthen (Dunning, 2003).

3 Research Design

This study's clusters, or units of analysis, needed to have two characteristics: firstly they needed to be a *strong* clusters in terms of Table 1 above. Secondly, they needed to have a substantial MNE component. The units of analysis chosen, that meet both of these criteria, are the City of London financial services cluster and the Central London media cluster.

Although weak clusters can be important in terms of employment and FDI, this is invariably *not* because of cluster forces but rather non-cluster reasons such as government incentives in the form of relaxed planning regulations and/or tax-breaks at a particular location or general benefits that extend beyond the geographical scope of the cluster such as cheap labour within an entire region or country. As this is a study of the benefits (and costs) of cluster forces, it is necessary that it focuses on clusters in which these forces are strong.

3.1 The City of London Financial Services Cluster

Swann states: "Probably the strongest cluster in the UK is the financial services cluster in the City of London" (2009: 151). Similarly, Dunning states: "Perhaps the best illustration of a spatial cluster, or agglomeration, of related activities to minimise distance-related transaction-costs, and to exploit the external economies associated with the close presence of related firms is the Square Mile of the City of London" (1998: 61). Although the City has historically referred to the 'Square Mile' around the Bank of England, developments to the east, west, and north have extended the centre to the extent that the term 'the City' is now

used to refer to the cluster as a whole and not just the square mile (Kynaston, 2012). The City is best understood as a *wholesale* financial services centre with core activities in banking, insurance, and fund management supported by a panoply of activities including legal services, accounting, management consultancy, advertising, market research, recruitment, property management, financial printing and publishing, and the provision of electronic information. The City remains strong, despite the financial services downturn beginning in 2007. The latest Global Financial Centres Index (The City UK, 2013) shows that the cluster has maintained its number 1 global position. Employment fell to 275,000 in 2009 but has recovered to 326,000 in 2013 which is 7.7% above the pre-crisis peak (The City UK, The London Employment Survey, 2014).

What of the second criterion, the need for the cluster to have a substantial MNE component? The City's current attractiveness as a centre for FDI and its position as the world's most important *international* financial services cluster is the result of a number of significant developments in the post-war period, the most recent of which was deregulation in the 1980s which triggered a substantial rise in FDI in the City (Kynaston, 2001). It was the first major deregulation of this type in Europe: "This focus on competitiveness meant that foreign investment was encouraged, resulting in *most* of the leading wholesale institutions being foreign owned" (HM Treasury, 2003: 31, emphasis added). Clark states:

"London is an 'industrial district' that has attracted and retained firms whose home location could place them elsewhere in the world (in the US and Europe for example). Indeed, for many such firms, locating and developing a significant presence in London has been a conscious locational choice made both in relation to competitors and related firms, and in relation to the preferences and needs of UK and European customers." (2002: 438)

3.2 The Central London Media Cluster

Media firms are also very highly agglomerated in central London. Table 2 provides a set of standard location quotients, which show the share of media employment to total

employment in the region divided by the share of media employment to total employment at the national level. A value above 1 indicates a region has a disproportionate amount of media employment. This underscores the dominance of London, which is especially marked in film distribution, cable and satellite broadcasting, post production, special effects, and commercials production.

Table 2: Location Quotients In Media Industries By Sector and Selected Region, 2009

	North West	Whole of London	Scotland	Wales	South East	South West	West Midlands	East Midlands
Terrestrial broadcast	0.61	4.42	0.72	1.38	0.20	0.56	0.36	0.09
Cable and satellite	0.00	7.59	0.00	0.00	0.05	0.00	0.00	0.00
Independent production (TV)	1.36	3.33	0.55	2.51	0.21	0.54	0.26	0.84
Radio	1.74	2.43	0.94	0.78	0.35	0.20	0.41	0.30
Post production	0.25	6.16	0.24	0.29	0.28	0.16	0.23	0.00
Studios & equipment hire	0.08	3.50	0.50	0.37	0.70	1.78	0.77	0.00
Special effects (VFX)	0.00	7.09	0.00	0.00	0.00	0.00	0.00	0.00
Other services for film and TV	1.31	2.97	0.37	0.43	1.02	0.46	0.12	0.49
Film production**	0.35	4.41	0.91	0.84	0.53	0.45	0.44	0.54
Film distribution	0.00	5.42	2.97	0.00	0.00	0.00	0.00	0.00
Animation	1.28	1.51	1.38	2.02	2.65	0.54	0.00	0.00
Commercials and pop promos	0.00	3.54	0.00	0.00	0.25	2.56	1.25	0.00
Corporate production	0.58	3.48	0.45	0.28	0.70	0.30	1.15	0.71
Online content	0.27	1.78	0.37	2.41	0.59	1.72	0.39	0.46
Offline multimedia	0.84	0.56	0.86	3.56	2.64	0.00	0.21	0.00
Other interactive media	2.79	0.29	0.00	1.65	0.35	0.00	2.87	0.18
Computer games	2.81	1.46	0.84	0.15	0.24	0.08	0.64	1.19
Archives and libraries	1.31	3.28	0.00	0.00	0.99	1.67	1.62	0.00
TOTAL*	0.92	3.42	0.51	1.19	0.51	0.64	0.40	0.36

Source: Skillset (2010)

* Total does not include cinema exhibition.

** Skillset's Employment Census counted employees in permanent production companies only. A further 9,100 freelancers are estimated to be working in the film production sector.

Economies of scale in programme production are not pronounced (Cave, 1989) but are significant in what may loosely be called 'distribution', which relates to the acquisition of broadcasting rights and bundling them into packages, typically in the form of a channel offering. Large distributors are able to absorb a large number of programmes many of which

will be barely commercial and recoup on the relatively small numbers of hits, making major media companies important agents organising financing, deal-making and distribution. The existence of these economies is of first rank importance: The fact that distributors (and studios in the case of Hollywood) are large will create a natural physical agglomeration (Ellison and Glaeser, 1997).

In the case of London, the BBC is dominant. This dominance is reinforced by similar dominance in allied industries such as publishing, music and entertainment (Turok, 2003). As Bathelt (2005) suggests, hub firms such as the BBC play a number of important roles within agglomerations. They establish basic ground rules for programme formats. They attract new businesses as they are important customers, not least since they favour local suppliers both of programmes and broader services. Hub firms are important for other reasons too. Traditionally, the BBC, and to a lesser extent the ITV companies, have been important trainers of labour. Both the BBC and ITV companies have also since 1990 provided sometimes considerable assistance to fledgling independent companies, without which some might have been short lived.

London is also an important location for foreign media firms. All the major media conglomerates have a substantial presence in London, Metro-Goldwyn-Mayer, Paramount Pictures, Sony Picture Entertainment (Columbia Tristar), Twentieth Century Fox, Universal, Walt Disney and Warner Brothers. London is important as a global node for a variety of reasons. It is a primary cultural metropolis which makes it attractive to creative individuals as well as being a melting pot of ideas (the two are interrelated). It can provide firms not only with ideas but also production capability sophisticated enough to meet any demand. The UK in particular, is a highly important market for US exports and is an important beachhead for penetrating Europe. Being able to interact with others in the process of trying to discover

commercial ideas helps lower risk and is a key attraction of urban settings (Banks, Lovatt, O'Connor, & Raffo, 2000).

The characteristics of London as a media centre has strong similarities with Scott's (2004) account of Hollywood as a 'bifurcated' production system where substantial media companies with substantial in-house production capability are interwoven with a highly (flexibly) specialised array of independent companies which they rely on both to spread risk, diversify their product offerings and to sound out emerging market opportunities. Like Hollywood, London has strong narratives which supports its status as a major international centre in television broadcasting, advertising and filmmaking.

3.3 Method

The theoretical framework summarised in Table 1 informed two questionnaires (both available from the authors on request) consisting of 40 cluster benefit and cost items for the financial services survey and 45 cluster benefit and cost items for the media survey. The questionnaires had a large identical core with slight small variation (1) due to unique industry specific questions (e.g., relating to the stock exchange for financial services or relating to the BBC for media); and (2) based on feedback received following focus groups and piloting. In almost all cases, respondents were asked to rank the importance of a potential benefit or cost from 1 (not important) to 5 (very important) with an option of 0 if not applicable.

For the financial services survey, in order to ascertain the reach of clustering forces, a focus group study of senior financial services executives was conducted. This revealed that the appropriate area was up to 500 metres beyond the boundaries of the City of London and Canary Wharf. The sample of financial services companies (engaged in banking, investment banking, insurance, fund management, legal services, accounting, management consultancy, advertising, market research, recruitment, property management, financial printing and publishing, and the provision of electronic information) was therefore drawn from this area

from the *Market Location* database. This UK database contains 2.3 million business records which detail contact names by job title, SIC and Market Sector codes, number of employees, location status (branch, head office or sole office) and 100m grid references. It was therefore well suited for our purpose. Because of the particular importance of large ‘hub’ firms in the City, we over-sampled these by including all of the largest 350 financial services firms within our geographical boundary. A further 1,150 financial services firms were then drawn at random from the remaining population of 22,650 firms. Accordingly, a total of 1,500 questionnaires were posted, addressed to the chief executive officer, by name when it was known. The study benefited from the support of a very senior and highly regarded public official connected to the UK financial services industry who agreed to add her endorsement in the questionnaire’s covering letter.

A total of 310 usable questionnaires were returned, a response rate of just over 20%. Of these, 140 were UNEs and 170 were MNEs. We tested to see if our sample was representative. A chi-square analysis of the composition of the sample by 3 digit SIC line of activity against the 1,500 questionnaires sent showed no statistically significant difference between the two groups. The critical value of chi-square (7) at the 10% level is 12.017, the calculated chi-square for our test for non-response bias is 3.395 for the 1,150 stratified random sample, 5.367 for the 350 largest firms, and 5.457 for both groups combined. We are therefore confident that we have a random and representative sample of the population of interest. As a further check of non-response bias, tests were conducted for any significant differences between early and late responders (those who responded before and after a reminder request was sent). Using a chi-square test based on a null hypothesis of no difference in composition by 3 digit SIC, the calculated chi-square was 2.991 compared to the 10% critical value of chi-square (6) of 10.645, showing insufficient evidence to reject the null. Two-sample t-tests were conducted using firm size and the score on each of the six

main factors used in the analysis. Only one test showed a significant difference, that for the score on the 'local competition' factor, which was just significant at the 10% level. In summary, there is scant evidence of non-response bias.

Regarding media, the questionnaire was adapted from the earlier financial services questionnaire and subject to piloted with senior managers in the industry prior to being distributed. Only a small number items needed to be changed to customise the questionnaire for the media cluster e.g., deleting references to financial exchanges. The final questionnaire was mailed to a stratified random sample of 1,500 companies drawn from a bespoke database built up from the FAME financial database and the Broadcast Production Guide, the leading industry trade directory. Both are respected sources and each filled gaps in coverage of the other. For example, not all firms are large enough to be captured in FAME and not every firm active in the industry advertises in the Broadcast Production Guide, although it is the most comprehensive directory available.

A total of 204 usable questionnaires were returned, a response rate of 13.6%. Of these, 187 were usable and of these 150 were UNEs and 37 were MNEs. 50 nil-responses were received which shed some light on the genuine response rate. The majority of these nil responses related to firms that had gone out of business, an important feature of the industry which has a high churn of firms, and one which it is not practically possible to avoid. Taking this factors into account the response rate among live firms is approximately 16%.

Comparing responses with the distribution of firms mailed revealed evidence of some non-response bias: A standard chi-square test of no difference between the proportions in each line of business sampled and the proportions in the returned questionnaires was rejected at the 1% level. The main source of the discrepancy was a lower than proportional response from advertising firms and producers of commercials and promotional videos, which are not the central focus of analysis here. For firms in production and post production the null

hypothesis of no difference between the proportions sampled in each line of activity and the proportions accounted for in the returned questionnaires was not rejected at the 10% level.

Two related analyses were performed on the data in order to address the study's objectives. Firstly, an exploratory factor analysis was conducted to organise and reduce the cluster benefit and cost variables into factors (or *latent* variables). Secondly, the derived factors scores were entered into a logit analysis to identify factors which discriminate between MNEs and UNEs.

Custom control and dummy variables were added to each logit model . For financial services dummy variables were added for the principal line of activity, with banking being the default category and size was controlled for using numbers of employees, which resulted in the loss of 16 observations. For media, again dummy variables were added for principal line of activity. Also a dummy variable was added to indicate whether or not the firm was located in W1 (broadly corresponding to Soho), which is the heart of the media cluster in central London. Six variables were included which identified how important a London location was in helping firms innovate through developing respectively new products, new services, better ways of delivering products or services, developing new markets, improving organizational structure and re-orienting the company strategically. A set of dummies was also included which indicated whether or not the firm had received important or very important benefits from interaction with personnel in another local company in each of the following ways: meeting at local business events; contact by telephone for short term problem solving; contact by telephone for information; mixing with industry colleagues in social settings; chance meetings where interesting information had been heard. A final set of dummies was included to capture (1) the extent of reliance on the South East as a source of labour (2) the proportion of work derived from contact with other firms in London; and (3) three variables were included to investigate how important informal channels of recruitment

were for hiring senior management, senior staff (e.g., senior editors) and specialist staff. This reflects the hypothesised importance of personal contacts and reputation networks in recruitment of highly skilled knowledge workers.

The main reason for not estimating full structural equation models is that the purpose of the second analysis was not to test hypothesised relationships between the latent variables that are estimated but rather to examine if there is a significant difference between MNEs and UNEs on certain latent variables. This is a contribution given that much of the literature on clusters assumes, at least implicitly, that the benefits and costs of locating in a cluster are the same for all types of firm. We follow a standard approach of exploratory factor analysis to measure latent variables. We prefer exploratory factor analysis over principal components analysis as our purpose was to use our manifest variables to measure underlying factors, which are consistent with factors favouring and disfavouring clusters identified in the literature. It was not to reduce our data to a smaller set of uncorrelated variables which is the rationale for principal components analysis (Blunch, 2008). We did not have sufficiently strong theoretical priors to impose the typical restrictions required for confirmatory factor analysis, namely that each of our manifest variables was related to one and only one factor or that particular parameter values could be imposed on the relationship between a particular factor and its manifest indicator.

Factor extraction was by principal axis factoring (Blunch, 2008; Kim & Mueller, 1978). Highly similar results (not reported) were obtained using principal components, therefore little hinges on this choice. The main method used to determine the number of factors to use was the scree plot (Cattell, 1966), which indicated 6 factors at the point of inflection for the financial services sample and 7 factors at the point of inflection for the media sample. According to Stevens (1992) the scree plot method is reliable provided there are over 200 observations. There are over 200 observations for financial services and very close to 200

(187) for media. The scree plot is preferred to Kaiser's criterion of retaining all factors with an eigenvalue greater than one as neither of the rules for Kaiser's criterion being accurate are satisfied (Kaiser, 1961): the average communality value is less than 0.6 for both samples, even though there are less than 300 observations in each sample.

The method of rotation used was varimax, which has the benefit of producing more interpretable groups of variables on each factor, important because the factors themselves are of independent interest in this analysis (Field, 2009). In principle, there is a case for oblique rotation as there are theoretical grounds for suspecting the factors to be correlated with one another. Oblimin rotation was used as a robustness check. The substantive interpretation of the factors extracted was the same, although the factors themselves were not quite so distinct. For this reason, the results using Varimax rotation are reported. Nothing important hinges on this choice.

Stevens (2002) suggests that with at least 300 observations the relevant criterion is a factor loading of 0.364 or more. Based on this rule, only factor loadings after rotation in excess of 0.37 are reported for financial services. He also suggests that with 187 observations any variable which has a loading of 0.384 or more on a factor is important. Accordingly, only factor loadings after rotation in excess of 0.384 are reported for media.

As stated above, initially 40 variables were entered in the financial services analysis and 45 variables in the media analysis. These sets of variables needed to be reduced as problems of multicollinearity were indicated by a determinant of the R-matrices well below 0.00001. Variables were identified for removal based on an inspection of the anti-image correlation matrix. No items had small correlations, all being above 0.6 and the vast majority being above 0.8, but off-diagonal elements were inspected to identify pairs of variables which had the largest correlations and/or correlation substantially greater than zero with several variables. Robustness analysis was conducted by deleting slightly different sets of variables

where alternative borderline judgements were used. This did not materially affect the substantive conclusions regarding factor structures. We ended up with 24 variables in the financial services factor analysis and 36 variables in the media factor analysis (see Tables 3 and 4 below).

Regarding the validity of the factor analyses, the Kaiser-Meyer-Olkin measure of sampling adequacy was very good at 0.846 for financial services and 0.843 for media, indicating reliable factors would be extracted. The correlations in the anti-image matrix were all between 0.776 and 0.918 for financial services and between 0.618 and 0.932 for media, indicating good sampling adequacy. Cronbach's α was generally satisfactory with all financial services values apart from factor 6 lying above the 0.7 threshold and all media values above the 0.7 threshold. The value of α in each case was not sensitive to deletion of items in each sub-scale. This indicates that the scales are reliably measured.

Our dependent variable was independently obtained, thus reducing the risk of common method bias (Chang *et al.*, 2010; Podsakoff *et al.*, 2003). Also, it is highly unlikely that the assessments of respondents would have been influenced by a working model of the relationship between status as MNE or UNE and the importance of particular sources of cluster benefit and cost. Furthermore, in many cases the variables loading onto a particular factor were not adjacent to one another in the questionnaire. Finally, our results are not degenerate, as would be indicated if all manifest variable load onto one big factor. We identify many distinct factors which make sense in relation to the existing literature. In summary, the results are unlikely to be seriously affected by common method variance.

The factor scores based on the regression method were used and inspection of the correlation matrix revealed no serious correlation between scores on the factors in each analysis.

4 Results and Discussion

4.1 Cluster Benefits and Costs: Does Industry Matter?

The factor loadings in Table 3 and Table 4 show how strongly each variable correlates with the factor onto which it loads. It is not unusual nor a problem if one variable loads onto more than one factor.

Table 3: Rotated Factor Matrix, Financial Services Cluster

Variable	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Proximity promotes trust	0.734					
Proximity aids easy communication	0.712					
Proximity makes it easier to build and maintain personal contacts	0.839					
Proximity makes it easier to assemble multi-disciplinary teams	0.451					
Proximity makes it easier to have face to face contact	0.730					
Our location makes it easier to take market share		0.390			0.607	
We benefit from proximity to market leading customers		0.382			0.568	
Our location has the advantage of access to real time information about market trends		0.522				0.424
Local rivalry among competitors is a powerful spur		0.740				
We are able to benchmark against competitors		0.758				
We benefit from proximity to and exchange or physical marketplace		0.436				
Poor infrastructure is a disadvantage			0.512			
Poor availability of staff with language skills is a disadvantage			0.478			
Environmental quality is a disadvantage			0.527			
Poor national transportation links are a disadvantage			0.602			
Poor international transport links are a disadvantage			0.631			
Government regulation is a problem			0.466			
We benefit from access to a strong, skilled labour supply				0.433		
A pool of talented labour with innovative skills helps innovate				0.542		
Labour mobility helps spread knowledge and good practice				0.608		
A fluid labour market helps attract good staff				0.689		
Our address is important to being conceived as credible					0.648	
Customers external to London find it easier to interact with us						0.415
We benefit from being able to find firms who will supply bespoke services						0.729

Table 4: Rotated Factor Matrix, Media Cluster

Variable	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Proximity promotes trust	0.808						
Proximity aids easy communication	0.799						
Proximity makes it easier to build and maintain personal contacts	0.745						
Proximity makes it easier to assemble multi-disciplinary teams	0.386						
Proximity makes it easier to have face to face contact	0.646						
We generally have complementary expertise to firms in close proximity	0.695						
Our address is important to being conceived as credible		0.583					
Our location makes it easier to take market share		0.824					
We benefit from proximity to market leading customers		0.600					
Our location makes it easier for customers external to London to interact with us		0.472					
Our location has the advantage of access to real time information about market trends		0.449		0.464			
We benefit from being near leading competitors		0.682					
Local rivalry among competitors is a powerful spur		0.647					
We are able to benchmark against competitors		0.638		0.433			
We benefit from support from local government				0.610			
We benefit from access to venture capital due to our location				0.484			
The cost of premises is a disadvantage					0.635		
Poor infrastructure is a disadvantage					0.506		
The cost of housing is a disadvantage					0.665		
Government regulation is a problem					0.404		
Poor transportation in central London is a disadvantage					0.609		
Poor national transportation links are a disadvantage							0.755
Poor international transport links are a disadvantage							0.844
A pool of talented labour with innovative skills helps innovate			0.421			0.385	
Labour mobility helps spread knowledge and good practice	0.407		0.641				
A fluid labour market helps attract good staff			0.750				
A fluid labour market helps us quickly tailor our staffing levels to our needs			0.788				
It is generally easy to recruit good people at short notice			0.805				
Local customers help us innovate	0.458						
Local firms in the same line of activity help us innovate	0.400						
Local academic institutions help us innovate				0.661			
Local industry associations help us innovate				0.535			
Local government helps us innovate				0.612			
We benefit from access to a strong, skilled labour supply						0.697	
We benefit from being able to find firms who will supply bespoke services						0.678	
We benefit from proximity to professional bodies						0.508	

The results are remarkably similar which indicates that forces are similar in these two clusters. There are some differences, but overall, it seems that industry does not matter much. This overall result also lends credibility to the factor analyses. Financial services and media produce six and seven factors respectively. Of these, five factors are common. These common factors are discussed first in what follows.

4.1.1 Social Capital

The first group of variables loading highly onto factor 1 for both clusters concern geographical proximity's promotion of personal relationships and so can collectively be labelled *social capital*. The clusters literature emphasises the importance of physical proximity for the building of trust and personal relationships which encourage mutual support (Hendry and Brown, 2006). This in turn leads to a higher degree of information sharing and cooperation which can enhance not only innovation but also greater productive efficiency. The loading of face-to-face contact is evidence of a classic advantage of proximity, which allows not only trust to be built and maintained but also complex, tacit knowledge to be exchanged.

For the media cluster, the loading of customer and peer firm help with innovation onto this factor indicates that this is a particular benefit in that cluster and provides support for the mainstream perspective in the literature that social capital and 'untraded interdependencies' are important in supporting the cooperation and knowledge transfer which are essential underpinnings of superior performance in innovation in dynamic clusters. Furthermore, for the media cluster, there is clear evidence of a link between the formation of social capital and the ability to realise the key benefits of labour pooling. The ability to form multi-disciplinary teams quickly is essential in project-based industries like film, television and commercials production. The ability of such teams to gel quickly rests on important social institutions which socialise workers into norms of the industry, allowing them to collaborate with others

possessing different but complementary skills. Moreover, there exist rich circuits of information within clusters regarding the capability and reliability of individuals which lower the risk of assembling an incompetent team.

4.1.2 Local Competition

The second group of variables relate to benefits of being close to leading competitors and can be termed *local competition*. It is notable that the spur of rivalry and the ability to benchmark load heavily onto this factor, supporting one of Porter's (1990, 2008) leading contentions. The ability to access real time information is also highly important. There is also a link between local competition and the ability to take market share from rivals and this is redolent of Hotelling's work which is the first to model the geographical dimension of competition (Hotelling, 1929). For media, the importance of the ability of customers external to London to interact with firms located in the cluster indicates the status of London as a focus for national and international demand, the significance of which is generally overlooked in the literature.

4.1.3 Congestion Costs

The group of variables loading onto factor 3 for the financial services cluster and factor 5 for the media cluster represent *congestion costs* which can slow cluster growth or lead to cluster decline. Cost of premises and cost of housing are fundamental indicators of congestion, being driven by competition for a fixed supply of land in prime locations. However, the effect is felt in the media cluster perhaps reflecting lower profits and wages compared to financial services. Both clusters are affected by the poor transportation another dimension of competition for space and 'overheating'. Transportation in central London is problematic for media whilst transportation at national and international levels are problematic for financial services reflecting the greater national and global reach of financial services relative to media. The odd one out among these variables for both clusters is

government regulation which is not so obviously related to congestion and competition in factor markets. It is, nevertheless, a friction on doing business.

4.1.4 Labour Pooling

The group of variables loading onto factor 4 for the financial services cluster and factor 3 for the media cluster reflect the benefits of *labour pooling*. The clusters literature has long recognised that access to skilled labour is a prime attraction to firms and central to the dynamics of clustering. In particular, a pool of talented labour attracts the most successful firms, and these firms in turn attract yet more labour. As the labour pool deepens, so workers have the incentive to invest in higher levels of and more specialised human capital. This critical resource tends to be highly place-specific and so is a source of abiding competitive advantage to firms located in the cluster. Finally, labour market mobility increases with pool size. As mobility is a classic means through which tacit knowledge diffuses, this is another reason why clusters, with their large labour market pools, are associated with high levels of innovation and productivity.

4.1.5 Specialised Suppliers

The group of variables loading onto factor 6 for both clusters reflect the ability of incumbent firms to find *specialised suppliers*. This is one of the three classic Marshallian advantages. As the cluster deepens, so a greater array of specialised suppliers emerge. This has manifestly been the case in film and television in London over the last 25 years. This sophisticated supplier base is a foundation of innovation and efficiency. Professional bodies, such as the British Academy of Film and Television Arts, the Film Council, the Royal Television Society, the Producers' Alliance for Cinema and Television and the Moving Image Society, provide a range of important services which support both productive efficiency and innovation. Specialised suppliers in the City of London include the

professional body The City UK, educational institutions such as London Business School and the Financial Times newspaper.

4.1.6 Reputation

This factor emerges only for the financial services cluster (factor 5) and centres on information externalities on the demand side (see Table 1) whereby the cluster's *reputation* rubs off on firms that are located in it. This is a neglected benefit in the clusters literature generally but is well understood by scholars of the City of London. For example, Allen and Pryke find that, "... in the case of finance, the abstract space of the City of London has secured its dominance over time through its ability continually to mould the space around it in its own image. The City *is* finance ...” (1994: 459). Similarly, on the basis of extensive interview evidence, Clark finds that, "... a firm's reputation may depend upon the reputation of its financial centre as much as its own competence” (2002: 440).

4.1.7 Innovation

This factor emerges only for the media cluster (factor 4) and centres on the importance of local institutions supporting *innovation*, particularly as has been suggested in the 'innovative milieu' literature (Camagni, 1991). Real time information on market trends is important given the nature of innovation in media which is in part based on appealing to shifting customer tastes and, more subtly, keeping abreast of what commissioning editors believe to be the state of preferences among consumers. In terms of benchmarking against competitors, rapid imitation is a very important feature of innovation and non-price competition in media. The ability to source venture capital is consistent with local institutions supporting innovation.

4.1.8 Connectivity Costs

Again, this factor emerges only for the media cluster (factor 7) and relates to *connectivity costs* as proxied by national and international transport links, which are seen by many

respondents as representing a material disadvantage of London. This may also be construed as another manifestation of congestion, with the ability to get into and around central London, particularly from Heathrow airport, being time-consuming and unpleasant. This factor is somewhat weak, given that only two elements load onto it, however it is stable in that it emerges despite changes in included variables, extraction or rotation method. It also has a justification in terms of theory, given the increasing importance being placed on external connectivity as an essential component of cluster strength within the Economic Geography literature.

We now report the extent to which these factors discriminate between MNEs and UNEs.

4.2 Cluster Benefits and Costs: Does Multinationality Matter?

The dependent variable in the logit models take the value 0 when the company is a UNE, 1 if an MNE. The results do not show how important the factors are in absolute terms. Rather, they show similarities and differences between the two clusters. A factor with a positive coefficient is more important for MNEs whilst a factor with a negative coefficient is more important UNEs. Statistical insignificance indicates that the factor is equally important for MNEs and UNEs. It does not necessarily indicate that the variable is not important to either type of firm, merely that they rate the importance of the variable in much the same way. Overall, the results reported in Tables 5 and 6 and depicted in Figures 1 and 2 indicate that the majority of factors are similarly valued by MNEs and UNEs in each cluster. However, there are differences in which factors are similarly valued in each cluster and which factors are more highly valued by MNEs and UNEs. These results reflect the complexity and individuality of strong clusters; the very features that make them difficult to copy and therefore confer sustained competitive advantage to incumbents. To be more specific, as differences exist between MNEs and UNEs, certain benefits are conferred to certain

incumbents. The fact that certain cluster benefits do not arise equally for all incumbents chimes with the increasingly influential Resource-Based View (RBV) of the firm which emphasises firm heterogeneity (Barney, 1991). From this perspective, we would expect different firms to value cluster benefits differently depending on how the benefit enhances its resource strength or mitigates resource weakness. The overall results also begins to confirm Dunning's unease with the implicit conjecture on which so much international business research has been based. It seems that the principles underlying the locational decisions of firms within national boundaries *are* different to the principles underlying the locational decisions of firms across national boundaries.

The commentary that follows is work in progress and therefore in note form.

Table 5: Logit Analysis Results, Financial Services Cluster

Variable	Full Model			Restricted Model		
	Coefficient	t-ratio		Coefficient	t-ratio	
Constant	2.7091	3.520	***	1.9792	3.515	***
Social capital	0.2012	1.033		0.1006	0.627	
Local competition	0.4021	1.892	*	0.4442	2.389	**
Congestion costs	0.3356	1.655	*	0.2696	1.507	
Labour pooling	-0.0046	-0.022		0.4988	0.280	
Reputation	-0.5255	-2.516	**	-0.5716	-3.028	***
Specialised suppliers	-0.2009	-1.014		-0.2188	-1.207	
Insurance	-2.6964	-3.670	***	-2.4847	-3.872	***
Legal	-3.4309	-4.530	***	-2.7653	-4.225	***
Accountancy	-3.8266	-3.794	***	-3.4558	-3.784	***
Fund management	-3.1328	-3.412	***	-2.8967	-3.558	***
Management consultancy	-4.1132	-4.680	***	-2.8282	-3.962	***
Other	-2.8380	-3.925	***	-2.1713	-3.431	***
Size measured by employment	0.0076	3.887	***	0.0071	3.940	***
London location helps innovate by developing new products	-0.7096	-1.308				
London location helps innovate by developing new services	0.6884	1.362				
Firm benefits from mixing socially with industry colleagues	-0.2868	-0.793				
41-60% of staff recruited from South East	1.6944	2.541	**			
61-80% of staff recruited from South East	0.7482	1.288				
81-100% of staff recruited from South East	-0.9374	-2.094	**			
Informal channels are important for recruiting senior staff	0.8293	1.987	**			
Informal channels are important for recruiting specialist staff	-0.7191	-1.725	*			
N	278			278		
Log-Likelihood	-122.77			-142.73		
χ^2	137.77	***		97.86	***	
% correct predictions	77			72		
LR test of restriction (χ^2 (8))				39.31	***	

Table 6: Logit Analysis Results, Media Cluster

Variable	Full Model			Restricted Model		
	Coefficient	Z		Coefficient	Z	
Constant	-2.431	-2.36	**	-2.551	-2.55	**
Firm is in broadcast television production	-2.765	-2.48	**	-2.385	-2.23	**
Firm is in film production	-2.025	-2.16	**	-1.759	-2.43	**
Firm is in post production	0.105	0.14		0.185	0.28	
Firm is located in W1	0.987	1.67	*	1.105	1.81	*
Social capital	-0.904	-2.37	**	-0.788	-2.55	**
Local competition	0.049	0.11		0.018	0.06	
Labour pooling	1.302	3.04	***	1.208	3.34	***
Innovation	-0.090	-0.25		-0.197	-0.53	
Congestion costs	-0.544	-1.53		-0.530	-1.23	
Specialised suppliers	-0.237	-0.65		-0.145	-0.44	
Connectivity	-0.021	-0.06		-0.161	-0.45	
21-40% of work from local firms	0.991	1.21		1.122	1.91	*
41-60% of work from local firms	-0.609	-0.59				
61-80% of work from local firms	-0.163	-0.20				
81-100% of work from local firms	-1.863	-1.70	*	-1.699	-2.53	**
21-40% of staff recruited from South East	2.362	2.49	**	2.164	3.91	***
41-60% of staff recruited from South East	1.155	1.46		0.880	1.30	
61-80% of staff recruited from South East	-1.263	-1.59		-1.472	-1.82	*
81-100% of staff recruited from South East	-1.977	-2.79	***	-2.042	-3.38	***
London location helps innovate by developing new products	0.183	0.20				
London location helps innovate by developing new services	-0.348	-0.35				
London location helps innovate by developing new methods of delivery	-0.711	-1.07		-0.876	-1.40	
London location helps innovate by developing new markets	1.687	2.38	**	1.262	1.70	*
London location helps innovate by developing new organizational structures	-0.724	-0.68				
London location helps innovate by re-orienting the company strategically	-0.571	-0.69				
Firm benefits from mixing with industry colleagues at business events	0.197	0.32				
Firm benefits from telephone contact with industry colleagues for problem solving	-0.755	-1.04		-0.627	-0.94	
Firm benefits from telephone contact with industry colleagues for information seeking	1.313	1.73	*	1.269	1.71	*
Firm benefits from mixing socially with industry colleagues	0.825	1.13		0.762	1.14	
Firm benefits from chance meetings with industry colleagues where interesting information is heard	1.159	1.54		1.018	1.53	
Informal channels are important for recruiting senior management	1.237	1.92	*	1.050	1.95	*
Informal channels are important for recruiting senior staff	-0.897	-1.34		-0.918	-1.50	
Informal channels are important for recruiting specialist staff	-0.355	-0.54				
Log-Likelihood	-59.451			-61.309		
χ^2	67.13	***		56.85	***	

Figure 1: Cluster Benefits and Costs, Financial Services Cluster

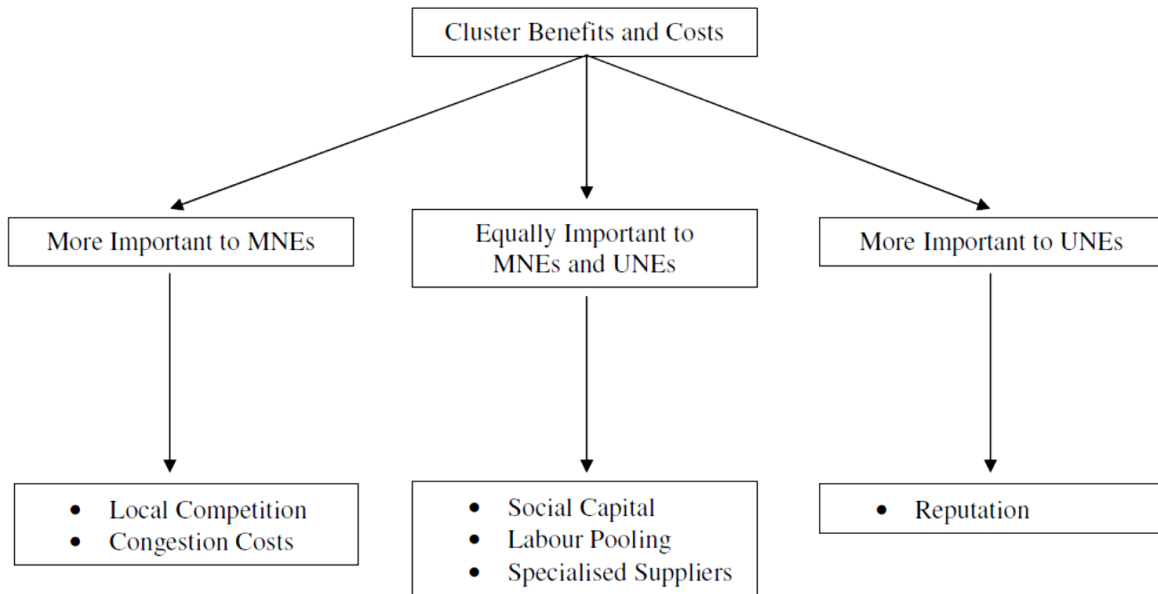
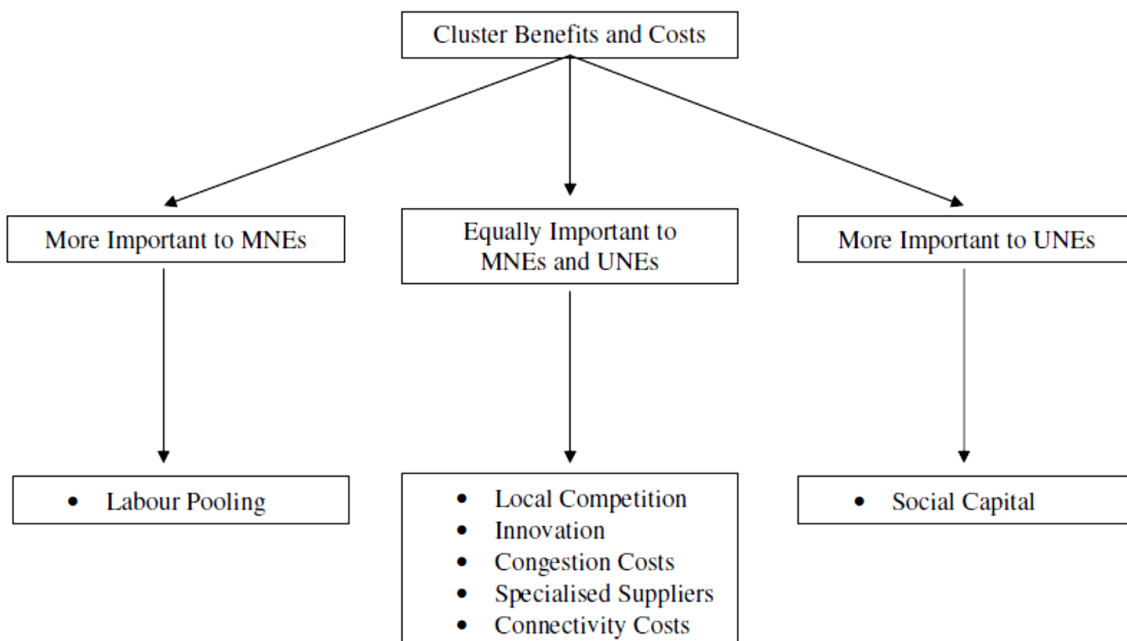


Figure 2: Cluster Benefits and Costs, Media Cluster



- **Financial Services.** Why do financial services MNEs value the benefits of local competition more than UNEs? Clearly the structure of financial services is more oligopolistic than media. Knickerbocker argued that FDI in oligopolistic industries is due to imitative behaviour and that such behaviour is a method of coping with uncertainty. FS MNEs may find that the safest thing to do is to *copy* rivals and this benchmarking is easier when co-located within a cluster. Hence, an FDI ‘bandwagon effect’ is observed.
- Congestion costs. This result may reflect greater global connectivity in financial services. London is an important node in the global industry with strong connections to New York, Frankfurt, Tokyo and other places. All major firms are multinational having a presence at each node and so there is therefore a higher proportion of employees frequently travelling into and out of the cluster.
- Reputation. Three aspects may be important. Firstly, similar to a shopping mall, the cluster represents a place where many customers shop and so provides the opportunity for suppliers to win market share from rivals. This can be particularly important for smaller financial services firms: financial services MNEs are larger (see result on the variable size) and more visible and so rely less on close proximity to customers as a means to indicate presence. Secondly, the UNE may benefit more from proximity to market leading customers which encourage innovation by alerting suppliers of new trends and innovations. Such knowledge exchange may occur more easily within MNEs. In a way, *networks of trust* that can exist between suppliers and customers within MNEs are replicated for UNEs within strong clusters. Thirdly, a cluster’s *reputation* rubs off on the company that is located in it. Well-known financial services MNEs will have a reputation that is independent of location.

- **Media.** The positive and significant coefficient on labour pooling indicates a strategic asset seeking motive for MNEs. Certainly, talented labour is of immense importance in terms of developing superior content. Here the subsidiary may aim to absorb ‘skills and capabilities’ from the cluster and then transfers these to the wider enterprise. Beaverstock (1994) elaborates this type of FDI by finding that such firms benefit from the ability to transfer skills and capabilities between subsidiaries in their worldwide operations through international personnel movements. This may be particularly the case when an industry has more than one prominent location and so the MNE may benefit from locating in all prominent locations in order to pick up skills and capabilities in one to pass on to the others.
- The negative and significant coefficient on social capital is consistent with the view that multinationals will tend to be *less* embedded in the cluster due to the fact they are less reliant on external agents in the cluster for resources and competences, as they will be relatively well endowed with these in-house: It is a fundamental premise of the eclectic paradigm that MNEs will have some form of ownership advantage.

5 Conclusion

We find that similar factors are at work in each cluster. The factors are generic and not very industry/cluster specific. We also find that some factors are similarly valued by MNEs and UNEs, some are valued more by MNEs, and some are valued more by UNEs.

Importantly, factors falling into each category varies by cluster. So, multinationality matters and what matters is industry/cluster specific.

These results reflect the complexity and individuality of strong clusters; the very features that make them difficult to copy and therefore confer sustained competitive advantage to incumbents. To be more specific, as differences exist between MNEs and UNEs, certain

benefits are conferred to certain incumbents. The fact that certain cluster benefits do not arise equally for all incumbents chimes with the increasingly influential Resource-Based View (RBV) of the firm which emphasises firm heterogeneity (Barney, 1991). From this perspective, we would expect different firms to value cluster benefits differently depending on how the benefit enhances its resource strength or mitigates resource weakness. The overall results also begins to confirm Dunning's unease with the implicit conjecture on which so much international business research has been based. It seems that the principles underlying the locational decisions of firms within national boundaries *are* different to the principles underlying the locational decisions of firms across national boundaries.

The fact that MNEs and UNEs do not experience all cluster benefits and costs the same way suggests that existing theory needs augmentation and this study is a step towards that.

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