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Ownership Advantages in Cross-border Real Estate Development: Some Evidence from European Markets

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Abstract

Drawing upon industry and country case studies, this paper investigates the scope and drivers of European cross-border real estate development. The paper analyses the diverse range of activities and actors in the real estate development process. Identifying it as inherently localised involving production processes that are complex and emphermal, and outputs that are heterogeneous, the paper sets cross-border real estate development within the Dunning OLI framework for foreign direct investment. It provides a descriptive analysis of a transactions database of European real estate markets to provide insights into the extent of, and variations in, market penetration by non-domestic real estate developers. The data were consistent with the expectation that non-domestic real estate developers from mature markets would have a high level of market penetration in immature markets. Compared to western European markets, the CEE real estate office sales by developers were dominated by US, Israeli and other EU developers. This pattern is consistent with the argument that non-domestic developers have substantial Dunning-type ownership advantages when entering immature real estate markets.

Key Words: Real estate development. Foreign direct investment. Central and eastern Europe.

Introduction

Whilst there has been a relatively substantial literature on trends, costs and benefits of crossborder real estate investment, there has been comparatively little analysis of the extent and patterns of cross-border real estate development (see Lizieri, 2009 for a comprehensive review of the literature on international real estate investment). Arguably, it is also the case that, relative to real estate investment in particular, the nature of the development sector itself has been under-researched. Sometimes this has led to oversimplified, even caricatured, representations of the main development actors and the development process itself. However, despite a dearth of empirical evidence, it appears to be a stylised fact that international real estate development markets are highly segmented. Even more so than real estate portfolio investment, development has been characterised as a 'local phenomenon' where locally embedded real estate development organisations tend to dominate markets due to privileged access to localised information and political networks (Bardham and Kroll, 2007). In addition to costs generated by information asymmetries, non-domestic developers are further disadvantaged by the extra costs of operating at a distance and the costs associated with legal, institutional, cultural and languages differences. However, it is also possible to identify firm, industry and country specific case studies of cross-border real estate development that suggest that the extent of segmentation may be contingent.

Cross-border real estate development can be analysed in terms of foreign direct investment (FDI). Like any other firm, real estate development organisations are faced with a broadly sequential series of decisions when assessing cross-border business opportunities. First, should the firm invest in non-domestic markets? Second, if yes, which markets should the firm invest in? Third, how should the firm invest in non-domestic markets? Dunning's OLI model analyses the (mode of) market entry decision as being dependent upon the balance of ownership, location and internalization advantages (Dunning, 1993). Ownership advantages are the most relevant for evaluating the first decision. Essentially, a key issue is whether the firm possesses competitive advantages in potential host markets related to branding, technology, management know-how and economies of scale or scope. Location advantages are associated with inherent relative attributes of the host market. These can be cheaper production costs, proximity, familiarity, access to expert knowledge, market demand etc. Finally, the mode of market entry is likely to depend on the existence of internalization advantages. These are benefits generated by self-production as opposed to partnership or joint venture. Internalization advantages seem less relevant for real estate development firms for whom joint production in collaboration with external consultants and contractors is common. However, there may be certain categories of real estate development firm that

need to enter non-domestic markets and find it optimal to retain their real estate production model.

There are a number of obvious additional costs mainly related to information and knowledge deficits facing a non-domestic real estate developer compared with investing overseas or developing locally. As the Dunning OLI model suggests, however, for a real estate developer to expand outside their home market, they should have a competitive advantage over local companies.¹ These advantages may include experience (skills, knowledge), capital, capacity, economies of scale, relationships and reputation or brand. In Dunning's framework, there should be net ownership advantages. Apart from instances of the Winner's Curse or information asymmetries, an overseas developer may be the highest bidder for a real estate development opportunity because of an ability to achieve higher rents and capital values for the completed development or because they can execute a scheme at lower cost. In either scenario, their valuation of a potential development opportunity will be higher than that of a local developer. *A priori*, the OLI framework generates different expectations about the extent and nature of cross-border real estate development between different maturities of real estate market.

Drawing upon the Dunning framework, it seems reasonable to infer that cross-border real estate development between mature real estate markets will be more likely to involve specialist or niche products. For example, operators may be 'exporting' and expanding a unique and/or innovative real estate product e.g. leisure or retail format, which has not yet been established in other mature markets. However, for generic real estate products e.g. offices, logistics between mature markets, it is more difficult to identify sources of OLI advantages for non-domestic developers. In an Australian context, Coiacetto (2006, 426) pointed to the advantages that incumbent firms have in local markets arguing that real estate development was characterised by numerous "semi-permeable, exogenous and endogenous entry barriers that are highly variable but tending to rise". Given information and knowledge advantages of local developers, non-local developers are unlikely to have superior access to capital, skills etc. that can outweigh this 'headstart'. Hence, the OLI framework implies that cross-border real estate development between mature markets is more likely to occur between similar and/or neighbouring markets where information and knowledge disadvantages may be less. Further it seems reasonable to infer that, if there is an absence of large oligopolistic firms meeting existing demand in immature markets, 'trade flows' for generic retail, office or industrial development are more likely to occur from mature to immature markets. This is

¹ It is also possible that engaging in cross-border business may be motivated by potential diversification benefits.

essentially because non-domestic developers from mature markets are more likely to have ownership advantages in terms of access to/cost of capital, experience, knowledge, relationships and reputation that can outweigh the information and knowledge advantages that local operators may have concerning market and political/regulatory conditions.

Drawing upon largely European industry and country case studies, this paper examines the issues raised above. The paper is essentially exploratory focusing on the nature and patterns of cross-border real estate development framing it within the Dunning's OLI model. The first section of the paper deconstructs the different dimensions of real estate development and real estate development organisations. This is followed by a review of the literature on cross-border real estate investment, the much smaller body of literature on cross-border real estate development and on cross-border construction contracting. Drawing upon brief case studies, the third section evaluates some examples of cross-border real estate development between mature markets. The penultimate section draws upon a descriptive analysis of a real estate transactions database of western, central and eastern European markets to provide insights into the extent of, and variations in, market penetration by non-domestic developmers. Finally, conclusions are drawn.

Real Estate Development and Developers

Before focussing on the barriers to cross-border real estate development, it is worthwhile trying to understand the nature and define the scope of real estate development. Whilst there are rather legalistic or statutory definitions of real estate development, the essence of private sector real estate development in a market economy is the investment of capital in a building or site in order to change it physically or to change its regulatory status. In an economic framework, Geltner and Miller (2001, 774) define it as the "point in space and time where financial capital becomes fixed as physical capital" – albeit, given the effect of development timescales, this is perhaps better characterised as a process rather than a point. Whilst the stereotypical real estate developer is a speculative, entrepreneurial actor acquiring sites, designing, building and selling assets, the scope of real estate development activities seems in reality to be much more diverse and differentiated. For instance, substantial value can be added to land or standing assets by upgrading infrastructure, obtaining approval for alternative uses or by refurbishment. Where definitions of real estate development are proposed, the common denominator tends to be the creation of buildings. Arguably, Byrne (1996, 3) offers the most nuanced definition as

"The process by which development agencies, together or on their own, seek to secure their social and economic objectives by the improvement of land and the construction or refurbishment of buildings for occupation by themselves or others"

Located predominantly within the urban planning literature, rather abstract dissections of the real estate development process have existed since the 1980s. This literature focuses on three key characteristics of the real estate development process; market complexity, different drivers of value creation and the lessons learned by existing development schemes. In an early paper, Healey (1991) reviewed models of the development process, grouping them into four types: equilibrium models dealing with economic signals of demand, event sequence models identifying the stages in the development process, agency models which focussed on the various actors and their relationships and structural models which focus on the technological, cultural and socio-economic forces. However, Healey concluded that that the models found it difficult to capture the complexity of the development process. This growing complexity (and specialisation) is also emphasised in later analysis (see Miles, Berens and Weiss, 2003)

Compared to other products and services, the production process for of real estate assets (i.e. real estate development) is idiosyncratic. Analogies can be drawn between the commercial real estate development process and both shipbuilding and film production. 'Speculative' or pre-ordered ships are produced with lengthy lags between demand and supply with each product typically customised In film production, financing, materials, labour etc. are brought together for a fixed for the client. period of time to create a unique product with the personnel 'dispersing' on completion. Miles et al (2003) also compare the developer to a "movie producer". However, unlike the real estate development sector, there are major concentrations of film production and shipbuilding in a small number of major global centres. The real estate development industry tends more spatially dispersed, embedded in places of production and less consolidated. Whilst generalising to a certain extent, the production of new commercial real estate assets has conventionally been decentralised involving networks of interlinked businesses (contractors, lawyers, architects, engineers etc.) in relatively complex and ephemeral production networks. Guy and Henneberry (2002, 5) characterise the physical building as "the tip of the iceberg" following the orchestration of financial, labour, materials and expertise within wider social, economic and political environments. Perhaps the most similar in terms of its location specificity, and closely related activity, is cross-border construction contracting. We also look at research in this area below.

Real estate development can also be analysed in terms of a supply chain. This are many descriptions of this chain implicitly embedded in event sequence and stakeholder models of real estate development which, in turn, tends to provide the structure for a number of the standard textbooks on

development (see Fisher and Collins, 1999; Havard, 2002; Isaac, O'Leary and Daley, 2010; Cadman and Topping, 1995). A key first stage is the formation of a vision for the development. Having formed a vision for the development, (and often long before construction) there can be substantial expenditures on securing regulatory approval, solving problems related to legal title, utility provision, remediation of contamination, highway and drainage works, site assembly *inter alia*. The highest returns can often be made by preparing a site for construction in regulatory and physical terms, as land values are substantially increased by the certainty of regulatory approval and the removal of development constraints. It is common for real estate developers to realise their profits at this stage by selling 'clean, serviced and developable' sites to other real estate developers who will implement the creation of the building (see Ball, 2010). In this sense it is worth identifying the 'preparatory phase' and the 'construction and marketing phase' of a development scheme. These parts of a scheme require different sets of skills and are often undertaken by different types of developers which we term 'promoters' and 'executors'. Many development firms, of course, will act in both capacities to complete a project from start to finish. Whilst it is difficult to generalise, it is typically during the construction phase that the largest proportion of expenditure is incurred.

It is, therefore, important to be clear about what segment of the real estate development market the developer is entering when entering overseas markets - 'promoters', 'executors' or both? Whilst it is difficult to categorise development opportunities neatly, real estate development organisations may specialise in one or more of the following development areas:-

Undefined development opportunities identified and undertaken by 'promoters' involve the stereotypical process of identification of a potentially profitable scheme and the preliminary assessment of its regulatory, physical and commercial feasibility. In Graaskampian terms, the promoter is identifying sites in search of a use. Such opportunities then need to be designed, sites must be acquired and (possibly) prepared, infrastructure must be provided and approved by planning and other regulatory authorities. When an approved scheme is in place, it becomes a defined development opportunity where the proposed scheme is now broadly planned and requires a developer looking to participate. As noted above, having added value to the site, the developer may or may not choose to exit at this stage. The search process for these types of development opportunity is likely to be active. Since they are fairly amorphous, the developer will need to be in a position to identify and evaluate a large number of sites which may or may not be development opportunities.

Defined development opportunities undertaken by 'executors' involve the physical implementation of the processes outlined above. It is important to acknowledge that the distinction between undefined and defined development opportunities is, to a certain extent, arbitrary. For instance, regulatory approval may be partial and site preparation may not be complete. However, the essence of this development stage is the implementation of the scheme involving detailed design, funding, construction and marketing of the development. Clearly, the required skill-sets and knowledge bases are different compared to the initial stages of development for undefined opportunities. The key requirement of the 'executor' is access to capital to implement the development. This type of development opportunity often tends to involve a less active search process whereby developers are 'introduced to' a suitably defined scheme by brokers or by the 'promoters' themselves.

Finally, although undocumented, anecdotal evidence suggests that a number of real estate development organisations are engaging in **development management**. This involves the implementation of a defined development opportunity on behalf of other, usually less experienced, developers. Development managers tend to receive a fixed fee for managing the development process (detailed design, detailed regulatory approvals, construction procurement, project management, marketing, leasing and asset management). In addition, the development manager will usually be incentivized by a profit share arrangement and may sometimes co-invest in the development. Clearly, this puts the development manager much lower down the risk-return curve compared to undefined and defined opportunities.

Having unbundled the development process, it is also worthwhile defining what we mean by a developer. Healey (1991, 220) described a developer as "the key co-ordinator and catalyst for development". Despite the systemic financial crises that have often been triggered by the real estate development sector, there has been surprisingly little analysis of the nature of real estate development organisations. Where the nature of developers is discussed, with few exceptions, they tend to ignore the increased corporatisation of the real estate industry framing the developer as an individual rather than an organisation (see Coiacetto, 2006). In addition to Ball's (2010) useful analysis of the structure of the residential development sector, Isaac *et al* (2010) categorise the motives for, and importance of, development activities for a range of private, public and not-for-profit organisations. Below, we extend this taxonomy of developers identifying five main types of private sector real estate developer which typically have different levels of exposure to real estate development and varying degrees of skill and specialisation. These are labelled as follows.

- 'Dedicated Developers' are real estate organisations whose main core competency is the development of real estate assets. They do not tend to undertake nondevelopment related activities such as asset management or investment in fixed assets and have the capacity to engage in all stages of the development process. Given the capital intensive nature of the real estate development process, there tend to be limits to the size of this type of developer as they are often required to offer fixed assets as collateral for financing. The typical business model is develop-to-sell with the asset being market prior to, during and post development.
- 'Diversified Developers' can be categorised into two types. The first are real estate organisations who have at least two core competencies development and investment management. These can be large listed REITs companies such as Land Securities, Klepierre Hines and Unibail-Rodamco, investing institutions such as Prudential, TIAA-CREF, Axa, Allianz or private real estate owners such as Grosvenor Estates. Found more commonly outside the UK market, the second category are typically construction companies who believe that there are economies of scope, diversification benefits or business generation opportunities in engaging in both real estate construction and real estate development. The typical business model is develop-to-hold with completed assets being held as long term portfolio investments.
- 'Incidental Developers' tend to be corporate organisations for whom real estate development is not their core business. In the Graaskampian analogy, they are users in search of sites. By default, this type of company tends to have a good understanding of real estate and strong real estate capabilities because they require bespoke premises in order to conduct their core operations. One of the most clear-cut examples is the large supermarket chains. In the UK, they have had to employ relatively large teams of development and planning professionals whose task it is to procure suitable sites and implement their development programmes. The typical business model is develop-to-operate with the asset required for the operation of the core business.
- 'Opportunistic Developers' tend to be corporate organisations who can, sometimes unexpectedly, find themselves with large real estate holdings that are surplus to requirements. Faced with a complex development process, land-owning organisations considering the commercial development of redundant land reserves are faced with difficult decisions about the amount of (financial) risk they wish to undertake. In the past, often in

periods of high demand, some organisations have seen it as an opportunity to diversify into real estate development. In some instances the real estate development 'spin-off' has since been separated out to create independent real estate development companies. The typical business model is similar to that for a 'dedicated' or 'diversified' developer.

• 'Forced Developers' are often also reluctant owners of real estate assets. The typical examples are banks or other lenders who can, sometimes inadvertently, find themselves in possession of large portfolios of standing properties, partially built developments and development sites. They typically have little expertise in real estate development but, due to low asset liquidity, they are forced to actively manage the assets and undertake development activity. They often partner with dedicated and/or diversified developers in order to implement development schemes. The typical business model is develop-to-dispose with the objective being to maximise recovery of loans.

Clearly, of these five categories, all may choose, or be forced, to engage in cross-border real estate development activity. Emphasising the difficulties of generalising, perhaps Coiacetto's description of the real estate development industry as "complex and variable in space, over time and between sectors" is most apt (Coiacetto, 2007, 50). Before going on to examine the potential circumstances in which cross-border real estate development may be attractive, firstly we discuss the previous research on international real estate investment and development and attempt to shed some light on some of the key issues in entering non-domestic markets.

International Market Integration and the Real Estate Sector

When analysing patterns of international market integration in an industry, it is hard to avoid the term 'globalisation'. Although incorporated in many different disciplines and often highly contested, in many contexts the terms 'globalization' and 'economic integration' are often used interchangeably. Focussing on economic aspects, Grant's definition of globalisation is helpful in the context of evaluating the degree of market integration in an economic sector such as real estate development. Focussing on economic aspects, he defines it as

[&]quot;a process in which transactions across the borders of nation-states increase in importance relative to those within nation-states; and whereby national boundaries cease to be a significant impediment to the movement of goods and services" (Grant, 1992, 1)

Economic outcomes of market integration, such as cross-border "interpenetration of markets" and "intensification of exchanges" reflect the increasing intricacy of production across space (Castells, 1996, 99). However, there can be large variations in the level of integration between economic sectors. Although stated over a decade ago, Budd's (1998, 663) suggestion that globalization was an "inchoate and incomplete process" still remains pertinent. Wood (2006) draws upon a body of work emphasising that globalization has been a contingent and, in some sectors, provisional phenomenon. Given that a substantial proportion of economic activities remain highly localised, the emergence of the term 'globaloney' reflected scepticism about the use of overly dramatic imagery e.g. 'the end of geography', 'hyper-globalisation', 'hypermobile money' and 'the annihilation of space' (O'Brien, 1992; Held *et al*, 1999; Warf, 1999 and Castells, 2000). As discussed below, the real estate development sector has been regarded as highly segmented by national borders. This is despite the fact that there has been growing integration of its business support services.

The business service providers that support the real estate development sector have been internationalising and, to varying degrees, consolidating over the last two decades. Ball (2002) emphasizes the importance of developers being able to rely on networks of professional firms that operate at a spatial scale equivalent to their own. For instance, the changing configuration of the architecture 'industry' and the internationalization of the supply chain for building design production provides one example of how many professional services (e.g. legal, cost consultants, banking) that support real estate development have evolved. In addition to the highly globalized activities of 'signature architects', companies like SOM (Skidmore, Owings and Merrill) provide a strong model of a transnational architectural practice. On a lesser scale, Fosters and Partners have been able to operate across the globe whilst operating mainly from central London (McNeill, 2009). Over a decade ago, Tombesi (2001) pointed out that routine architectural design production tasks were increasingly being off-shored. In the real estate services sector, the 'big four' (Jones Lang Lasalle, Cushman Wakefield, CBRE and DTZ) operate across all the major markets.

The evidence from broader investment markets suggests that real estate direct *investment* may be a lagging globalizer – albeit it is implicit in the common characterization of real estate as a local game (see Wood, 2006, Bardham and Kroll, 2007). Throughout the 1990s, the bond and equity portfolios of investing institutions (pension funds, insurance companies and collective investment vehicles) became increasingly internationalised as the proportion of non-domestic assets increased. UK institutions, in particular, were at the forefront of this trend which generated large scale cross-border capital flows. However, in most countries, institutional real estate portfolios have seemed to be anomalies when compared to the equity and bond

portfolios. McAllister (1999) identified an extreme level of home country bias with only half of UK investing institutions having *any* real estate assets outside the UK. Although data is generally scarce, with notable exceptions, the shards of information tended to point to extreme caution about overseas real estate investment. The exceptions have concentrated upon single or a limited number of markets. Whilst there can be little doubt that this has changed in the last five years, the real estate institutional investment sector has remained relatively segmented compared to other asset classes. A recurring theme in the research on international real estate investment is the perceived barriers presented by information costs and asymmetries. As discussed below, this is echoed in the literature on international real estate development.

In the 1990s, there emerged a large, if now ageing, body of research on the costs and benefits of international real estate investment (see McAllister, 1999 for a review). Diversification and improved returns (relative to domestic market) were the two key factors. International diversification enables investors to reduce the unsystematic risk of investing in one economy. However, there is evidence that many international institutional real estate investors viewed direct international real estate investment as a return play. Johnson, Worzala and Lizieri (2002) found that the most important set of factors mentioned by respondents concerned returns and yields. Push factors were also important in explaining capital flows. Where the size of the domestic market is small relative to investable capital, large scale real estate investors (such as the Japanese and Swedish investing institutions in the late 1980s) sought to obtain higher returns outside their domestic markets. D'Arcy (2009) reinforces that many of these drivers still remain fairly intact.

However, this body of research also highlighted the additional risks and costs faced by investors in non-domestic real estate markets. An international real estate developer faces disadvantages when competing with domestic firms. These are essentially information costs, cultural barriers to understanding the market institutions and their operation, the increased cost of information acquisition, monitoring costs and the risk of adverse currency movements. Non-domestic developers will inevitably have a certain, if variable, degree of geographical and psychological remoteness from international markets. They will lack local knowledge and expertise. This may result in poor timing of development, additional costs and poor scheme selection. In the parlance of the Dunning framework, they are relative ownership disadvantages.

Eichholtz *et al* (1998) found that domestic real estate companies with a domestic focus tended to provide better risk adjusted returns than internationalised real estate companies.

They argued that weaker performance of diversified companies reflects information asymmetries between local and international investors in direct real estate markets and that non-domestic have higher information costs. However, they also found that the larger companies through economies of scale are able to reduce the costs of information and, consequently, increase their access to private information. The empirical survey-based studies tend to confirm the importance of information costs. An IPF survey of UK investors quoted in Baum (1995) found that the most significant difficulty was lack of information and knowledge.

As noted above, although there has been little systematic empirical investigation of patterns of cross-border real estate development activities, there has been a body of work that can be best described as thick description. A recurring theme in the literature is the importance of local networks in the development process. One body of work has focused on the transition of commercial real estate markets in Central and Eastern European (CEE) cities in the 1990s. For instance, Sykora, Kamenicky and Hauptmann (2000, 63) observed that "foreign property developers became very influential actors in commercial property development in Prague". In the CEE markets it was clear that "informal relationships" were important (see Keivani, Parsa and McGreal, 2001, 2473). Very similar themes are repeated for China. Hsing (2005, 177) emphasizes the importance of local network pointing out the "developers' knowledge of local markets and communities and the connections with local politicians are crucial in gaining a competitive advantage". He makes the revealing point that, due to high levels of regulation and the highly localized nature of regulation, very few large Chinese development companies have been successful outside their home *region* within China. As a result, it was argued that foreign developers need "well-connected local partners" (Hsing, 2005, 178).

Many of these themes are echoed in Wood's (2006) paper that uses Columbus, Ohio as a case study to investigate the extent of international market integration in the US commercial real estate sector. He interprets real estate development as an economic sector that provides a cautionary note on the limits of globalization. Wood (2006) draws upon the new economic geography with its emphasis on the importance of the creation and circulation of knowledge and concludes that the dominant mode of organization for real estate development remains one of local firms embedded in particular metropolitan markets. However, overlooking the nature of the case study itself, Wood (2006) also had a rather narrow concept of property development companies as hollow and lean organizations that tend to employ few staff, are capital intensive who undertake only limited, but inherently speculative, stages of the property production chain directly. Above, we suggested that this 'local hero' model of the real estate

developer may largely be a stereotype² and that there is, in reality, a diverse range of organizations that engage in real estate development. It is argued that the extent of market entry by non-domestic real estate firms will be largely contingent on the net advantages of market entry.

Many of the issues discussed above emerge in the literature on international construction contracting. Ofori (2003) identified the importance of local operators' information and knowledge advantages and existing networks of strategic allies, suppliers and subcontractors. The result was "an extremely hard wall" for non-local operators (Huovinen and Kuras, 1994, Echoing the variables in Dunning's OLI framework, a range of firm-specific 441). (reputation, scale, experience, expertise) and national advantages (proximity, cultural and/or historic relationships and existing economic relationships) were identified as being the key elements to creating a competitive advantage in the host markets. Another strand of the research has focused on variations in methods of market entry (see, Ling, Ibbs and Cuevo, 2005). Gunhan's (2005) research on US contractors indicated that track record, specialist expertise, project management capability were the most important firm-specific advantages when a new market was entered. Most closely related to this paper, Chen, 2008) examined the determinants of market entry mode as a function of host country related factors. Chen (2008) attempted to model the variations in permanent, localized market in contrast to mobile, non-localised market entry in terms of a range of factors - colonial and cultural links, common languages, host market attractiveness inter alia. He found that international contractors tended to use permanent market entry to gain local knowledge, command new capabilities and to establish local networks. However, to our knowledge, there are no studies of the relative cross-border flows of construction orders between international markets.

Cross-border Real Estate Development Between Mature Markets: Some Case Study Evidence

It has been argued that cross-border real estate development between mature markets is more likely to involve incidental developers who are users in search of sites and who are developing to operate. Below, we outline the specific types of ownership advantages that create the conditions for cross-border real estate development between mature markets and identify a number of examples of development organisations. For a number of the examples highlighted, the ownership advantages seem to result from the interaction of a number of

 $^{^{2}}$ We would accept that stereotypes often need to contain some element of truth in order to become stereotypes. Indeed, as noted above, the case studies presented in Miles *et al* (2003) focus on the developer as individual.

inter-related ownership advantages. The self-reinforcing combination of new products and/or established brands, knowledge, experience, skills and relationships (with suppliers, customers and capital providers) can create opportunities or business requirements to engage in cross-border development.

Sector specialism/knowledge

Relative to a domestic developer, a potential ownership advantage of non-domestic developers may be their ability to bring very specific expertise to a project making it more profitable that a local developer could achieve. Obvious examples of this phenomenon are modern retail formats such as regional shopping malls and factory outlets centres which originated outside of Europe. A good example is Westfield, the Australian shopping centre developer, who have been responsible for developing two large schemes in London. Most recently, they have announced the acquisition of a 50% stake in a development site in Milan. Westfield have extensive experience in developing large regional shopping malls in Australia because it is the main retail-format used there. Similarly, the UK based McArthurGlen Group specializes in developing and managing designer outlet villages. Since the company was set up in 1993, it has expanded its presence to Western Europe, where it has outlets in seven countries including Germany, France and Austria.

Unique business concept

As suggested above, some development companies (albeit developers-to-operate) also look to expand and export a unique product or format - in just the same way as a company such as Starbucks grows internationally. The ownership advantage in this context is a new or superior product. In these circumstances, the developer will often hold and manage the property for a significant period of time themselves. The format may be unique for physical reasons, but it is also possible for a company to have a unique exit-strategy. The Canadian company, Club Intrawest, is a good example of both. Club Intrawest develops and manages ski resorts and is the result of a partnership between a real estate company and a resort operator. Their business model has, for some years, been exported to US. Another example is Heron City (part of Heron International). Heron City develop *soi-disant* 'destination centres' that focus on providing leisure facilities, but which also offer some shopping facilities to complement this. So far Heron City has developed three centres in Spain and one in Sweden.

Established brand

Another potential ownership advantage of a non-domestic developer is the opportunity to leverage their brand to generate higher revenues and/or secure pre-lets to high quality tenants

and anchor tenants. This, in turn, can enable them to increase the level of gearing and/or decrease the cost of debt. Companies that benefit from an established brand often specialize in a sector and have established relationships with both potential tenants and capital providers. A good example is Multi Development, a shopping centre developer from the Netherlands, who have expanded abroad. Their reputation has meant that they have been able to expand quickly, capitalizing on existing relationships with international occupiers to secure pre-lets and funding. Candy & Candy, specialist residential interior design and development managers, provide another good example. They have positioned themselves as a luxury brand and it is believed that their international developments can sell at a significant price premiums. This has enabled them to outbid other developers for potential sites and expand rapidly to other markets.

Pre-existing relationships with potential occupiers

Related to the above, non-domestic developers sometimes have formal and/or informal partnership arrangements with occupiers. When a corporate organization enters a new market, they may prefer to use a familiar developer to create the quality of premises that they require. For example, some companies requiring a network of industrial and logistics space may use a highly regarded specialist such as Prologis to create it for them. This, of course, reduces risk for the developer. The types of operating companies who tend to engage in this, such as hotel operators, logistics providers and oil and gas firms tend to do so as 'reluctant developers' because they require customized buildings in specific locations that may not exist. In order to meet their needs, the operator can either develop their own space or form a joint-venture structure with a developer on a build-to-suit project. It is this relationship that provides the ownership advantage for the non-domestic developer.

The interaction between various market participants in the hotel sector (i.e. developer, investor and operator) is rather different to other commercial assets, such as office buildings, because of specific brand requirements. Typically, when a developer³ builds a hotel they engage at a very early stage with a specific hotel brand and operator – often one who they already have a close working relationship with⁴. This provides the developer with secure income stream lowering the level of risk attached to the scheme and helping them to secure finance. It can also boost asset values significantly as these are partly determined by the

³ It is most common for hotels to be developed by a specialist hotel investor, a 'diversified developer'.

⁴ This relationship can take a number of forms. Typically the hotel operator may:

[•] Hold the management contract for a chain e.g. Accor's Sofitel chain (hotel owner pays management fees to the operator),

[•] Rent and manage the hotel e.g. Accor's IBIS chain (operator pays the owner rent)

o Independently own and operate the hotel e.g. small, independent hotels (highest risk to operator).

operating brand.

Access to and lower cost of capital

Once a development opportunity becomes defined, an indisputable characteristic of land acquisition and construction is that it is capital intensive. Availability and cost of capital between development organisations and between markets can create ownership advantages for non-domestic developers. A large non-domestic company may have a lower cost of capital than smaller, local developers. This is because they can demonstrate a good track-record, access a greater number of financial providers (often via existing banking relationships) and because they are more likely to have assets available to use as collateral. A non-domestic company can exploit this in an emerging market where the local competition comprises small firms who do not have these contacts and advantages, resulting in a higher cost of capital. In a strong market an international developer may have an advantage because they have a lower cost of capital. In weak markets, they might be the *only* developers who can obtain finance. Following the credit crunch in 2008, development finance has become particularly hard to obtain. Most major schemes have required strong equity participation, often from cash-rich pension funds or sovereign wealth funds. For developers seeking debtfinance, the company's track record has become paramount.

Downstream Opportunities

Restricted mainly to incidental developers, there are instances where developers-to-operate can add value to nearby land through their development for core operational activities. These spin-off opportunities tend to occur when the building/operating company is high-profile enough to influence or 'anchor' the surrounding market and/or is large enough to warrant infrastructure improvements. This is analogous to the anchor tenant concept in shopping centres. IKEA, for example, have developed a business model which involves developing land near their stores to participate in from the increase in land values that their stores and infrastructure improvements help to create. They may also benefit from the economies of scale, having overcome the initial hurdles of entry into a new market.

Clearly the analysis above is at best based on case studies with its well-known limitations in terms of ability to generalise or perhaps, less charitably, it is anecdotal. In order to further address some of the inferences raised in the earlier discussion, below we draw on a unique database of real estate transactions to investigate patterns of cross-border real estate development within the European Union and Central and Eastern Europe.

Cross-Border European Real Estate Development: Some Empirical Evidence

Essentially due to the likely absence of net ownership advantages, it has been suggested above that, for the development of generic real estate assets, there would be relatively low levels of FDI by real estate developers between mature real estate markets. In contrast, it was suggested that FDI into generic asset classes in the real estate development sector was more likely to flow from mature to immature markets. To investigate this issue empirically, we draw upon CBRE's real estate transactions database (2005 – June 2011) to look at sales by developers and use this as an indicator of source of development activity in the various markets. We focus particularly on the differences between mature western European markets (EU-15) and the relatively immature central and eastern European (CEE) markets. It is expected that the latter will have much higher levels of market penetration by non-domestic developers compared to western European markets.

The investment transaction database is constructed from CBRE's internal survey of their European office network. These are mainly located in the capital cities with some of the larger markets having a number of offices e.g. Germany. This survey has been conducted every six months since 2005. CBRE's locally-based personnel draw on public sources, press releases and informal networks to create a database of transactions in the national commercial real estate investment market. Deal-by-deal information is collated and the buyers and sellers are categorized using a set of standard CBRE definitions. The investor categories include; institutional funds, property companies, other collective vehicles and private investors. These are then sub-divided further to include, for example, insurance companies, REITs and developers (a company which carries out development as their main activity and who do so for onward sale). The objective of the survey is to capture all commercial investment deals (including forward sales by developers) of €1m or more. Prices are recorded in both local currency and in euro.

It is important to acknowledge potential selection bias in data sets of this nature. In research on economic convergence, over two decades ago De Long (1988) emphasised that there is a strong tendency towards sample selection bias in empirical studies involving developed and underdeveloped economies. Essentially he argued that such studies tended to focus on countries for which large data sets are available.

[&]quot;Long run national accounts are luxuries. Nations likely to have the historians and archives necessary to construct such accounts are nations that have converged" (De Long, 1988, 1141)

In the same vein, data on real estate transactions is much more likely to be monitored in countries where real estate transactions are occurring. This is where the major real estate advisory firms tend to have their offices and deploy their research resources. This is the case with the CBRE data. It is likely that countries with low or no transaction flows are less likely to be included in their records. As a result, the data is not symmetric in the sense that whilst 'imports' are recorded for some markets, 'exports' are not. For instance, there are records of sales by foreign developers in Poland, Romania, Croatia and Bulgaria. However, presumably because they are negligible, there are no separate records of sales by Polish, Romanian etc. developers in other markets. In addition, records for some large non-European countries are also provided. For instance, again presumably because they are major operators, data on sales of real estate developments by US and Australian developers is recorded. However, no data is provided for sales by foreign developers in these markets. Further, the data is for sales of completed assets by developers. It is, therefore, recording when developers are exiting a scheme and, given development timescales, will be a lagging indicator of market activity. It is also possible that there may systematic differences in the propensity of foreign and local developers to sell the assets once a development has been completed. Nevertheless, whilst the data is far from perfect, it is worth reminding ourselves that it remains the one of the few pieces of evidence that are available.

Descriptive Analysis

The summary data are presented in Table 1 and a more detailed breakdown can be found in Appendix 1. In total, approximately \notin 129 billion of real estate sales by developers was recorded. As expected, EU-15 countries accounted for the vast majority (\notin 103 billion) of the sales. Table 1 illustrates clearly the impact that the financial crisis has had on transaction volumes which fell dramatically in the EU-15 and CEE markets after 2007. It also clearly shows that non-domestic developers have accounted for a considerably larger proportion of market activity in CEE compared to Western Europe. Sales by non-domestic developers in the CEE region between 2005 and June 2011 amounted to 57% of the total transactions by value compared with just a 20% share in the EU-15 region.

Table 1: Total Sales by Development Companies 2005-2011 (€ millions)

Region	Developer origin	2005	2006	2007	2008	2009	2010	2011*
EU-15	Domestic	8,891	18,020	23,389	11,465	6,618	9,976	4,134
	Non-domestic	2,091	5,128	6,147	1,262	1,256	3,449	788

	Non-domestic %	19%	22%	21%	10%	16%	26%	16%	
CEE	Domestic	649	2,225	3,372	1,785	418	1,437	1,056	
	Non-domestic	2,085	3,607	3,690	1,862	499	1,354	1,486	
	Non-domestic %	76%	62%	52%	51%	54%	49%	58%	

• Until end of June 2011 only

Turning to individual national markets, Figure 1 presents the results on the proportion of real estate sales by non-domestic developers relative to total sales. The broad pattern of much higher levels of market penetration in CEE markets is confirmed. Of the large western European markets, it is interesting to note that the UK has the highest level of market penetration by non-domestic developers. There is certainly scope for examining the origin of non-domestic development organisations in detail. However, firstly we present the findings at the broad CEE level.

Clearly it is to be expected that, all else equal, in absolute terms large economies will 'export' more real estate development than small economies. In order to control for these effects, Figure 2 includes both the percentage of sales by non-domestic developers classified by country of origin beside the proportion of the GDP that the country accounts for. For instance, in Figure 2 we can see that developers of American origin accounted for just over 15% of total sales in the period but that US GDP accounted for just over 46% of the total GDP (in PPP terms as of April 2011) of the countries included in the graph. France and Germany's representation in CEE markets seems to be broadly commensurate with the size of their economies. In contrast, development firms from a number of countries seem to be highly represented. From the EU-15, Austria, Belgium, Denmark, Sweden and Netherlands account for high levels of development sales activity relative to the size of the economies. Development companies from Italy, Spain and the UK seem notably under-represented with this metric. Within the CEE markets. Another notable source of development is Israel.

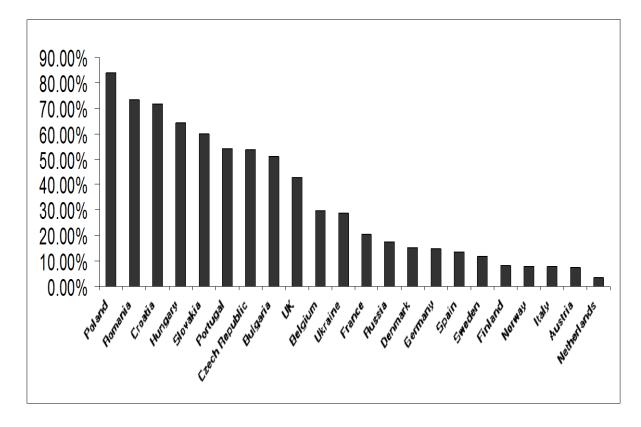
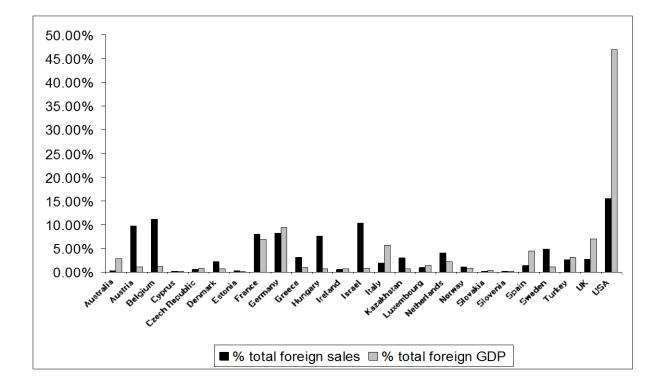


Figure 1: Percentage of Non-Domestic Developer Sales 2005-2011

Figure 2: Percentage of Non-Domestic Developer Sales in European Markets by Country of Origin 2005-2011



The most active largest cross-border developers were, what can be labelled as, diversified developers in that they tend to hold large portfolios of real estate assets as well as engaging in large-scale development. The three largest were major US real estate corporations – Tishman Speyer, Hines and Prologis. Consistent with the initial descriptive data, major developers also included Multi-Corporation from the Netherlands, TK Development from Denmark, Skanska from Sweden, Ghelamco from Belgium and GTC from Israel. No companies from the largest European (German, British, French, Spanish or Italian) economies were listed in the largest 10.

As the data suggest, there are notable differences in the scale of market penetration between CEE and EU markets. Foreign real estate development companies from 17 different nationalities were recorded as having sold assets in Poland (with a total value of ϵ 6506m). The comparable figures for maturer EU markets are in stark contrast. Six individual nationalities are identified for the UK of which three are not in the EU (USA - ϵ 2560m, UAE - ϵ 272m and Australia - ϵ 99m). The other three are Netherlands (ϵ 1505m), Ireland (ϵ 821m) and Italy (ϵ 125m). Whilst the Scandanavian and Benelux countries tend to be *relatively* large exporters of real estate development, the data suggest that they import relatively small amounts and mainly from their neighbours. In Sweden, 'imports' from only two countries are recorded – the UK (ϵ 127m) and Denmark (ϵ 336m). Similarly, Denmark 'imported' real estate development from only two countries – Sweden (ϵ 253m) and Israel (ϵ 7m). The comparable figures for Romania (16 different nationalities) and the Czech Republic (11 different nationalities) are consistent with quite different market structures in terms of the extent of internationalisation of real estate development industries in these markets.

Conclusion

Whilst it has been argued that cross-border real estate development provides an exemplar of the limits to globalisation, there has been very little research on its scale. The scope of real estate development, encompassing a diverse range of activities and actors, seems to be poorly appreciated. Compared to many other forms of economic activity, real estate development is atypical. Normally involving complex networks of external suppliers, it is inherently localised and transitory often producing, for the commercial sector in particular, bespoke and heterogeneous products. However, similar to many other business sectors, it requires the creation of relationships with local regulatory and political bodies and a network of suppliers. Perhaps, the closest comparator in terms of business sector is cross-border construction contracting.

Again, like other business sectors, cross-border real estate development can be analysed within the well-established Dunning framework for foreign direct investment. This models the key determinants of the market entry decision as the nature and existence of ownership, locational and internalisation advantages. The extent of OLI advantages is contingent upon the type of developer, the specific real estate sector and the maturity of the real estate market. In particular, there are likely to be major variations in the extent and type of OLI advantages between mature and immature real estate markets. Given disadvantages for non-domestic developers created by knowledge deficits, cross-border real estate development between mature markets is more likely to occur through development-to-operate where there is a use in search of a site. The lack of competition in the host market is the key location advantage. In contrast, for more generic real estate assets such as offices and logistics, there are likely to be few OLI advantages for non-domestic developers from mature markets when entering other mature markets. Essentially, where there are sites in search of a user, local operators tend to have a 'headstart' and non-local operators find it difficult to catch up. The CBRE data is consistent with this expectation in that, since 2005, sales of offices by developers in mature European markets have been dominated by local developers.

The data were also consistent with the expectation that non-domestic developers-to-sell would have a higher level of market penetration in immature markets. Compared to western European markets, the CEE real estate office sales by developers were dominated by US, Israeli and other EU developers. Whilst US developers accounted for the highest proportion of office sales, they also accounted for almost half of the GDP of the countries represented. French and German developers also accounted for substantial proportions of transaction volumes but the proportions were in line with the size of their economies. This pattern is consistent with the argument that non-domestic developers have substantial ownership advantages when entering immature markets. However, the data also suggested some Relative to their GDP, Austria, Belgium, Denmark, Sweden, unexpected patterns. Netherlands and Israel accounted for large proportions of sales by developers. All are EU countries (except Israel) with small, open, affluent, highly traded economies. Further, the data also indicate that there may be a threshold when locational disadvantages outweigh ownership advantages and deter cross-border real estate development from mature into into immature markets.

This paper has been essentially exploratory. It has presented some initial, ableit the first, data on patterns of cross-border real estate development activity and has sought to present a richer, more nuanced, description of the scope of real estate development processes, actors and activities. Since the span of real estate development activity is wide, there is considerable scope for more focussed research on individual markets or sectors. There is clearly scope to drill down into the data and to investigate the origin and destination of cross-border real estate development activity. In addition, the research has been markedly euro-centric. However, there is anecdotal evidence of cross-border real estate development within GCC countries and between African countries. A robust investigation of the market entry decision-making processes and the relative importance of different variables such as skill-set, cost of capital, track record *inter alia* questions probably requires an in-depth qualitative research study analysing specific firms and/or development schemes. This should also involve some research on 'non-exporters' in order to identify the most significant differences. Further, it is also likely that the distinction between immature and mature markets is excessively binary. Clearly there is a continuum. Market entry may require a certain initial level of maturity that will inevitably evolve.

Bibliography

Ball, M. (2002) The Organisation of Property Development Professionals and Practices, in Guy, S. and Henneberry, J. (eds) *Development and Developers: Perspectives on Property*, Oxford, Blackwell Publishing.

Ball, M. (2010) *The House Building Industry: Promoting Recovery in Housing Supply*, A Report for the Department of Communities and Local Government, April, 2010.

Baum, A. (1995) Can Foreign Investment be Successful?, Real Estate Finance, 12, 81-9.

Bardham, A. and Kroll, C. (2007) *Globalization and the Real Estate Sector: Issues, Implications and Opportunities,* Industry Studies Association Working Paper Series, University of California, Berkeley.

Byrne, P. (1996), *Risk, Uncertainty and Decision Making in Property Development*, 2nd ed., E. & F.N. Spon, London.

Budd, A. (1998) The Role and Operations of the Bank of England Monetary Policy Committee, *The Economic Journal*, 108, 1783-1794.

Castells, M. (1996) The Rise of the Network Society, Oxford, Blackwell.

Castells, M. (2000) End of millennium, Blackwell, London.

Cadman, D. and Topping, R. (1995) *Property Development*, Spon Press/Taylor & Francis Croup: London.

Chen, C. (2008) Entry mode selection for international construction markets: the influence of host country related factors, *Construction Management and Economics*, 26, 303-314.

Coiacetto, E. (2006) Real Estate Development Industry Structure: Consequences for Urban Planning and Development, *Planning Practice and Research*, 21, 423-441.

Coiacetto, E. (2007). Development industry structure into the global era: The challenge for planning, cities and sustainability. *Australian Planner*, 44, 50-51.

D'Arcy, E. (2009) "The evolution of institutional arrangements to support the internationalisation of real estate involvements: Some evidence from Europe", *Journal of European Real Estate Research*, 2, 280 – 293.

De Long, J.B. (1988) Productivity Growth, Convergence and Welfare: Comment, American Economic Review, 78, 1138-1154.

Dunning, J. (1993) *Multinational Enterprises and the Global Economy*. Reading, MA: Addison-Wesley Publishing Company.

Eichholtz, P., Husiman, R., Koedijk, K. and Schuin, L. (1998) Continental factors in international real estate returns, *Real Estate Economics*, 26, 493-509.

Fisher, P. and Collins, A (1999) The commercial property development process, *Property Management*, 17, 219–230.

Geltner, D. and Miller, N. (2000) *Commercial Real Estate Analysis and Investments*, South-Western University Press.

Grant, W. (1992), *Economic Globalisation, Stateless Firms and International Governance*, Working Paper No. 105, (Dept. of Politics and International Studies), University of Warwick.

Gunhan, S. and Arditi, D. (2005) Factors affecting international construction, *Journal of Construction, Engineering and Management*, 131,273-282

Guy, S. and Henneberry, J. (2002) Approaching Development, in Guy, S. and Henneberry, J. (eds) *Development and Developers: Perspectives on Property*, Oxford, Blackwell Publishing.

Havard, T. (2002) Contemporary Property Development, RIBA Enterprises: London.

Healey, P. (1991) Models of the Development Process: a Review. Journal of Property Research, 8, 219-238.

Held D, McGrew A, Goldblatt E. and Perraton J, (1999) *Global transformations: politics, economics and culture,* Polity, Cambridge.

Hsing, Y. T. (2005) Global capital and local land in China's urban real estate development in F.L. Wu (Ed.), *Globalization and the Chinese City*, Abingdon, Routledge, Oxon.

Houvinen, P. and Kuras, J. (1994) Spearhead strategy for cross-border exports within building market of EES countries, in Warzawski, A. and Navon, R. (eds) *Strategic Planning in Construction: Proceedings of the AJ Etkin International Seminar on Strategic Planning in Construction Companies*, Haifa, Israel.

Isaac, D., O'Leary, J. and Daley, M. (2010) *Property Development Appraisal and Finance*, London, Palgrave Macmillan.

Johnson, R., Worzala, E. and Lizieri, C. (2002) Currency swaps for hedging a realistic international real estate investment: do they work? Working Paper series, *University of Reading*.

Keivani, R., Parsa, A. and McGreal, S. (2001) Globalization, institutional structures and real estate markets in central European cities, *Urban Studies*, 38, 2457-76

Miles, M., Berens, G. and Weiss, M. (2003) *Real Estate Development: Principles and Process*, ULI, Chicago.

Ling, F., Ibbs, C and Cuevo, J. (2005) Entry and business strategies used by international architectural, engineering and construction firms in China, *Construction Management and Economics*, 23, 509-520.

Lizieri, C. (2009) Towers of Capital: Office Markets and International Financial Services Oxford: Wiley-Blackwell

McAllister, P. (1999) Globalization, Integration and Commercial Property: Evidence from the UK, *Journal of Property Investment and Finance*, 17, 8-25.

McNeill, D. (2007) Office Building and the Signature Architect: Piano and Foster in Sidney. *Environment and Planning A* 39, 487 - 501.

Ofori, G. (2003) Frameworks for analysing international construction, Construction

Management and Economics, 21, 379-391.

Peiser, R. and Frej, A. (2003) *Professional real estate development: the ULI guide to the business*, the Urban Land Institute: Washington DC.

Sykora, L., Kamenicky, J. and Hauptmann, P. (2000) Changes in the spatial structure of Prague and Brno in the 1990s, *Actis Universitatis Carolinae Geographicae*, XXXV, 61-76.

Tombesi, P. (2001) A true south for design?: the new international division of labour in architecture" *Architectural Research Quarterly* **5** 171–179

Warf B, (1999) The hypermobility of capital and the collapse of the Keynesian state in Martin R. (ed) *Money and the Space Economy*, Wiley, London.

Wood, A. (2004) The Scalar Transformation of the US Property-Development industry. A Cautionary Note on the Limits of Globalisation, *Economic Geography*, 80, 119-140.

Appendix	1
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Developer Origin

Value of Real Estate Assets Sold by Non-Domestic Real Estate Developers 2005-2011* (expressed in nominal €)

		Australia	Austria	Belgium	Bulgaria	Croatia	^{Czech Rep}	Denmark	Finland	Fran _{ce}	Germany	Greece	Hungary	^{Ireland}	^I srael	ltaly	Netherlands	Norway	Poland	Portugal	Romania	Russia	Slovakia	Spain,	Sweden	Swi _{tzerland}	Turkey	٦K	USA
		2	20	20	70	70	70	70	7°	70	20	70	70	70	20	70	20	20	70	<i>2</i>	70	70	70	20	70	20	70	70	70
	Australia	-	0	0	0	0	0	0	0	95	0	NR	0	NR	NR	0	0	0	0	0	30	0	0	0	0	0	NR	99	NR
	Austria	NR	-	0	112	63	463	0	0	0	39	NR	324	NR	NR	0	0	0	277	0	56	0	96	0	0	0	NR	0	NR
	Belgium	NR	0	-	0	0	300	0	0	50	0	NR	60	NR	NR	0	0	0	801	0	296	0	104	0	0	0	NR	0	NR
	Bulgaria	NR	NR	NR	-	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	Croatia	NR	NR	NR	NR	-	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	Czech Rep	NR	0	0	0	0	-	0	0	0	0	NR	0	NR	NR	0	0	0	0	0	0	0	80	0	0	0	NR	0	NR
	Denmark	NR	0	0	0	0	175	-	75	0	24	NR	0	NR	NR	0	0	20	141	0	0	0	0	0	336	0	NR	0	NR
	Finland	NR	0	0	0	0	0	0	-	0	75	NR	0	NR	NR	0	0	0	0	0	0	0	0	0	0	0	NR	0	NR
	France	NR	0	0	0	0	0	0	0	-	430	NR	0	NR	NR	0	0	0	878	26	197	55	19	198	0	0	NR	0	NR
	Germany	NR	156	30	117	0	175	0	23	0	-	NR	159	NR	NR	0	45	0	678	0	39	0	0	0	0	53	NR	0	NR
	Greece	NR	0	0	12	0	0	0	0	0	0	-	0	NR	NR	0	0	0	0	0	432	0	0	0	0	0	NR	0	NR
þ	Hungary	NR	0	0	0	110	16	0	0	0	0	NR	-	NR	NR	0	0	0	170	0	541	0	245	0	0	0	NR	0	NR
;	Ireland	NR	0	32	0	0	0	0	0	13	108	NR	0	-	NR	0	0	0	46	0	31	0	2	0	0	0	NR	821	NR
;	Israel	NR	0	0	134	0	164	7	0	0	123	NR	0	NR	-	0	0	0	933	0	253	16	0	0	0	0	NR	0	NR
<u>}</u>	Italy	NR	0	125	0	81	0	0	0	14	0	NR	0	NR	NR	-	13	0	64	0	112	10	0	0	0	0	NR	105	NR
	Netherlands	NR	60	837	32	0	159	0	0	718	1,470	NR	144	NR	NR	155	-	0	139	463	117	0	0	642	0	0	NR	1,505	NR
	Norway	NR	0	0	0	0	0	0	0	0	0	NR	0	NR	NR	0	0	-	158	0	0	0	0	0	0	0	NR	0	NR
	Poland	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	Portugal	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-	NR	NR	NR	NR	NR	NR	NR	NR	NR
	Romania	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-	NR	NR	NR	NR	NR	NR	NR	NR
	Russia	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-	NR	NR	NR	NR	NR	NR	NR
	Slovakia	NR	0	0	0	0	0	0	0	0	0	NR	0	NR	NR	0	0	0	11	0	0	0	-	0	0	0	NR	0	NR
	Spain	NR	0	0	0	0	0	0	0	101	0	NR	0	NR	NR	0	0	0	175	84	14	0	0	-	0	0	NR	0	NR
	Sweden	NR	0	48	0	0	78	253	155	0	52	NR	110	NR	NR	0	0	36	478	0	0	39	0	0	-	0	NR	0	NR
	Switzerland	NR	0	0	0	0	0	0	0	0	0	NR	0	NR	NR	0	0	0	0	0	0	0	0	0	0	-	NR	0	NR
	Turkey	NR	0	0	0	0	0	0	0	0	0	NR	0	NR	NR	0	0	0	164	0	0	201	0	0	0	0	-	0	NR
	UK	NR	0	38	34	0	110	0	0	152	404	NR	0	NR	NR	16	0	0	153	0	84	0	0	36	127	0	NR	-	NR
	USA	NR	0	40	9	0	380	0	0	2,713	1,764	NR	80	NR	NR	123	200	0	1,242	0	159	359	0	93	0	0	NR	2,560	-

*NR - Not recorded

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