

Published as: Hanssens, H., Derudder, B. & Witlox, F. (2013). Are advanced producer services connectors for regional economies? An exploration of the geographies of advanced producer service procurement in Belgium. *Geoforum*, 47: 12-21.

Are advanced producer services connectors for regional economies? An exploration of the geographies of advanced producer service procurement in Belgium

Abstract

This paper seeks to extend research on regional urban networks under contemporary globalization through an analysis of the geographies of producer service procurement in Belgium. In contrast to approaches that merely focus on the location of a selection of 'globalized' advanced producer service (APS) providers in a predefined set of 'world cities', we analyse the revealed spatial and functional linkages between consumers and producers of such services. This analysis is discussed in the broader context of economic geography literature on the resurgence of 'regions' in vertically disintegrated, post-Fordist economies. We compare our results against the assessed positions of leading Belgian cities in the urban networks generated by advanced producer services. Major findings include: (1) the relevance of a predefined set of major cities/firms is dependent on the sector; (2) a focus on the relationships between major firms and cities may lead to circular reasoning and a closed concept, since a focus on the importance of 'globalized APS firms' necessarily engenders 'world cities' and vice versa; and (3) the continuing relevance of regional specificity to service provision implies that in some sectors 'local' firms are actively involved in urban network formation.

Keywords: advanced producer services; transaction links; world city network; Belgium;
Brussels

1. Introduction

It has been nearly eighty years since Walter Christaller (1933) introduced central place theory to describe the geographies of urban systems in terms of the concentration of service provision. Under the directorship of Peter Taylor, the world city network framework, primarily devised by the Globalization and World Cities research network (GaWC, <http://www.lboro.ac.uk/gawc>) has become the contemporary standard for assessing urban centrality in *globalized* service provision (Taylor, 2001a, 2004). Immediately seeing the clear reflection of Christaller in the GaWC framework, Hall (2002) coined it 'Christaller for a global age'. Hall's neologism describes world city formation as simply applying overlays of 'world cities' such as London and Paris and 'sub-world cities' such as Manchester and Lyon onto Christaller's initial central place model.

A closer reading of the GaWC approach to the cities/services nexus however, reveals that it diverges from classical central place thinking on two key points. First, the primary focus is no longer on household service delivery, but on service provision for accelerating capital circulation and accumulation through advanced *producer* services (APS). Second, the dominant geographical principle of the overall system is no longer that of a nested hierarchy of cities with non-overlapping hinterlands, but rather the connectivity between metropolitan areas in interurban flows. In Taylor's (2001a) specification of the world city network (WCN), cities are interlinked through the multi-office location strategies of globalized APS providers to offer their clients a seamless global service. Taylor (2001b) introduces the geography of the WCN and thereby the

concept of overlapping *hinterworlds*, defined as the capacity of cities to grow and distribute service connections.

In addition to empirical analyses of the WCN per se (e.g., Taylor et al., 2002b), the GaWC approach has also been implemented to analyse regional urban networks (Hall and Pain, 2006; Hoyler et al., 2008; Taylor et al., 2009b) and for studying how regions are integrated in the global economy via the WCN (e.g., Taylor, 2001c; van der Merwe, 2004; Brown et al., 2010). The present paper seeks to extend both lines of research by focusing on the regional geographies of APS *procurement* in a densely urbanized region. That is, rather than merely focusing on the location of globalized APS providers, we reveal some of the spatial and functional linkages between consumers and producers of APS and the subsequent production of urban networks in a region. This approach allows researchers to assess how APS providers are ‘used’ by other firms in a regional economy in order to function in the wider global economy.

The open and globally integrated economy of Belgium provides an empirical test case for outlining how and to what degree APS firms are functioning as key networking agents. To this end, we organized an email survey in which we asked respondents to provide information on the APS procured in different sectors (i.e., transaction links between service provider and consumer). From this survey, we could examine the day-to-day geographies of APS firms. We then systematically compared our results with GaWC’s treatment of the integration of Belgium’s cities in the global economy via APS.

The remainder of this paper is organized as follows. Section 2 presents a critical review of the way in which APS geographies have been used in research on globalized

urbanization. Based on this review, we argue that the geographies and functionalities of the *actual* links between APS firms and their business partners in a regional economy have largely remained obscure. Section 3 situates the proposed research in the broader economic geography/regional development literature. Section 4 describes our data and methodology. Section 5 provides an overview comparison of geographies of APS procurement in Belgium and GaWC's assessment of Belgian cities in the WCN. In the final section, we evaluate our main findings, and outline some avenues for future research.

2. Producer services geographies and urban systems

The current empirical research literature is dominated by GaWC use of APS geographies to reveal how metropolitan areas are interconnected on the cities/services nexus in a global economy. To this end, GaWC draws on Sassen's (2001) observations on how global economic integration has gone hand in hand with the spatial concentration of APS firms – enabling agents for this global economic integration – in key cities across the globe. To map the uneven connectivity of cities in the office networks of APS firms, Taylor et al. (2010) preselect a set of cities/firms for further analysis.

Although selection criteria for firms vary from sector to sector, they are consistently chosen by their ranking in lists of the largest firms for each sector. For example, for the finance sector, the Forbes composite index of the top 75 firms was chosen as a measure that combines rankings for sales, profits, assets and market value lists. GaWC included the top 25 firms for the other four services: accountancy, advertising, law, and management consultancy.

A number of overlapping criteria were used to select cities. In addition to all cities studied in earlier GaWC analyses, all cities with a population of more than 2 million inhabitants were included. Taylor et al. (2010) also include a 'second city' of all but the smallest states, plus other 'important' cities in larger states determined in part by a systematic comparison with airline data.

The end result is a matrix summarizing the (importance of) 175 APS firms in 526 cities across the world that has been used to assess how metropolitan regions are connected through APS firm location strategies. For instance, GaWC's approach would lead to the following description of the metropolitan dimension of Belgium's APS provision (Table 1)^{1,2}. Brussels, Antwerp and Liège are the three Belgian cities considered for further analysis, whereby Brussels is evidently the dominant city for each of the different

¹ For readers unfamiliar with Belgium, it is useful to point out that, although very small, it is divided in a number of complex and overlapping ways. Belgium's two largest regions are the Dutch-speaking region of Flanders in the north and the French-speaking southern region of Wallonia. The Brussels Capital Region, officially bilingual, is a centrally located and mostly French-speaking enclave. Although initially a unitary state, in the second half of the 20th century, Belgium has become characterized by a series of (very complex) federalization processes, mainly articulated along this tripartite axis. Although rooted in language tensions, this mounting federalization above all reflects shifting geographies of uneven economic development, which are both cause and consequence of diverging economic development strategies (for more details, see Jessop and Oosterlynck, 2008).

² The scores in this table are based on a matrix of 526 cities \times 175 firms and are therefore somewhat different from the scores reported in Derudder et al. (2010) and Hanssens et al. (2011), which were based on a matrix of 132 cities \times 175 firms.

sectors (and, as a corollary, the WCN as a whole). Liège is only connected in the APS firm networks of accountancy and management consultancy firms, whereas Antwerp – compared with its overall connectivity – is well connected in the office networks of law and accountancy firms. Taylor et al. (2010) describe this pattern as a reflection of Brussels’ role as *de facto* EU capital, the presence of port-related services in Antwerp, and Liège’s difficult transition to a service economy from its industrial past rooted in coal and steel. However, echoing the findings of Vandermotten et al. (2006) on APS provision in Belgium, it is also suggested that the dominance of Brussels can be attributed to its central location and the small size and well-developed infrastructure of Belgium, which implies that firms would have no difficulty in servicing the entire national market from a Brussels office.

<TABLE 1 ABOUT HERE>

Although GaWC research has helped move the literature on the impact/consequences of APS provision for patterns of globalized urbanization beyond crude empiricism, its assessments of the geographies of metropolitan regions based on the mere presence of leading APS firms have been criticized on different accounts. For the purposes of this paper, two lines of critique are especially relevant.

A first line of critique is that GaWC’s rankings – perhaps unwillingly – result in a metanarrative in which cities/processes outside ‘the Western realm’ are not on the conceptual/empirical map of globalized urbanization (Robinson, 2002). In terms of cities, McCann (2004) for instance makes the case that the GaWC approach tends to undermine research into the relationship between urbanization and globalization

beyond a predefined set of 'major' cities. Based on an analysis of Lexington (Kentucky) in the global economy, he calls for a more complex and process-based view of contemporary urbanism that would allow the globalization–urbanization nexus to be studied in and through a diverse range of cities (see also McCann and Ward, 2010). In terms of processes, Bassens et al. (2011) challenge the utility of the GaWC approach in understanding the transnational connectivity of major Gulf cities. They point out that the GaWC rankings of Arab Gulf cities are essentially analysed from a 'Western' vantage point as the crucial actors are deemed to be (mainly U.S. and European) APS firms. Bassens et al. (2011) thus develop an alternative approach to understanding the relationalities of major Gulf cities within capital circuits by exploring the roles and geographies of Sharia scholars standing at the cross-roads of financial and religious authority in Islamic financial service provision.

A second line of critique relates to the GaWC model specification in and of itself. Nordlund (2004), for instance, finds fault with the network model at the basis of the GaWC approach on conceptual grounds, while Lambregts (2008) argues that GaWC researchers have paid insufficient attention to the assumptions underlying their model. One example would be what Jones (2002) – in line with the rise of heterarchical forms of governance in multinational enterprises (Dicken and Malmberg, 2001) – has called 'the myth of global management in transnational service firms'. From a different perspective, by focusing on the mere presence of APS firms, the GaWC model does not provide actual insight into the functional and geographical impacts of these firms. Although the presence of offices of major APS firms provides an *indication* of the articulation of the economy of the metropolitan region within the global economy, it tells us very little

about *how* these firms perform this role and *how representative/important* their role is (see also Parnreiter, 2010).

Both lines of critique can be summarized as follows: (1) a priori selection of APS firms and cities as well as (2) assessments of the mere location of APS firms potentially result in a partial and distorted description of the spatial features of APS provision in linking metropolitan regions to the global space economy. The aim of this paper is to introduce an alternative framework for analysing the geographies of APS provision that addresses these issues. To do so, we explore the geographies of *actual* links between large companies and their main APS business partners. The results will be cross-referenced with GaWC's assessment of the APS-based urban geographies of Belgium's major cities as a non-statistical robustness test. Before outlining our empirical framework, however, we briefly discuss the wider relevance of such an analysis of transaction links between APS firms and their clients in the context of the more encompassing 'new regionalism' literature.

3. Producer services and regional development

In their review of research on 'producer services and urban space', Moulaert et al. (1997, p. 97) remind us that Christallerian approaches, given their emphasis on the minimization of transportation costs, are not well suited to understanding the location of APS firms. Rather, given the importance of access to skilled labour and face-to-face contacts in the context of the knowledge-rich and communicative nature of these services, the dynamics of centrality are sought in the potential agglomeration economies in major cities. This is of course the line of reasoning adopted by Sassen (2001) and

GaWC, but it is useful to point to the broader remit of these observations. Indeed, research on the geographical dimensions of the rising importance of knowledge intensity and flexibility in the economic sphere has given way to a broader literature. The literature on the 'new regionalism' has arguably become one of the most dominant perspectives in this context (e.g., Christopherson, 2003).

Above all, the 'new regionalism' literature deals with the resurgence of 'the region' as the organizational nexus of globalized capitalism. Scott (2001), for instance, frames the 'world city'/APS nexus in a broader context by pointing to the tendency of many types of economic activity – manufacturing and service sectors alike – to gather together in dense regional clusters. Scott interprets this renewed quest for collective proximity on the part of all manner of economic agents as a strategic response to heightened (global) economic competition in the context of a turn to post-Fordism in capitalism. Referring back to his earlier analyses of regions in the global economy (Scott, 1988), as well as other major studies of the 'resurgence' of regions by Storper (1997) and Porter (2000), Scott maintains that regional clustering is above all a source of enhanced competitive advantage for many types of firms. In particular, the line of argument he pursues is that firms have been adopting strategies of vertical disintegration in response to changed market conditions. Increased externalization of production is thereby held to encourage agglomeration, since spatial proximity ensures that transaction costs can be minimized, especially when transactions are frequent, unpredictable, or complex. As such, the rise of a global economy centred on an archipelago of global city-regions is explained mainly through an analysis of changing organizational structures (including untraded interdependencies) and input-output relations (traded interdependencies).

It has of course long been accepted that regional economic performance is closely related to possible levels of innovation and therefore competitiveness within regions. However, the 'new regionalism' and its associated literature, reinterpret innovation and the associated competitiveness as an incremental, largely endogenous, and clustered activity within the region (e.g., Keeble et al., 1999); it is argued that economic success depends not only on technology transfer arrangements and/or the presence of innovators, but also on the characteristics of the regional economy at large, that is, the various actors, the relationships between them, and the economic environment within which they operate. Business networks within a regional economy thus become a major source of a region's competitiveness, and the importance of these linkages and networks is at the core of the literature on topics as varied as clusters, industrial districts, and innovation systems (e.g. Scott and Kwok, 1989).

In this context, the business networks and linkages between APS firms and their consumers are part of a much broader dynamic involving vertical disintegration and the new geographies this brings about (Michalak and Fairbairn, 1993; Thierstein et al., 2008; for an overview, see Bryson et al., 2004). As a corollary, firms providing APS have in part flourished because of vertical disintegration (i.e., the outsourcing of management consultancy and advertising), and have purportedly become part of large regional production complexes that are increasingly functioning as the territorial platforms for entering global markets. Unsurprisingly then, we have seen the emergence of a literature dealing with the spatial dimensions of APS provision³ (see amongst others

³ In this line of research, the term 'knowledge-intensive business services' (KIBS) is more commonly used to refer to this type of producer services.

Daniels and Moulaert, 1991; Daniels et al., 1992; Rusten, 2000; Aslesen and Isaksen, 2007; Eraydin and Köroglu, 2007).

However, to date, there have been few systematic empirical inquiries into the geographies of transaction links between APS providers and their clients, especially in the context of the literature on the globalization of APS and its impact on our understanding of globalized urbanization through the APS lens. To our knowledge, the only exceptions are a paper by Rossi et al. (2007) that maps the geography of transaction links between Brazil's leading cities and their main business partners for several APS, and a paper by Lüthi et al. (2010) that explores the spatial patterns of service procurement by high-tech firms located in the greater Munich area. Here we aim to expand the remit of these analyses by adding a sector-specific dimension, and by providing a systematic analysis of the implications for analyses of globalized urbanization through the APS lens by cross-referencing our results with those of the GaWC approach.

4. Data: APS transaction links in the Belgian economy

Our analysis of the geographies of transaction links between APS providers and their clients deals with the Belgian case. To identify the key actors and main service centres for APS provision in the Belgian economy, we focus on APS procurement by the 300 largest companies located in Belgium⁴. Nearly two-thirds of these companies are foreign

⁴ Belgium's top 300 firms as listed on the web site of Trends Top (<http://trendstop.rnews.be>, accessed 11 May 2009). This ranking is based on corporate turnover figures for fiscal year 2007.

owned, which reflects the open character of the Belgian economy. Another 10% are publicly held companies of Belgian origin, including some of the country's most successful global enterprises, such as Bekaert (drawn steel wire), Inbev (beer), Dredging International (dredging and land reclamation), and Delhaize Group (retail). The remaining companies are Belgian-owned private companies and autonomous government companies like NMBS (the national railway company), VRT (the Flemish public broadcasting company), and B-post (the national postal service).

Between 7 June and 22 November 2009, a questionnaire was sent out to these companies in which they were asked to identify and locate their main business partner for APS outsourced in the previous year of operation. Broadly in line with Taylor et al. (2010), the list of APS included (i) accountancy and audit, (ii) advertising, (iii) banking services, (iv) insurance, (v) legal services, and (vi) management consultancy. We received responses from 118 companies. Of these, 21 indicated that they would not participate as the information we requested was considered too confidential. The remaining 97 companies completed and returned the survey. Responses were then compiled to form a list of 302 outsourced transaction links. For each link, information was added on (i) the name and location of the user firm (postal code), (ii) the name (if given) and location of the service firm, and (iii) the APS sector of the service firm.

Table 2 lists the distribution of the population (300 companies) and the sample (97 companies) by administrative region and economic sector. The table shows that half of Belgium's top 300 companies are located in the Brussels Capital Region (BCR). The large

majority of the remaining companies are located in the Flemish Region, while the Walloon Region accommodates only 28 companies. The last column in Table 2 compares the relative distribution of the sample with the relative distribution of the population. Table 2 reveals that Walloon companies are relatively under-represented in the sample, whereas companies in the BCR are somewhat over-represented; these facts need to be taken into consideration when interpreting the results.

Similar observations can be made for the sectoral distribution of the companies. Table 2 shows that over two-thirds of Belgium's largest firms are active in manufacturing (NACE section C) and the wholesale & retail trade (NACE section G). The sample has a comparable sectoral distribution. Only NACE sections D and E are slightly under-represented, while information & communication firms (NACE section J) are somewhat over-represented. However, the scores in Table 2 indicate that the sample of 97 companies is more or less representative for the population of the top 300 companies in Belgium.

<TABLE 2 ABOUT HERE>

5. Service connections in the Belgian economy

Our data allow us to explore (1) the nature of the APS outsourcing of Belgium's largest companies and (2) their geographies. The results are cross-referenced with GaWC's selection of APS firms and cities. These are discussed for each APS sector separately, and are based on Tables 3 and 4 and Figure 1b-h.

Table 3 presents the sectoral distribution of the transaction links for each of the six APS sectors. This total number of transaction links per sector is disaggregated in three different categories: transaction links of APS firms present in the GaWC dataset ('GaWC'); transaction links of APS firms not present in the GaWC dataset, but that have offices in at least three different countries ('global non-GaWC'); and transaction links of APS firms not present in the GaWC dataset, and that do not have offices in at least three different countries ('local').

Figure 1b-h maps in turn the geography of transaction links for each APS sector. It is important to bear in mind that one dot on this map represents one transaction link, not one APS firm. An APS firm can thus be represented by several dots. The grey areas on the map represent the eighteen functional urban regions in Belgium as identified in Luyten and Van Hecke (2007), which will be the territorial units of analysis in this paper. For ease of geographical interpretation, the 'core' of Brussels (the so-called Brussels Capital Region) is tinted lighter within the wider Brussels functional urban region. For APS firms located outside one of the functional urban regions, the municipality was retained as the spatial unit of analysis.

Table 4 complements these figures by quantifying the spatial concentration of APS transaction links. It lists the share of each service city (Brussels, Antwerp, Liège, and Ghent; although Ghent was not in the GaWC selection of cities, it was listed separately as the analyses revealed a relatively high number of links for this city) or service city category ('Other', including all other Belgian service cities, and 'Foreign', including all foreign service cities) in the total number of transactions. We discuss the results for each of the APS sectors in turn.

<TABLE 3 ABOUT HERE>

<FIGURE 1 ABOUT HERE>

<TABLE 4 ABOUT HERE>

5.1 Accountancy and audit

Table 3 shows that 88 of the 90 identified transaction links for accountancy and audit are with one of the top 25 accountancy firms. Of these 88 links, 85 are with the Big Four accounting firms (Ernst & Young, Deloitte Touche Tohmatsu, KPMG International, and PricewaterhouseCoopers) that dominate international accounting. This finding concurs with similar research in other countries, including Selim and Yiannakas (2000) for internal audit outsourcing by large companies in the public and private sectors in the U.K., Van Peurseem and Jiang (2008) for internal audit outsourcing by SMEs in New Zealand, and Barac and Motubatse (2009) for internal audit outsourcing by 30 large listed South African companies. Selim and Yiannakas (2000, p. 221) ascribe the success of the Big Four to the aggressive promotion of their services to existing customers as well as new ones, and to their size and experience in the audit field. In the context of the present paper, their widespread office networks (Daniels et al., 1989; Taylor et al., 2002c) can be included as both a cause and a consequence of their global domination. The other GaWC-listed APS firms in our dataset are BDO, Grant Thornton and RSM International, each accounting for one link. Of the two remaining links, one is with an international APS firm and one with a Belgian auditor, both located in Antwerp.

Table 4 and Figure 1c show how the majority (62%) of transaction links for accountancy are concentrated in the Brussels metropolitan region. With fewer than half the number of links, Antwerp constitutes the second largest cluster; Ghent is the only other large city housing the main business partner of some of Belgium's top 300 companies. The remaining three national transaction links are with smaller, regional cities in Flanders (i.e., Kortrijk, Roeselare and Hasselt). Here too, services are procured from local offices of the Big Four, which is another clear indication of their widespread office networks. The latter is also reflected in Table 1, which shows that the smallest city, Liège, is predominantly connected to the world city network via the accountancy sector. However, when it comes to actual service provision to large companies, the importance of Liège as a service city appears to be very limited, even for accountancy. Finally, two of the 91 transaction links are with service cities abroad (i.e., Luxemburg and New York). In both cases, these links can be traced back to the location of the headquarters of the user firm's parent company (see Hanssens et al., 2012).

5.2 Advertising

The advertising sector displays a somewhat different picture to accountancy and audit. As Table 3 shows, only half of the identified links are with local offices or subsidiaries of GaWC's 25 advertising firms. Examples found in our dataset include local offices of DDB Worldwide, BBDO Worldwide, TBWA Worldwide, and Publicis; and local subsidiaries such as Duval Guillaume, which was Belgium's largest independent advertising company until it was acquired by Publicis in 2006 (see Horsky, 2006 for quantitative results on the share of advertising conglomerates in the total number of transaction links by

American advertisers). The other half of the advertising companies consists of one-third of international companies with offices in at least three countries, and two-thirds of privately owned Belgian companies. An interesting finding is that clients of the latter include Belgian offices of large multinational companies such as the BMW group and BP. IKEA Belgium, for example, subcontracted the Leuven-based communication agency Kunstmaan to develop and implement a communication strategy for the Belgian market to increase its number of visitors (www.kunstmaan.be/work).

In contrast to the office networks of the Big Four, all of the top 25 advertising companies in our dataset serve the Belgian market from one single office located in the Brussels Capital Region. As a consequence, about half of the advertising transaction links in our dataset are with the BCR (see Figure 1d and Table 4). Interestingly, the opposite is true for links with non-GaWC international and especially local advertising companies. These are located either in Antwerp, Ghent or in one of the smaller regional cities, Leuven or Hasselt. The role of Liège as a service city for advertising is again limited, both in terms of the location of the top 25 firms (Table 1) and in terms of the actual provision of advertising services to large companies (Table 4). Finally, despite the fact that most of the advertising firms included in the GaWC framework have a Belgian (i.e., Brussels) office, four advertising transaction links are with service cities abroad: London (DDB), Paris (Publicis), Eindhoven (Hunterskil Howard) and Vienna (unknown).

5.3 Financial services: banking and insurance

In our survey, the main business partner for banking services and insurance was listed separately. In the GaWC data collection exercise of 2008 however, both sectors were

combined under ‘financial services’ and information was collected about the office locations of the top 75 financial institutions rather than the top 25 banks and the top 25 insurance companies separately. This section therefore first discusses the results for banking and insurance separately, and then for the financial services sector as a whole.

At the firm level, the bank sector displays a somewhat similar picture to the one for accountancy and audit. All but one of the identified business partners are among the top 75 financial institutions (see Table 3). Of these top 75 companies, BNP Paribas Fortis⁵, ING, and KBC together account for 80% of the identified transaction links. The other banks include Citibank, ABN Amro, Deutsche Bank, Dexia and HSBC. The Bank of Tokyo is the only bank mentioned in our survey that is not listed in GaWC’s top 75 financial institutions.

Although the Belgian office networks of most financial institutions in our dataset are many times larger than those of the Big Four, corporate banking activities (i.e., financial services for large enterprises) in most cases take place at the bank’s national headquarters. As a consequence, and perhaps somewhat counter-intuitively, the banking sector is the most spatially concentrated sector in our survey: 80% of all transaction links are located in Brussels (see Table 4 and Figure 1e). The few remaining links are with banking offices located in Antwerp and Ghent, and in a number of smaller cities

⁵ In the top 75 financial institutions in 2008, BNP Paribas and Fortis are ranked separately. However, by the time we launched our survey (June–November 2009), Fortis had already been acquired by BNP Paribas.

including Mechelen, Turnhout and Mons. Finally, four links are with service cities abroad: Amsterdam (ING), Luxemburg (ING), Lille (HSBC), and New York (Citibank).

For insurance, nearly half of the user firms identified insurance brokers rather than insurance companies as their main business partner. This is somewhat problematic for our purposes, as the list of top 75 financial institutions did not include insurance brokers. It is however worth mentioning that the majority of these companies (72%) are local agents of Marsh and AON, two of the world's leading insurance brokers and risk advisors. Another notable observation is that, although these companies have offices in Brussels, Antwerp, Liège and at least one other Flemish city, the majority (12 of 18) of the transaction links are again within the BCR. In line with the observations for advertising, the transaction links with Belgian insurance brokers have a more local character, and include mainly small service cities such as Leuven, Bruges, and Mons.

When exploring the links with the insurance companies, an initial notable observation is that, in comparison with the banking sector, the share of GaWC's 75 financial institutions in our dataset is less important. Moreover, while in the banking sector only three firms accounted for about 80% of all transaction links, the list of insurance companies is much more varied. Top 75 financial institutions include Allianz, AXA, and Chartis, which is a subsidiary of American International Group (AIG). Large insurance companies in our dataset not in the top 75 include Royal & Sun Alliance, HDI-Gerling, and Vanbreda.

In spatial terms, the results are similar to those for the banking sector in that 81% of all transaction links are concentrated in Brussels (see Table 4 and Figure 1f). Antwerp and Liège (the location of the headquarters of Ethias, one of Belgium's largest insurance

companies) are the only other Belgian service cities, but their role in providing insurance services is very limited. The remaining links are with foreign cities, including New York, London, Paris, Utrecht, and Deurne.

In general, we can conclude that the financial services sector is the most spatially concentrated sector in our database: about 80% of all transaction links are located in Brussels. Antwerp is the second service city, while the role of Ghent and particularly of Liège for financial services provision is restricted. The relative importance of Belgian service cities in terms of actual service provision is thus more or less in line with the patterns in GaWC's analysis (Table 1). At the firm level, there are differences between banking and insurance. GaWC's selection of financial services is clearly more relevant for banking than for insurance, where non-top financial institutions constitute about half of the transaction links.

5.4 Law

Table 3 shows how about half of the identified law transaction links are with one of GaWC's 25 law firms. These include local offices of British law firms such as Allen & Overy, and American firms such as Baker & McKenzie and DLA Piper (see Beaverstock et al., 1999a for more information on the globalization strategies of U.K. law firms; and Beaverstock et al., 2000 and Warf, 2001 for more information on the globalization strategies of U.S. law firms). Amongst the international, non-GaWC law firms are local offices of Hunton & Williams, Loyens & Loeff, and also of the Big Four accountancy firms. The latter illustrates the competition law firms experience from the Big Four who aim to become all-in-one global professional one-stop-shop service firms servicing

international clients for everything from accountancy to management consultancy and legal advice (Beaverstock et al., 1999a). About one-third of the identified links are with Belgian law firms. Similar to the case of advertising, many of their clients nonetheless include Belgian offices of multinational companies such as BMW Group Belux, IKEA Belgium, and Toyota Motor Europe. Although further research is needed on the qualitative nature of the APS provided, it seems reasonable to assume that these Belgian law firms are mainly subcontracted for local legal matters such as labour law.

All of GaWC's law firms in our dataset have an office in Brussels and, unlike the 25 advertising companies, most of them have an additional office in Antwerp (see Table 1). In many cases, Belgian law firms that operate from more than one office have at least one office in Brussels and usually also an office in Antwerp. Brussels and Antwerp can thus be considered as the two main service centres for legal services. However, despite the presence of Antwerp in most corporate networks, Table 4 and Figure 1g show how the large majority of transaction links are once again concentrated in and around the city of Brussels. The only other Belgian service cities in our dataset are Ghent and Leuven. The importance of Liège as a service centre for legal matters is not only limited in terms of the office location strategies of the top 25 law firms (Table 1), but also in terms of service provision to large companies in Belgium. Finally, there is one additional foreign link with a law firm in Vienna.

5.5 Management consultancy

The last APS sector in our survey is management consultancy for which we have information on 26 transaction links. About half of these 26 links are with one of the top

25 management consultancy companies, whereby three global management consultancy firms account for all links, namely Accenture, Deloitte Consulting, and McKinsey & Company. One-third of the identified links are with international non-GaWC management consultancy firms such as Arthur D. Little, Celerant and KPMG. Only a small number of links are with local management consultancy firms whose clients are mainly privately owned Belgian companies.

Table 4 and Figure 1h show that Brussels is once again the main service node. All transaction links with one of the three top 25 management consultancy companies and all but one of the transaction links with non-top companies are located in Brussels although many companies do have an additional Belgian office in Antwerp (see Table 1). The only transaction links not directed towards Brussels are with local companies that are directed to Antwerp and Ghent. Although two of the top 25 management consultancy firms have local offices in Liège, none of Belgium's largest companies included in this analysis procures services from this city. Finally, our database also contains six foreign transaction links with management consultancy companies abroad: Frankfurt (McKinsey), Vienna (McKinsey), London (PCM Consulting), Paris (Lazard), and Zug (Kaizen Institute).

6. Discussion and conclusions

In this paper, we have presented an alternative method for revealing urban network-formation based on the geographies of producer services *procurement*. This alternative methodology is intended as both a conceptual and an empirical contribution to a number of literatures.

Conceptually, our analysis of the geographies of service procurement adds to the wide-ranging literatures dealing with the 'resurgence of regional economies' and 'world city networks'. The 'new regionalism' literature points to the increasing externalization of 'non-specialized' parts of firms' production processes (including the provision of producer services such as accountancy, management consultancy, law, etc.). This vertical disintegration is said to result in densely networked 'regional economies', as spatial proximity ensures that transaction costs can be minimized. Advanced services, for instance, are often based on extensive and intensive interaction between the seller and the buyer: such interaction generally requires reliable and rapid communication, usually best conveyed through personal contacts.

At the same time, the advent of large-scale corporate networks has resulted in the increasing insertion of these regions and their corporate networks into the global economy, which have led to the use of concepts such as 'neo-marshallian nodes in global networks' (Amin and Thrift, 1992), 'global city-regions' (Scott, 2001), 'local buzz and global pipelines' (Bathelt et al. 2004), and in the case of APS above all 'world city networks' (Taylor, 2004). APS firms, for instance, are increasingly large-scale multinational enterprises in their own right, with office networks (re)producing what Storper (1997) has termed 'the regional world'. Thus in addition to being part of regional production networks, APS firms are also increasingly tied up in trans-regional networks.

Our paper has contributed to these literatures by providing some insight in the ways in which this intra-regional and trans-regional 'networking' is shaped in the case of relations between APS providers and their clients in Belgium. At least three pertinent implications abound. First, the 'relevance' of using a predefined set of major cities and

firms in such an exercise is dependent on the sector. In the case of Belgium, for instance we found that in accountancy leading global firms are dominant, but these are not necessarily procured from leading cities in Belgium. In law, in contrast, globalized firms are not dominant, but if they are called upon, then these are predominantly procured from a single leading city (Brussels). 'Globalized' APS and the location of firms providing these from 'world cities' thus appear as chaotic conceptions. Second, and related to the first point, echoing McCann's (2004) call for considering locations beyond a set of 'major' cities, it can be seen that the focus on major firms/cities may indeed lead to circular reasoning in the sense that the dominance of 'world cities' is being boosted when focusing on 'globalized APS firms' (and vice versa). And third, the relative importance of 'local' advertising and law firms points to the continuing relevance of regional specificity in APS provision in that the behaviour of MNEs is being tailored to local tastes and laws, and this frequently occurs through 'local' firms.

Empirically, our analysis of APS provision in the Belgian economy contributes to our more specific understanding of Belgium's cities role as service centers in the context of globalized regional development. Using a research design that makes no a priori assumptions about 'relevant' firms and cities, we can assess the general bearing of GaWC-like surveys that are based the presence of 'global' APS firms in 'major' cities for the Belgian economy. Our survey does confirm the dominance of Brussels as the main service centre (see Figure 1b), and also shows that GaWC's selection of globalized APS firms is consequential in that this accounts for at least half of the transaction links. At the same time, however, this general picture hides some important differences, which essentially emerge from contrasting different sectors.

In terms of the pertinence of APS firm selection, for instance, we see a difference between accountancy/banking and law/advertising/management consultancy. Accountancy and audit is the most concentrated sector with the Big Four representing 94% of the total number of identified links. For the banking sector, where three companies represent 85% of all identified links, a similar situation can be observed. For these two sectors, GaWC's selection of APS firms is thus certainly relevant. For the other four sectors, the domination of top 25 (top 75) APS firms is much less absolute. In the case of advertising and legal services, local APS firms represent about one-third of the remaining transaction links, whereas for management consultancy, international non-top APS firms make up the second largest group.

In terms of the relevance of the service centre selection, we also noticed major differences between different sectors. The financial services sector (banking and insurance) is the most concentrated sector with 80% of all transaction links located in Brussels. The law sector displays a similar pattern. Accountancy and advertising constitute the sectors where service procurement is least concentrated in Brussels. For accountancy, this is presumably because of the widespread office networks of the Big Four. For advertising, the limited significance of Brussels as a service city compared with the other sectors is because over half of the transaction links are procured from non-top international or local APS firms that appear to be predominantly located outside Brussels.

Of course, given the simplicity of our survey on the one hand and the complexity of corporate outsourcing on the other hand, our results provide indicative rather than conclusive evidence for the geographical features of APS provision to major firms in Belgium. It is clear that very different research is needed to spell out these and other

issues in more detail. For instance, one major limitation of our particular analysis is that it focuses on APS outsourcing of the 300 largest firms, while research on regionalized innovation systems in the 'new regionalism' literature pays considerable attention to small and medium-sized enterprises. Such analysis may therefore be a welcome complement to the results summarized in this paper. In addition, the observation that local tastes, mores, and laws drive regional specificity in APS provision needs consideration from a qualitative rather than a quantitative perspective (see, for instance, Faulconbridge, 2009).

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