Cities in ‘multiple globalizations’: insights from the upstream oil and gas World City Network

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ABSTRACT
The role of cities in the global economy has been studied extensively for the specific case of advanced producer services. Only recently, studies started to broaden the analytical lens and explore the role of cities in ‘multiple globalizations’ by adding insights from other industries. Apart from showing that different World City Networks (WCNs) are characterized by differing spatial configurations, these studies are incapable of explaining why cities have been articulated into a particular WCN. Building on a case study of Singapore and Jakarta in the WCN of the upstream oil and gas industry, the study demonstrates the potential gained by adding flesh to the study of cities in ‘multiple globalizations’ through qualitative insights. The findings reveal how very different state roles have contributed to the shape of this particular WCN. The paper thereby illustrates how this recent field of research on cities in ‘multiple globalizations’ may advance beyond the mere description of city network structures.

ARTICLE HISTORY
Received 8 June 2018; Accepted 21 December 2018

KEYWORDS
multiple globalizations; oil and gas; Singapore; Jakarta; world city; global city

JEL CLASSIFICATIONS
F15; F23; O18; L71; R12

INTRODUCTION
Cities serve as strategic sites in the global economy (Friedmann, 1986; Sassen, 1991; Scott, 2012). This role has been studied extensively in World City Network (WCN) research for the specific case of advanced producer services, comprising financial services, management consultancy, advertising, law and accountancy firms (e.g., Taylor, 2004; Taylor & Derudder, 2016). However, several scholars criticize this narrow analytical focus on advanced producer services, as it only depicts one specific perspective on the city–globalization nexus (Coe, Dicken, Hess, & Yeung, 2010; Robinson, 2002). They argue that the role of cities in the Global South has been overseen by these studies, although ‘many relevant nodes or chain links of global value chains are located in the “globalizing” cities of the global South’ (Krätke, 2014b, p. 125). To overcome this limited focus, an increasing number of studies has contributed to the understanding of ‘multiple globalizations’ that characterize the WCN by adding insights from other industries (Krätke, 2014a, 2014b; Martinus & Tonts,
While these studies have expanded the discussion of cities as strategic places where global production circuits are organized, their contribution remains stronger at describing the spatial configuration of the industry-specific WCN vis-à-vis explaining the processes that produce these WCNs. Apart from showing that different WCNs have quite distinctive spatial networks (Martinus & Tonts, 2015, p. 1504), it requires greater knowledge of the underlying reasons that drive cities' inclusion into distinct global networks in order to gain a more differentiated understanding of cities in ‘multiple globalizations’ (Toly et al., 2012). Against this background, Toly et al. (2010, p. 301) suggest that a ‘more in-depth study of location strategies might bring answers here’. This paper follows the call and aims to demonstrate the potential gained by adding flesh to the study of cities in ‘multiple globalizations’ through qualitative insights. To this aim, it investigates how different central city-nodes are articulated into a particular WCN. Building on existing quantitative insights (Breul & Revilla Diez, 2017; Martinus & Tonts, 2015), it compares how resource-poor Singapore and, by contrast, capital cities of resource-holding states, here exemplified by Jakarta in Indonesia, are articulated into the WCN of the upstream oil and gas industry. The results highlight how different state roles have contributed to the articulation of both cities. The regulator and producer role of the Indonesian state have turned Jakarta into a national gateway for the upstream oil and gas industry, whereas Singapore’s sophisticated gateway function for the macro-region stems from the facilitative role of the Singaporean state.

**ALTERNATIVE WORLD CITY NETWORKS**

World cities are places from where the management and command of the global economy takes place (Friedmann, 1986; Sassen, 1991). Taylor (2001) argues that these major business centres are interlinked in a single urban network – the so-called WCN – drawing their functional centrality from their connections with other important cities. Taylor defines advanced producer services as interlockers of world cities into the WCN. This focus builds on Sassen’s (1991) seminal observation that increasingly complex transnational production processes are only viable through inputs from advanced producer service firms that are largely concentrated in few selected major cities. Taylor’s specification of the WCN has led to the emergence of a literature strand that explores cities in global networks of advanced producer services with the help of methods borrowed from social network analysis. These studies have explored the structure and dynamics of the world system through its central city-nodes and the relational pattern between the various city-nodes and thereby contributed to a better understanding of cities in the global economy (e.g., Derudder et al., 2010; Taylor et al., 2010; Taylor & Derudder, 2016).

Only recently, studies started to broaden the analytical lens of WCNs by exploring cities in ‘multiple globalizations’, adding insights from other industries. These studies have analyzed city networks of energy companies (Breul & Revilla Diez, 2017; Martinus & Tonts, 2015; Toly et al., 2012), non-governmental organizations (NGOs) (Toly et al., 2012), pharmaceutical and biotechnology companies (Krätke, 2014a), as well as automotive and technology hardware companies (Krätke, 2014b). All studies apply quantitative social network analysis techniques to explore the various WCNs. A central finding revealed by all studies is the significant divergence of WCNs among different sectors. In other words, cities are characterized by differing centralities depending on the various global networks.

For instance, a study by Martinus and Tonts (2015) maps cities based on the aggregation of intra-firm connections of the top 100 energy companies and thereby identifies cities such as Houston or Singapore as the energy cities with the upmost degree of control in the network. The analysis also finds regionalized subgroups of cities in the network. Asia-Pacific cities, for example, are clustered around Singapore and Tokyo. Moreover, the network indicates a rather decentralized spatial organization of the industry. Corporate networks spread across cities which are situated in energy-producing (e.g., Jakarta, Luanda) and energy-consuming countries.
Another recent study by Breul and Revilla Diez (2017) focuses on a subsector of the energy industry: the upstream oil and gas industry. The study traces command and service linkages from Southeast Asian oil and gas fields to the locations from where these services are provided. In line with the above study, predominantly capitals of resource-holding countries serve as locational anchoring points from where upstream activities in the national hinterland are managed and provided with services. In addition, resource-poor Singapore appears on the map as a service hub for Southeast Asia.

While these two studies as well as the aforementioned work have created first insights into alternative WCNs, they are stronger on describing the spatial pattern of the particular WCN, thereby leaving scope and a ‘need for greater understanding of the different reasons that are behind cities’ inclusion in global networks’ (Toly et al., 2012, p. 301). To give an example, three of the aforementioned studies (Breul & Revilla Diez, 2017; Martinus & Tonts, 2015; Toly et al., 2012) reveal the importance of capitals and interpret this finding by the relationship between nation-states and global governance. However, attempts to interpret the revealed spatial footprint are based on assumptions rather than on validated drivers. In what follows, the paper adds qualitative insights to these first findings in order to fill a particular WCN with meaning and explain its spatial footprint.

**METHODOLOGY AND CASE STUDY**

The insights of the studies by Martinus and Tonts (2015) and Breul and Revilla Diez (2017) are taken as a point of departure. Thus, the focus of the analysis is on the upstream segment of the oil and gas industry in order to draw reference and complement the preceding studies. Jakarta and Singapore represent two nodes in this particular WCN, which were identified by both of the above-outlined studies. While the former is the capital of a resource-rich country, the latter is not in the possession of hydrocarbon resources. A comparison between these two contrasting cases will illustrate the heterogeneity among nodes in the same network in terms of their function and the rationale for their articulation. Thereby, this paper takes a first step towards a ‘greater understanding of the different reasons that are behind cities’ inclusion in global networks’ (Toly et al., 2012, p. 301). The analysis relies on 43 narrative interviews with representatives of exploration and production (E&P) companies, oilfield service firms (OSF) and public authorities engaged in the E&P of oil and gas. The interviews were conducted in Singapore in autumn 2016 and in Indonesia in spring 2017. The interviews were recorded and subsequently transcribed. A structured content analysis technique was applied with the help of the software MAXQDA to structure the contents of the transcript along relevant categories. The selected quotations in the following section were chosen to highlight the key points raised.

**JAKARTA AND SINGAPORE IN THE UPSTREAM OIL AND GAS WCN**

**Functional roles**

Since the first oil discoveries in 1885, Indonesia has been integrated into the global oil and gas industry. It ranks among the world’s top 20 oil producers and was 10th in world gas production in 2016 (PwC, 2017). The majority of the oil and gas production is operated by foreign companies such as Chevron, Total or ExxonMobil. While the oil and gas reserves and thus the upstream projects are scattered across the island state, all E&P companies have established their Indonesian head office in Jakarta. For instance, a representative of a foreign E&P firm explained that the Jakarta-based entity is responsible for the management of all 14 production-sharing contracts in Indonesia. This spatial concentration of strategic functions is also revealed by this quotation of a representative of another foreign E&P company: ‘There is a small office also [at the site of extraction]. But the main job is made here [in Jakarta]. We have an exploration and production
team, development, commercial, all functions are here. All decisions are taken here’ (commercial and business support manager, multinational E&P firm).

Some E&P companies do not fully concentrate their activities in the Jakarta-based entity, but have established operational offices at the sites of extraction. These entities, however, are not independent, but rely on command and support functions from the corporate entity in Jakarta. The relationship between the Jakarta-based entity and operational offices in the corporate network is thus characterized by an intense flow of staff and information. Additionally, multinational oilfield service firms such as Halliburton or Schlumberger have located their head offices for Indonesia in Jakarta. These entities host supply chain, management and administrative support functions for operations in Indonesia.

The national head offices of these E&P companies in Jakarta are not isolated. They rather represent well-connected nodes in a corporate global network from where additional expertise is sourced and commands are transmitted. While global headquarters, which are mainly in Europe or North America, play a major role in this regard, some multinational E&P firms have established additional leadership teams with regional decision-making competences in Singapore. For instance, one of the interviewed companies operates such a regional office in Singapore with responsibilities for business units in Australia, China, Indonesia and Malaysia; and another for operations in Australia, Brunei, China, Indonesia, Malaysia, Myanmar, Papua New Guinea and Thailand. Instead of reporting directly to the global headquarters, each of these local business units reports to Singapore, which serves as a ‘coordinator and partly a conveyor’ (managing counsel, multinational E&P firm) between the global headquarters and the local business units. However, especially the function as locational anchor point for oilfield service firms turns the resource-poor city-state into a crucial node in this industry-specific WCN. From here, various multinational oilfield service firms provide a broad range of services and products that enable the integration of extraction sites in Southeast Asia and well beyond. The activities range from spare part inventories to manufacturing of equipment, regional management functions, training centres, provision of technical expertise, and research and development (R&D) facilities.

Location rationales
While these insights shed a light on the particular function of each city-node in the WCN, the following elaborates the reasons why Jakarta and Singapore are articulated as central nodes in the upstream oil and gas WCN (for a summarized comparison see Table 1). Like in most countries, in Indonesia the state owns all mineral resources. E&P companies require a joint cooperation contract with the Indonesian regulatory body SKK Migas (Law No. 22) in order to execute upstream activities. To enter this contract, foreign E&P firms must establish an Indonesian business unit (Company Law No. 40/2007). While this business unit could be established in any Indonesian city, the interviews reveal that the presence of SKK Migas and the national oil company Pertamina in Jakarta drive the choice of location towards the capital. First, the joint cooperation contract requires close collaboration between the operating company and SKK Migas. To give an example, every work step more than US$500,000 obliges an approval by SKK Migas (PwC, 2017). A representative of a foreign E&P company stressed the need to be in Jakarta in order ‘to keep in touch very closely with the authorities here. You need to be physically there. […] You have to meet people daily from all departments’ (commercial and business support manager, multinational E&P firm). This close relationship can avoid, for instance, delays caused by bureaucratic obstacles, as another interviewee explained.

Second, the national oil company Pertamina holds shares as an operating partner in most Indonesian upstream projects and thus needs to be involved in all working steps. The co-location to Pertamina’s headquarters in Jakarta enables these daily interactions. In addition, local content regulations push E&P firms to equip these head offices with functions that go beyond a mere representative presence.
Moreover, local content regulations influence the spatial organization of oilfield service firms, as a representative of an E&P company explained: ‘even though [our contractors] are in Singapore, normally they will already have an establishment in Jakarta. Because they know that we cannot deal directly with Singapore, unless it is a very different situation, like an accident’ (head of procurement, multinational E&P firm). Again, foreign oilfield service firms could establish entities in any Indonesian city to meet the institutional requirements. Nonetheless, the need to be in geographical proximity to decision-makers of their clients induces a spatial clustering in Jakarta, as this quotation of a foreign oilfield service firm illustrates: ‘Their head office for Indonesia is located in Jakarta. That is why we have to stay in Jakarta so that we can meet regularly, easily’ (advisor, foreign OSF).

Instead of integrating the regional office in one of the existing country offices, many companies have established an additional entity for this purpose in Singapore. One important reason is that Singapore – in contrast to its resource-rich neighbours – enables access to the hydrocarbon business in entire Southeast Asia, as this quotation by a representative of an E&P company illustrates:

If you base yourself in Indonesia, in Jakarta, you do not see opportunities either in Malaysia or in Myanmar or Vietnam, so you naturally become an Indonesian-focused company. […] So we set it up in Singapore, which is kind of a no man’s land in terms of there is no upstream hydrocarbon business here. […] And by us having our head office in a kind of a neutral country within Southeast Asia, it allows us to spread across the several countries. (executive director, multinational E&P firm).

Apart from this aspect, interviewed firms stressed the safe and predictable institutional environment, the connectivity to Southeast Asian and worldwide destinations, access to qualified human capital and the ease to attract talent from abroad, industry-specific knowledge, the geographical concentration of relevant contractors and clients, and attractive tax schemes as decisive location factors. The Singaporean government has contributed to the creation of this highly sophisticated environment that meets the strategic needs of the industry players and thereby turned the resource-poor city-state to a central node in the upstream oil and gas WCN. For instance, a representative of a multinational oilfield service firm explained that ‘Singapore invests heavily in the offshore oil and gas market in terms of education. […] And that just made it a very good place for us to recruit and hire people’ (managing director, multinational OSF). Moreover, the government has established various research institutes (e.g., Centre for Offshore Research and Engineering, Technology Centre for Offshore and Marine) to support the creation of industry-specific knowledge in the upstream industry.

**DISCUSSION AND CONCLUSIONS**

Following Toly et al.’s (2012) call, the findings provide in-depth insights to complement the aforementioned quantitative mapping studies of cities in the upstream oil and gas WCN. The insights help to explain the integration of both cities as well as their functional roles within this particular global network and thereby answer questions that could only be guesstimated by quantitative studies. The findings, for instance, reveal and explain why Jakarta’s spatial sphere of influence is restricted to the national economy, while Singapore is used by industry players as a gateway to Southeast Asia and beyond (see also Breul, Revilla Diez, & Sambodo, 2018; Revilla Diez, Breul, & Moneke, 2018). This complements Martinus and Tonts’ (2015) finding that Asia-Pacific cities are clustered in regionalized subgroups in the network around Singapore.

The articulation of Jakarta into this WCN stems from the regulator and producer role of the Indonesian state. The intense interaction with regulatory bodies and national oil companies as well as local content regulations anchor E&P companies in the capital. Similar rationales as
those for Jakarta can be expected for other capitals of resource-holding countries that appear in
the network, as nationalistic tendencies are quite common in this particular industry (Tordo,
Warner, Manzano, & Anouti, 2013). The finding thus provides a crucial explanation for the
rather decentralized configuration of the WCN identified elsewhere (Breul & Revilla Diez,
2017; Martinus & Tonts, 2015). Moreover, the findings confirm Toly et al.’s (2012) interpre-
tation of the dominant presence of capital cities in different WCNs. They provide evidence for the
relationship between nation-states and the global governance of multinational enterprises.

However, not every city-node in the WCN can be explained by the same factors, as the
example of Singapore shows. A crucial factor that explains Singapore’s articulation is the
facilitative role of the Singaporean state that has contributed to the creation of a sophisticated
environment, which as a consequence turned the city-state – despite the lack of own natural
resources – to a central node in the upstream oil and gas WCN.

These two contrasting cases show that city-nodes, which are usually described with mere
quantitative measures for connectivity, can serve the wider network for different purposes and
their integration bases on differing rationales. A major finding in this regard is how different
state roles have contributed to the articulation of both cities. The study, therefore, adds to the
understanding of the influential role states can play in the making of world cities (Therborn,
2011). Moreover, the case studies demonstrate how recent efforts to study cities in ‘multiple glo-
balizations’ (Krätke, 2014a, 2014b; Martinus & Tonts, 2015; Toly et al., 2012) should be
accompanied by qualitative research. While network mapping efforts of the last decade have sig-
ificantly contributed to the understanding of cities in globalization, this study demonstrates that
only in-depth insights can contribute to a greater understanding of cities as strategic places in
various global networks and provide an empirical basis through which to explain the divergences
among WCNs across different sectors (Toly et al., 2012). Hence, it brings this recent research
agenda on cities in ‘multiple globalizations’ beyond a mere description of network structures
and ‘help[s] us understand how cities come to occupy their network positions’ (Vind & Fold,
2010, p. 70).

**DISCLOSURE STATEMENT**

No potential conflict of interest was reported by the author.
FUNDING

This work was supported by the Deutsche Forschungsgemeinschaft [grant number 275355279].

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