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An intermediate step to resource peripheries: The strategic coupling of gateway cities in the upstream oil and gas GPN

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ABSTRACT

The actual extraction of natural resources is territorially tied to their geological occurrence. However, previous studies have shown that a direct strategic coupling with commodity source regions has become increasingly uncommon in the context of the contemporary organization of extractive industries. Instead, extractive Global Production Networks (GPNs) create an 'intermediate' step and bundle their activities in so called 'gateway cities' outside the resource periphery, from where they integrate the latter. Understanding the underlying rationales and the explicit functions that make these cities essential for the larger production network is crucial in order to understand the spatial configuration of the GPN and the (limited) opportunities for resource peripheries. This paper therefore explores the strategic coupling of two distinct gateway cities (Singapore, Jakarta) in the upstream oil and gas GPN. Based on 31 interviews the article highlights how varying state roles have shaped the spatial configuration of this particular GPN. While the Singaporean state contributed to 'holding down' the GPN by transforming its regional assets to the strategic needs of the industry, the 'detour' via Jakarta is a consequence of the regulator and producer role of the Indonesian state as well as the spatially unequally distributed institutional capacities across Indonesia. Both influences inhibit opportunities for economic development in commodity source regions.

1. Introduction

Global Production Network (GPN) research has contributed to a better understanding of "how actors in various global production networks are anchored in different places and regions" (Coe and Yeung, 2015, p. 68). Despite its relevance, especially for regions in the Global South, the study of extractive industries remains with few exceptions (Bridge, 2008; MacKinnon, 2013; Stephenson and Agnew, 2015) a blank spot in the GPN research agenda.

Existing studies reveal an enclave-like strategic coupling of different resource peripheries (MacKinnon, 2013; Phelps et al., 2015). Simultaneously, the studies find extractive GPNs bundling their activities in central city-nodes outside the resource periphery, predominantly the capital cities of the respective country, from where they integrate the commodity source region (see also Breul and Revilla Diez, 2017). These existing insights indicate that a direct strategic coupling process with commodity source regions – as has been the case in the past (e.g. the emergence of today's global city region of Gauteng) - is no longer common, but creates an 'intermediate' step via so-called gateway cities (Scholvin et al., 2017). The production linkages generated by the integration into extractive GPNs predominantly unfold in core regions outside the resource periphery. Based on the key idea in research on GPNs that regional development is an interdependent process (Coe and Yeung, 2015), an understanding of the underlying rationales and the explicit functions that make these gateway cities essential for the larger production network is crucial in order to comprehend the spatial configuration of the GPN and its potential for developmental outcomes. This study therefore aims to explore the strategic coupling process of selected gateway cities in a particular extractive GPN. To fully unpack this strategic coupling, special attention has to be paid to the role of the state in GPNs, as the findings of the existing empirical studies mentioned above suggest that states play a highly influential role in shaping the spatial configuration of extractive GPNs (see also Stephenson and Agnew, 2015). We apply a recently introduced differentiated understanding of states in GPNs (Horner, 2017) to highlight how varying state roles have engaged in the strategic coupling process and have thereby influenced the spatial configuration of the GPN.

This article examines how capital cities of resource-holding states, here exemplified by Jakarta, and resource-poor Singapore are coupled in the upstream oil and gas GPN. Despite Singapore's gateway function for upstream activities in Southeast Asia, the predominance of capitals in the GPN (Breul and Revilla Diez, 2017) indicates that the integration

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of commodity source regions requires a 'detour' via the capital city of the respective resource-holding country. The comparison highlights how different sets of 'regional' institutions - given through the varying state roles of Singapore and Indonesia – have contributed to 'holding down' the GPN and have thereby created gateway cities that are positioned between the resource peripheries and the transnational companies' home countries.

2. State of the art

2.1. The strategic coupling between regions and GPNs

Since the 1990s various concepts have emerged (global commodity chains, global value chains, global production networks) in order to study the increasingly geographically dispersed and functionally fragmented nature of the global economy and its consequences for firms and regions that become integrated into processes of economic globalization (Gereffi, 1994; Gereffi et al., 2005; Henderson et al., 2002). Among these resembling concepts, the GPN in particular has proven to provide a suitable framework in order to explore how global industries anchor in particular locations and how regions are shaped by their articulation into global processes (Fold, 2014). The GPN framework encompasses "complex intra-, inter- and extra-firm networks that constitute all production systems, and explores how these are structured both organisationally and geographically" (Coe and Hess, 2010, p. 130). In an endeavor to 'globalize' regional development, GPN scholars (Coe et al., 2004) have developed the strategic coupling concept, which connects insights from research on transnational inter-firm networks (Gereffi, 1994; Gereffi et al., 2005) with the body of work from the 'new regionalism' literature (e.g. MacLeod, 2001a, 2001b). The notion of strategic coupling is "understood as the coupling process between regional economies and global production networks that is mediated through specific action and practices of key actors and institutions" (Coe et al., 2004, p. 482). This interaction of territorial dynamics and network dynamics only takes place when mutual complementarities exist, i.e. regional assets (e.g. knowledge, skills, natural resources) can complement the strategic needs of GPN actors (Coe and Hess, 2010; Coe et al., 2004; Yeung, 2009). Regional development is driven by this interaction and is expressed in the GPN framework by the creation, enhancement and capture of value (Henderson et al., 2002). The strategic coupling process is characterized by three features. First, the process is strategic since intentional actions from regional as well as global actors are needed. Second, strategic coupling is dynamic and can change or end over time (see Horner, 2014). Third, it transcends territorial borders as it connects actors across various spatial scales (Yeung, 2009).

The introduction of different modes (indigenous, functional, and structural) and types (e.g. innovation hubs, global cities, logistics hubs, commodity source regions) of strategic coupling (Coe and Yeung, 2015; MacKinnon, 2012; Yeung, 2009) illustrates the variety of ways in which regions are articulated into GPNs serving very different purposes in the wider network and relying on differing rationales. This variety also becomes apparent by taking a look at the broad range of case studies of recent years (e.g. automotive industry in Germany and Thailand (Coe et al., 2004); electronics in China (Yang, 2009); services in the Philippines (Kleibert, 2014); pharmaceutical industry in India (Horner, 2014)). Although it has been demonstrated that the GPN framework provides great potential for understanding the configuration of extractive industries (Bridge, 2008), a study by MacKinnon (2013) has only recently provided first insights on the strategic coupling of commodity source regions. In the following subchapter we will summarize these first empirical insights and also consider additional findings from other literature strands in order to point out a crucial aspect in the strategic coupling process of extractive networks we address in this article.

2.2. Extractive GPNs, the strategic coupling of commodity source regions and gateway cities

Contrary to other global industries that have been the focus of GPN research, in extractive GPNs the primary regional asset that drives the strategic coupling between a region and a lead firm is the geological occurrence of the natural resource itself (Bridge, 2008; MacKinnon, 2013). The geography of commodity source regions is diverse, ranging from the tropical rainforests of Papua New Guinea to the Gulf of Mexico and the Russian Arctic. One feature most of these commodity source regions have in common is their remoteness from main settlement centers. Natural resource extraction is therefore often perceived as a vehicle to the "regional development imaginaries" (Bridge, 2008, p. 390) of these remote regions, as the natural resource endowment complements the strategic needs of lead firms and draws investment from outside into the region.

In the past, there have been several cases where activities related to the extraction of natural resources have contributed to the emergence and growth of conurbations such as Johannesburg or the Ruhr area (Robbins, 2013). New extraction projects in remote areas were generally accompanied by the establishment of resource towns (Storey, 2016). Since the 1980s, decreasing transportation costs and a growing vertical disintegration, where lead firms outsource most activities to specialized service companies (Morris et al., 2012a; Phelps et al., 2015), have reshaped the spatial organization of extractive industries. Instead of establishing long-term resource towns, extractive GPNs increasingly organize their upstream activities at the sites of extraction through a camp/commute model (Storey, 2016; Vodden and Hall, 2016). Several empirical findings from different studies (Bloch and Owusu, 2012; Breul and Revilla Diez, 2017; MacKinnon, 2013; Mjimba, 2011; Phelps et al., 2015) indicate that these changes have created a spatial pattern consisting of a "mining camp as an enclave coexisting with a measure of industry agglomeration elsewhere" (Phelps et al., 2015, p. 135). By concentrating activities in central city-nodes outside resource peripheries, extractive companies avoid large-scale upfront expenditures which are necessary to establish entire resource towns. Moreover, they are able to benefit from increasing internal economies of scale as well as localization economies (e.g. Solheim and Tveterås, 2017).

For instance, MacKinnon's study (2013) on Pilbara, Western Australia indicates a structural coupling of the commodity source region where intraregional material linkages with suppliers and service firms are lacking and only account for an estimated 6% of the value added. 80% of labor is sourced from outside Pilbara via fly-in/fly-out systems, of which 71% are located in Perth. This labor sourcing practice "represents a key 'rupture' between the region and focal firms in GPNs […], enabling workers from the core region of Perth to extract some of the economic rent derived from the resources of the periphery" (MacKinnon, 2013, p. 134). The beneficial economic outcomes which are connected to the articulation into extractive GPNs were predominantly reaped in core regions like Perth.

Phelps et al. (2015) observe a similar spatial configuration in their study on the integration of the Chilean Antofagasta region into the mining industry. The results indicate that the integration of the Antofagasta region into extractive GPNs has not created any localization economies in the commodity source region itself. Instead, a considerable concentration of mining companies has emerged in the metropolitan area of Santiago/Valparaiso. National headquarters of lead firms, multinational mining suppliers and services, as well as a dominant share of the domestic mining service industry operate their business at the sites of extraction from this core region.

A recent study by Breul and Revilla Diez (2017) corresponds with the insights from the above studies. The study traces command and service linkages from Southeast Asian oil and gas fields to the immediate location from where these were provided. The findings indicate that lead firms and service providers in the upstream oil and gas industry concentrate in so called 'gateway cities' (Scholvin et al., 2017)