Location choices at the subnational level perspective: 
the case of the Volkswagen Group in BRIC countries

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Abstract: This study analyses the location choices of the Volkswagen Group (VWG) in BRIC countries built on entry and subsequent investments. Based on the internationalisation theories of the Uppsala model and the Eclectic Paradigm, this study performs a qualitative analysis applying a case study approach. We collected data from archival sources including corporate documents and official reports. The results revealed a partial support for the Uppsala model, while the Eclectic paradigm combined with an institution-based view explain VWG’s location choices. Most importantly, the findings demonstrate that when examining a firm’s entry and subsequent investment into international markets, institutional aspects must be explored in depth not only at the country level, but especially from a subnational level perspective, since the operation in fact occurs in this specific location.

Keywords: location choice; automobile industry; entry mode; subsequent investment; internationalisation; geographic diversification; plant location; emerging markets; Brazil; Russia; India; China.


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1 Introduction

There are some key drives forces for firm internationalisation. Treadgold (1990) relates them to push and pull factors. While push factors are associated to non-favourable home country features that encourages firms to search new opportunities abroad (Alexander, 1995), pull factors are related to search for favourable host country characteristics related to market-, resource- and strategic asset-seeking that attract firms to enter and expand in a particular location (Dunning and Lundan, 2008b). These key drives for internationalisation refer to the improve of cost efficiency in production (Bell, 2007), achievement of international reputation and brand recognition (Child and Rodrigues, 2005), exploration of own advantage on market abroad (Dunning, 1980), and increasing profits (Redding, 2006).

Due to these drivers for internationalisation and host country characteristics, location choices have become an important aspect in many sectors such as the textiles and electronics industries (Campos and Looty, 2007), as well as automobile industry
Regardless of whether firms are traditional market leaders such as Volkswagen, Toyota, General Motors and Ford or new comers like Hyundai and Tata, they all face diverse challenges in the current global environment (Morris, 1992; Salwan, 2011).

First established in 1937 under the name ‘Gesellschaft zur Vorbereitung des Deutschen Volkswagens GmbH’ in Berlin, the Volkswagen Group (hereafter VWG) has grown to become the world’s largest car manufacturers in 2016 (Rauwald and Ma, 2017), two years in advance of the original proposed goal (Volkswagen, 2013). First of all, VWG includes the passenger car brands Volkswagen and Audi, as well as Bentley, Bugatti, Lamborghini, Porsche, SEAT, and Skoda, the motorcycle brand Ducati, and commercial vehicles under the brands MAN, Scania, and Volkswagen Commercial Vehicles. Although VWG becomes the world’s leading automaker, it should be noted the challenges to deal with firm reputation, particularly with the emergence of the 2015 scandal over VWG cheating pollution emissions tests in the USA (Siano et al., 2017).

BRIC refers to four developing countries (Brazil, Russia, India and China), all of which have experienced rapid economic growth in recent decades (Estrin and Prevezer, 2010). While the economy was depressed in many developed countries, BRIC’s real GDP has continued to grow. For the period 2000–2015, BRICs countries experienced GDP average growth of 5.93%, while developed countries growth on average 1.79% (World Bank, 2017). It should be noted that this period considered the economic downturn of Brazil and Russia in 2015.

One of the most important drivers of economic growth in BRIC countries is the automobile industry. In Brazil, for instance, this industry sector represented about 23% of industrial GDP and 5% of the total GDP in 2012 (Ibusuki et al., 2012). In addition, according to International Organisation of Motor Vehicle Manufacturers (OICA), BRIC economies represent 68.2% of emerging markets and 37.5% of world motor vehicle sales in 2016. China lands first in world sales, while India is fifth, Brazil eighth, and finally Russia 14th (OICA, 2017). Thus, the automobile industry plays an important role in BRIC countries’ industry and governments and for foreign investors.

To date, VWG has achieved remarkable results in BRIC countries. In 2012, the market share of VWG’s new passenger cars makes up 20.8% and 23%, in Brazil and China, respectively, ranking second and first in the market (Volkswagen, 2013). In this way, VWG provides a good case from the automobile industry of location choices in emerging economies.

Scholars have explored location strategies for quite some time. However, the new development of the global economy as well as that of all of society has brought new challenges to researchers. Among the most recent important changes has been the rise of certain emerging economies. In particular, over the last two decades, the participation of emerging markets in the global economy has played a more and more important role both as markets for goods and services and as production sites. Therefore, the internationalisation of multinational enterprises (MNEs) in these economies has received more and more attention from scholars (Aulakh and Kotabe, 2008; Marquis and Raynard, 2015). BRIC countries are all emerging countries and have experienced rapid economic growth over the past several years. Thus, BRICs are a good representative of emerging economies as the basis of research.

In addition, scholars have investigated the topic of location choices based on internationalisation theories developed from different lens, such as transaction cost theory.
(Hennart, 1988), the Uppsala model (Johanson and Vahlne, 1977) and the OLI paradigm (Dunning, 1980). It should be noted, however, that these theories concentrate on the country level perspective of the location choices. Recent developments in the international business literature have increasingly taken the institutional aspect into account (Kostova et al., 2008; Marquis and Raynard, 2015). In the past, researchers considered institutions as background to research firms’ internationalisation process (Peng et al., 2009). However, recent studies suggest that institutions directly determine what arrows a firm has in its quiver as it struggle to formulate and implement strategy, and to create competitive advantage (Ingram and Silverman, 2002). Most importantly, prior studies called the need of investigating location choices using a subnational perspective (Beugelsdijk and Mudambi, 2013; Buckley, 2016).

Furthermore, some scholars have combined different theories with an investigation of institutional aspect. For instance, a study from Dunning and Lundan (2008a) incorporated institutional dimensions into their OLI paradigm. The institutional influences on internationalisation are especially clear in emerging countries, because usually the institutional environment in such environments differs greatly from that in developed countries (Meyer and Peng, 2005).

Thus, based on different internationalisation theories, this paper aims to contribute to the international business literature by answering the following research question: How are VWG’s location choices in BRIC countries considering subnational perspective? More specifically, we aim to understand the location strategy in BRIC countries considering two aspects:

1. the entry mode
2. the subsequent investments.

VWG is one of the most successful automobile firms in the world and its internationalisation process began more than 60 years ago, however, it should be noted that VWG has not received much attention of location choices in academic investigation. Previous research has examined the automobile sector as a whole and took VWG only as an example of regional strategy (Rugman and Collinson, 2004) or make a comparison with the Japanese automobile firms (Jürgens, 1992). A study from Parisien and Thagard (2007) investigated VWG’s technique development aspects, while Pries and Schweer (2004) focused on product development process. Tolliday (1995) and Jürgens (2009) analysed VWG looking at the perspective of the automobile industry model. Other studies investigated one particular market, such as Gray (1975) with the VWG’s strategy in the USA, Kiefer (1998) and Posth (2008) with the experience in Shanghai (China).

Although those previous studies made significant contributions to the literature, to our knowledge no academic research exists that really focuses on investigating VWG’s location choices in BRIC countries looking at the subnational perspective. This study intends to contribute to the literature by fulfilling this research gap in terms of firm internationalisation and analysing institutions at the micro level perspective. It examines the internationalisation experience of this automobile giant in-depth, and at the same time, it gains a better understanding about entry mode and subsequent investments in BRIC countries at the subnational level.
2 Literature review

2.1 The Uppsala model

Uppsala model is one of the oldest models in the internationalisation process, also known as a progressive model of internationalisation (Rexhepi et al., 2017; Caputo et al., 2016). This model focuses on gradually acquiring, integrating, and using knowledge about international operations, in addition to incrementally increasing commitments to foreign markets. Furthermore, it assumes that a lack of market knowledge is the most critical constraint among all difficulties in a firm’s internationalisation process (Johanson and Vahlne, 1977), since firms in this situation suffer the liability of foreignness (Zaheer, 1995), which is the disadvantage of being a foreigner. In response to this lack of knowledge, firms will gradually increase their commitment to the international market due to risk and uncertainty. In this way, companies begin their internationalisation process step by step. The first step is to internationalise with an indirect export; the next step is to use direct export; the next step is to establish an international office; later, with more experiential knowledge, the next step is to decide to open a sales subsidiary; the last step is to open a plant (Johanson and Wiedersheim-Paul, 1975).

This process of internationalisation always started with the countries, which are psychic distance near from the domestic market. The companies would gradually enter other markets which were further away in terms of psychic distance (Johanson and Wiedersheim-Paul, 1975). This process could be explained by the concept of liability of foreignness, which originally explained why a foreign investor needed to have a firm-specific advantage to more than offset this liability. The larger the physical distance the larger is the liability of foreignness (Hymer, 1976; Zaheer, 1995). Furthermore, it included the concept of liability of outsidership (Johanson and Vahlne, 2009) regards to the import role of the network in this internationalisation process.

This process tends to improve firm’s knowledge and consequently firm’s commitment to internationalisation strategy (Vahlne and Johanson, 2013). Experience builds a firm’s knowledge of a market and knowledge influences firm’s decisions about the level of commitment and the activities that grow out of them, which leads to the next level of commitment (Johanson and Vahlne, 2009). This model based on knowledge acquisition and learning (Vahlne and Johanson, 2013). In a recent contribution, Bhatti et al. (2016) argue that subsidiary’s knowledge strategy and subsidiary’s experiential learning affect positively some aspects as networks, market and technological knowledge of the firm. Other studies also found the importance to consider the role of network in the Uppsala model (Johanson and Vahlne, 2009; Rexhepi et al., 2017). Forsgren (2016) goes beyond in this Uppsala model stating that the internationalisation process and business network relationship development are different processes, but they influence one another.

2.2 The eclectic paradigm

Also known as OLI paradigm, this framework was developed by John Dunning to explain the level and pattern of firms’ foreign value-added activities during the internationalisation process (Tolentino, 2001), or more specifically, to describe when MNEs engage in foreign direct investment (FDI). This framework asserts that the extent, geography and industrial composition of MNEs’ foreign production are formed by three sets of advantages (Dunning, 1980). The first are the ownership specific advantages (O),
which describe the competitive advantages of firms seeking to engage in FDI or to increase their existing FDI. The greater the competitive advantages of investing firms, the more likely they are to engage in or increase their foreign production. Alcácer et al. (2016) consider the most important element for this ownership advantage is the capability to discover and integrate new combinations of acquired knowledge from different sources to be able to create new value. The second are the location advantages (L) of the alternative countries or regions in which MNEs will undertake value adding activities (Dunning, 2000). These advantages refer to a location’s attractiveness based on the existence of raw materials, low wages, and special tariffs. Recent work states the importance of location advantages focusing more on the capacity of a place for interconnectedness with complementary locations elsewhere in the word (Alcácer et al., 2016). The third are the internalisation advantages (I), which refer to a firm’s propensity to internalise cross-border structural or endemic imperfections in the intermediate good market (Dunning and Lundan, 2008a). The last advantage is based on internalisation theory, wherein rational agents internalise markets when the predicted benefits exceed the expected costs (Buckley and Casson, 2009), which proved capable of answering the recent challenges of the emerging market firms (Buckley, 2016).

By challenging new organisation forms, Dunning and Lundan (2008a) precipitated the incorporation of the institutional dimension into the OLI paradigm. Inspired by Peng and Delios (2006) in terms of firm boundaries in different Asian countries, Dunning and Lundan (2008a) considered the important role played by institutional analysis when creating the framework. Institutional aspects can help firms gain a better understanding both of the determinants of MNE behaviour and its effects on home and host countries.

With this institutional consideration in place, ownership advantages can be divided into traditional asset-based advantages (Oa), institutional-based advantages (Oi), and transaction-based advantages (Ot). Oa refers to traditional asset advantages directly related to the product or service. Oi includes the institutional infrastructure that is specific to a particular firm. Such an infrastructure comprises a collection of incentives, regulations, and norms that affect all areas of managerial decision-making, the attitudes and behaviour of the firm’s stakeholders, and every other important factor in the wealth creating process as a whole. The authors also expanded location advantages (L) into countries’ institutionally related location advantages (Li), which can be significantly different between developed and developing countries, as well as among developing countries. Institutions also play a big role in internalisation advantages (I) as well, because firms’ structures or norms have an influence on costs and benefits. Furthermore, the institutional context and quality in the host country may have influence on MNEs’ entry mode as well (Dunning and Lundan, 2008a).

3 Methodology

This paper applies qualitative research based on a case study. According to Yin (2009), case studies are used widely in social science research (e.g., sociology, political science, history) as well as in practice-oriented fields (e.g., urban planning, management science and so on). The case study, the abbreviate definition for which is “an empirical inquiry about a contemporary phenomenon (e.g., a case), set within its real-world context—especially when the boundaries between phenomenon and context are not clearly
evident”, is known for its distinctiveness. This study applies the possible theoretical frameworks to the VGW’s location choices in BRIC countries. Through this means, it attempts to provide a better understanding of the location choices. Our analysis is based on two aspects of the location choices in BRIC countries:

1. entry mode
2. subsequent investments.

To answer the research question, this paper employs a content analysis approach. Berelson (1952, p.18) defined content analysis as “a research technique for the objective, systematic, and quantitative description of manifest content of communications.” Holsti (1969, p.14) provides a broader definition for content analysis: “any technique for making inferences by objectively and systematically identifying specified characteristics of messages”. Content analysis can be divided into inductive and deductive analyses: the inductive perspective gains direct information without imposing preconceived theoretical perspectives, while the deductive approach builds on pre-existing relevant theories (Moretti et al, 2011). Since this research bases its analysis on existing internationalisation theories, it employs the deductive content analysis approach.

The content analysis based on different document sources drawing on archival sources including academic papers, books, VWG’s annual reports, and reports from international organisations (e.g., UNCTAD, United Nations, and World Bank) and associations (e.g., OICA). The use of multiple archival sources of evidence provided a triangulation of data (Puhakka, 2017), increasing the reliability and validity of the study (Scapens, 1990). The period of analysis involves information of the company’s internationalisation from 1950 to 2014, which was the period of the highest concentration of foreign investments made by VWG.

To measure institutional conditions at the subnational level, this study adopts the following:

1. economic aspect – it is measures based on the GDP per capita (current US$) and the total GDP at subnational level. It chooses both measures as indicator since they can measure the production capability of one particular location and hence it can show the economic situation of this location in a certain extent. This economic indicator is based on the data published by the World Bank (2017)

2. development aspect – is measured by the Human Development Index (HDI), which covers several of the most important aspects of one specific location’s development. HDI is a summary measure of the key dimensions of human development and can well describe a location real development situation, not only the economic growth. It measures three key dimensions of human development of a country: a long and healthy life, access to knowledge and a decent standard of living. There are all together five indicators: life expectancy (years), mean year of schooling, expected years of schooling, combined education index and GNI per capital (PPP). The data is collected officially by the United Nations (UNDP, 2013). Additional aspects could be considered for analysis such as cultural aspects (i.e., Hofstede or GLOBE) or institutional aspects (i.e., institutional profiles database that provides more than 300 indicators of institutional characteristics). It
should be noted that cultural and institutional the data availability are only at a country level and not at a subnational level. For this reason, they are not considered for the analysis of the case study.

4 Analysis and discussions

This section analyses VWG’s entire location choices in BRIC countries. The first part examines VWG’s entry mode into those countries. The second part focuses on the subsequent investments taking into consideration the subnational location for each country (i.e., cities/states/provinces). Finally, a summary discusses the link between the findings and the internationalisation theories.

4.1 The entry mode into BRIC countries

Except for Brazil, no exact time is recorded for Volkswagen’s first car imported by BRIC countries. Table 1 demonstrates that VWG’s entry strategy in Brazil exactly followed the steps described by the Uppsala model (Johanson and Wiedersheim-Paul, 1975): no regular export, then the use of agents, then sales subsidiaries, and finally, its own plant. In Brazil, it took only nine years from the first export to establishment of the first assembly plant. VWG’ internationalisation process in Russia also follows the gradual internationalisation process (Johanson and Vahlne, 1977), starting from a low commitment level and advancing to a high level of investment commitment. That is, starting with an independent agent, later establishing a sales subsidiary, and, at the end, building an assembly plant. However, this gradual internationalisation took fourteen years to be complete in Russia.

The progression in China was more direct. VWG directly build an assembly plant before establishing any other low commitment level of investment. The reason for this unique situation is related to China’s national policy: until 1984, the country had been a planned economy, and its market, particularly for foreign products, was strongly controlled by the Chinese government. Only after the Chinese reform and new Chinese Economic Policy in 1978, did foreign investors gain the chance to access the market. The Chinese government highly encouraged joint venture (JV) as the entry mode for foreign firms, particularly in the automobile industry (Liu, 2011). VWG took this opportunity and became the first foreign JV partner in the Chinese automobile industry (Posth, 2008).

Table 1 VWG’s entry mode process in BRIC countries

<table>
<thead>
<tr>
<th>Country</th>
<th>No regular export</th>
<th>Agent</th>
<th>Sales subsidiary</th>
<th>Production facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>1950</td>
<td>1951</td>
<td>1953</td>
<td>1959</td>
</tr>
<tr>
<td>Russia</td>
<td>n.a.</td>
<td>1993</td>
<td>2003</td>
<td>2007</td>
</tr>
<tr>
<td>India</td>
<td>n.a.</td>
<td>n.a.</td>
<td>2001</td>
<td>2001</td>
</tr>
<tr>
<td>China</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>1984</td>
</tr>
</tbody>
</table>

Note: n.a = data not available

Source: Compiled from Volkswagen (2008)
<table>
<thead>
<tr>
<th>Plant name</th>
<th>Location</th>
<th>Year</th>
<th>Ownership</th>
<th>Product</th>
<th>HDI</th>
<th>GDP per capita</th>
<th>Total GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchieta</td>
<td>São Bernardo do Campo (São Paulo)</td>
<td>1959</td>
<td>Volkswagen do Brasil Indústria de Veículos Automotores Ltda</td>
<td>complete vehicles, engines, gearboxes, components foundry</td>
<td>0.806 (1991)</td>
<td>19,427 (2nd)</td>
<td>809.41 (1st)</td>
</tr>
<tr>
<td>São Paulo</td>
<td>São Paulo (São Paulo)</td>
<td>1958</td>
<td>Scania AB</td>
<td>powertrain components (production of gearboxes and axle)</td>
<td>0.805 (1991)</td>
<td>19,427 (2nd)</td>
<td>809.41 (1st)</td>
</tr>
<tr>
<td>Taubaté</td>
<td>Taubaté (São Paulo)</td>
<td>1976</td>
<td>Volkswagen do Brasil Indústria de Veículos Automotores Ltda</td>
<td>complete vehicles</td>
<td>0.797 (1991)</td>
<td>19,427 (2nd)</td>
<td>809.41 (1st)</td>
</tr>
<tr>
<td>São Carlos</td>
<td>São Carlos (São Paulo)</td>
<td>1996</td>
<td>Volkswagen do Brasil Indústria de Veículos Automotores Ltda</td>
<td>engines</td>
<td>0.736 (2000)</td>
<td>19,427 (2nd)</td>
<td>809.41 (1st)</td>
</tr>
<tr>
<td>Resende</td>
<td>Resende (Rio de Janeiro)</td>
<td>1996</td>
<td>MAN SE</td>
<td>light, medium and heavy trucks and bus chassis</td>
<td>0.660 (2000)</td>
<td>17,180 (3rd)</td>
<td>277.33 (2nd)</td>
</tr>
<tr>
<td>Curitiba</td>
<td>São José dos Pinhais (Paraná)</td>
<td>1999</td>
<td>Volkswagen do Brasil Indústria de Veículos Automotores Ltda</td>
<td>complete vehicles</td>
<td>0.646 (2000)</td>
<td>13,632 (8th)</td>
<td>143.57 (5th)</td>
</tr>
</tbody>
</table>

Notes: ¹City (state), ²Year of establishment, ³City, ⁴US$ in 2011 (state ranking), ⁵US$ billion in 2011 (state ranking).
Source: Compiled from Volkswagen (2012, 2013)
Similar to the Chinese case, pre-1980s India had strict policies to protect its local automobile firms. India’s first foreign JV automobile company was established in 1983. From 1995 to 2000, several international automobile firms built their own plants in India, such as Ford, GM, and Toyota. Compared to the early entry process in China, VWG’s internationalisation into India was a little behind. VWG ‘establishment of a sales subsidiary and an assembly plant both occurred after 2000, at which point the Indian government had abolished the barriers for imported vehicles and allowed 100% FDI. Thus, VWG’s entry process into India is departly thorough from the Uppsala model.

In sum, VWG followed the gradual process of internationalisation described by Uppsala Model in Brazil and Russia, while this was not the case in China and India. The reason for this difference is the special institutional aspects mentioned earlier in relation to the latter two countries.

4.2 The subsequent investments into BRIC countries

This section analyses how VWG developed its expansion in each BRIC country at the subnational level. Even, this section will provide a short introduction to the automobile industry’s background in each market.

4.2.1 Brazil

As depicted in Table 2, there are a total of six VWG assembly plants in Brazil, among them four units of the ‘Volkswagen’ brand and one plant each of the ‘Scania’ and ‘Man’ brands. All these factories are established in the southeast region of Brazil. Four of them are in the richest Brazilian state of São Paulo, one in the state of Rio de Janeiro, and one in the state of Paraná. Both states neighbour São Paulo.

It should be noted that those cities demonstrated a higher HDI than the national HDI level in the year under comparison. Due to availability of data (UNDP, 2013), we compared the Brazilian HDI in 1991 (0.552) with the HDI of those cities that had plants in that period. All of them demonstrated (at least 0.797 HDI) a substantially higher score than the national level. In 2000, the Brazilian HDI was equal to 0.66, while the cities with established plants had a similar or superior HDI level (except near the Curitiba plant). In addition, the data reveals that either the GDP per capita or the total GDP (no data was available for cities) had very high-income levels for the regions in question. In terms of GDP per capita, São Paulo ranked second, Rio de Janeiro third, and Paraná as eighth. Similarly, São Paulo is the richest state in Brazil (1st), while Rio de Janeiro (2nd) and Paraná (5th) are among the top five Brazilian states in terms of GDP (IBGE, 2013). Therefore, we note that VWG established its assembly plants in Brazil’s regions of higher economic development.

In addition to these indicators, other points must be considered for analysis. As early as 1925, GM built the first automobile plant in São Paulo and roads and infrastructure were built across the state. In 1956, Mercedes-Benz built its truck plant in São Paulo. By the end of 1960, São Paulo had become Latin America’s largest industrial centre (Governo do Estado de São Paulo, 2014). Therefore, São Paulo provided good infrastructure for the automobile industry, particularly at the ABC industrial region (cities of Santo Andre, São Bernardo do Campo and São Caetano do Sul). Moreover, the region hosted an availability of skilled workforce for the plants. Similar to São Paulo, Rio de Janeiro is one of Brazil’s large industrial centres. Rio’s main industry sectors are the
petroleum and metal industries as well as automobile industry. Moreover, the city Resende is on the border of the state of São Paulo. Thus, Rio de Janeiro has possessed good infrastructure, availability of suppliers and skilled workers advantageous to the automobile industry. VWG implemented an innovative production model at Resende plant called ‘modular consortium’ that provided a new form of assembler and supplier relationship (Marx et al., 1997). It allowed a relevant reduction in investments since VWG employees were not involved in the assembly operations, but mostly in quality assurance, coordination and related tasks with the partners of the modular consortium (Jürgens, 2004). Another plant at the state of Paraná neighbours São Paulo as well. Paraná is a famous location in Brazil for agricultural cultivation and production. However, in the 1970s the state began to promote the industry sector’s development as well. In the 1990s, Paraná made great efforts to attract FDI to its automotive sector, including automakers and their suppliers. The American firm Chrysler and the French car company Renault built their plants in Paraná in 1998 (Lopes, 2007).

We note some characteristics of VWG’s plants in Brazil. First, the plants are concentrated in São Paulo and its neighbour states. Second, those states’ economic conditions and general development are relatively strong as is their infrastructure. Finally, these regions have enough skilled workers and suppliers available for the industry sector, as other competitors are already established in those regions. In sum, all the Brazilian states where VWG plants exist provided public policies to attract FDI.

4.2.2 Russia

As shown in Table 3, two VWG plants are in Russia. VWG entered this country relatively late, as the first plant was built in 2007. Both VWG’s plant locations in Russia have relatively high levels of HDI in comparison to the national level (Russia HDI in 2005 = 0.75). Saint Petersburg also exhibits a high GDP per capita. However, Kaluga 31st place for GDP per capita. Kaluga’s GDP is also not so high, ranking only 45th among all the Russia oblasts, while Saint Petersburg ranked 4th.

Saint Petersburg is Russia’s second largest city in terms of population. It is geographically the nearest Russian city to Western Europe (only 200 km to Finland and the EU border) and enjoys excellent transport connections to other countries as well as to other Russian cities. In addition, Saint Petersburg is a big industrial centre for Russia (CEDIPT, 2012), with many different industry sectors, such as electricity, gas and water production and distribution, metallurgy and metal products, and automobile manufacturing. Many production facilities from world leading car companies are in the area, such as Toyota, General Motors, and Nissan, all of which built their plants in Saint Petersburg before VWG.

Kaluga is only 150 km away from the Russian capital and belongs to Moscow’s industrial area. However, the labour cost for firms is much lower in Kaluga than in Moscow. Russia’s first industry park was built in this region in 2002, and the world’s first atomic electric power station was built there. Following Russian government’s appeals to attract FDI, the Kaluga oblast has provided extensive support for large investors (Shereykin, 2008). According to chairman of the VWG board, Kaluga has provided the best framework among more than 70 location choices, considering every aspect (Dow Jones, 2006).
Table 3  
VWG’s plants in Russia

<table>
<thead>
<tr>
<th>Plant name</th>
<th>Location¹</th>
<th>Year²</th>
<th>Ownership</th>
<th>Product</th>
<th>HDI³</th>
<th>GDP per capita⁴</th>
<th>Total GDP⁵</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaluga</td>
<td>Kaluga (Kaluga Oblast)</td>
<td>2007</td>
<td>LLC Volkswagen Group Rus</td>
<td>Complete VW and Skoda vehicles</td>
<td>0.778 (2007)</td>
<td>14,500 (31st)</td>
<td>49.00 (45th)</td>
</tr>
<tr>
<td>Saint Petersburg</td>
<td>Saint Petersburg</td>
<td>2012</td>
<td>MAN trucks and bus production RUS LLC</td>
<td>Trucks</td>
<td>0.768 (2007)</td>
<td>25,277 (5th)</td>
<td>464.00 (4th)</td>
</tr>
</tbody>
</table>

Notes: ¹City (province), ²Year of establishment, ³City, ⁴US$ in 2011 (province ranking), ⁵US$ billion in 2011 (province ranking).

Source: Compiled from Volkswagen (2012, 2013)

Therefore, we can see that the Russian plant locations VWG chose have some similarities. They are located in Russia’s two biggest industrial locations and enjoy good infrastructure as well as strong general development.

4.2.3 India

Table 4 describes VWG’s three Indian plants. One of these plants belongs to ‘MAN SE’. The plant locations VWG chose in India also have relatively high HDI levels; even though these values are not so high compared with that of other countries, they are much higher than India’s average HDI (0.463 in 2000; 0.507 in 2005; 0.525 in 2006). Two of the plants were built in Maharashtra, which has a relatively high GDP per capita as well as GDP. The other plant was built in Madhya Pradesh, which ranked only 27th for GDP per capita but also ranked 10th for GDP among all India’s states. Maharashtra is India’s wealthiest state and its second biggest in terms of population (World Bank, 2017). Maharashtra’s transport network is one of the densest in India. The capital city of India (Mumbai) is located in this state as well. In order to attract more FDI, Maharashtra has built many special economic zones (SEZs). The states host many manufacturing companies such as LG, Mercedes-Benz, and Volkswagen, as well as many software companies such as Infosys, Tech Mahindra, and Wipro (Taiwantrade, 2009).

Another VWG plant is located in Madhya Pradesh, which in Hindu means ‘central state’. In fact, Madhya Pradesh is located in the centre of India and borders Maharashtra. It is India’s second largest state in terms of land area and its 6th largest in terms of population. Madhya Pradesh used to be one of India’s least developed states with an economy that was mainly agricultural. In recent years, however, the state’s GDP growth has been above the national average (UNDP, 2011), and the state has begun to transform its agriculture-based economy to an industry-based economy. The state’s government has started to build SEZs as well to attract FDI. Many automotive firms have built assembly plants in this region, such as Mahindra, Two Wheelers, JMB Auto, Kach Motors and all units of MAN SE.

The locations of VWG’s Indian plants present similarities; all possess good infrastructure and local government policies designed to attract FDI. Furthermore, they are all geographically central.
Table 4: VWG’s plants in India

<table>
<thead>
<tr>
<th>Plant name</th>
<th>Location</th>
<th>Year</th>
<th>Ownership</th>
<th>Product</th>
<th>HDI1</th>
<th>GDP per capita2</th>
<th>Total GDP3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurangabad</td>
<td>Aurangabad (Maharashtra)</td>
<td>2001</td>
<td>1 Skoda auto India Private Ltd.</td>
<td>Skoda, Audi, VW vehicles</td>
<td>0.560</td>
<td>1,814 (6th)</td>
<td>233.89 (1st)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 MAN SE</td>
<td>Large-bore diesel engines, engineering centre</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pune</td>
<td>Pune (Maharashtra)</td>
<td>2009</td>
<td>Volkswagen India Private Ltd.</td>
<td>VW and Skoda vehicles</td>
<td>0.689</td>
<td>1,814 (6th)</td>
<td>233.89 (1st)</td>
</tr>
<tr>
<td>Prithampur</td>
<td>Prithampur (Madhya Pradesh)</td>
<td>2003 (2012)</td>
<td>MAN SE</td>
<td>Heavy trucks</td>
<td>0.596</td>
<td>680 (27th)</td>
<td>59.09 (10th)</td>
</tr>
</tbody>
</table>

Notes: 1City (province), 2Year of establishment, 3City, 4US$ in 2011 (province ranking), 5US$ billion in 2011 (province ranking).

Source: Compiled from Volkswagen (2012, 2013)
<table>
<thead>
<tr>
<th>Plant name</th>
<th>Location</th>
<th>Year</th>
<th>Ownership</th>
<th>Product</th>
<th>HDI&lt;sup&gt;1&lt;/sup&gt;</th>
<th>GDP per capita&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Total GDP&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anting</td>
<td>Shanghai</td>
<td>1984</td>
<td>Shanghai Volkswagen Automotive Co., Ltd.</td>
<td>Complete VW and Skoda, vehicles and engines</td>
<td>0.832 (1990)</td>
<td>13,471 (3th)</td>
<td>288.00 (10th)</td>
</tr>
<tr>
<td>Loutang</td>
<td>Shanghai</td>
<td>1986</td>
<td>Shanghai Volkswagen Powertrain Co., Ltd.</td>
<td>engines</td>
<td>0.832 (1990)</td>
<td>13,471 (3th)</td>
<td>288.00 (10th)</td>
</tr>
<tr>
<td>Changchun</td>
<td>Changchun (Jilin)</td>
<td>1991</td>
<td>FAW-Volkswagen Automobile Co., Ltd.</td>
<td>Complete VW and Audi vehicles, engines, gearbox, components: chassis, axles</td>
<td>0.716 (1990)</td>
<td>6,877 (11th)</td>
<td>164.00 (22nd)</td>
</tr>
<tr>
<td>Jading</td>
<td>Shanghai</td>
<td>1999</td>
<td>Volkswagen Transmission (Shanghai) Co., Ltd.</td>
<td>gearbox</td>
<td>0.853 (1999)</td>
<td>13,471 (3th)</td>
<td>288.00 (10th)</td>
</tr>
<tr>
<td>Dalian</td>
<td>Dalian (Liaoning)</td>
<td>2007</td>
<td>Volkswagen FAW Engine (Dalian) Co., Ltd.</td>
<td>Engines</td>
<td>0.822 (2006)</td>
<td>8,958 (7th)</td>
<td>348.00 (7th)</td>
</tr>
<tr>
<td>Changzhou</td>
<td>Changzhou (Jiangsu)</td>
<td>2008</td>
<td>Volkswagen Automatic Transmission Co., Ltd.</td>
<td>Gearbox</td>
<td>0.837 (2008)</td>
<td>10,827 (4th)</td>
<td>759.00 (2nd)</td>
</tr>
<tr>
<td>Nanjing</td>
<td>Nanjing (Jiangsu)</td>
<td>2008</td>
<td>Shanghai Volkswagen Automotive Co., Ltd.</td>
<td>Complete VW vehicles</td>
<td>0.837 (2008)</td>
<td>10,827 (4th)</td>
<td>759.00 (2nd)</td>
</tr>
<tr>
<td>Chengdu</td>
<td>Chengdu (Sichuan)</td>
<td>2009</td>
<td>Volkswagen FAW Platform Co., Ltd.</td>
<td>Components: chassis, axles</td>
<td>0.762 (2008)</td>
<td>4,686 (24th)</td>
<td>340.00 (8th)</td>
</tr>
<tr>
<td>Yizheng</td>
<td>Yizheng (Jiangsu)</td>
<td>2012</td>
<td>FAW-Volkswagen Automotive Co., Ltd.</td>
<td>Complete VW vehicles</td>
<td>0.748 (2010)</td>
<td>10,827 (4th)</td>
<td>759.00 (2nd)</td>
</tr>
<tr>
<td>Ningbo</td>
<td>Ningbo (Zhejiang)</td>
<td>2013</td>
<td>Shanghai Volkswagen Automotive Co., Ltd.</td>
<td>Complete VW &amp; Skoda vehicles</td>
<td>0.744 (2010)</td>
<td>10,022 (6th)</td>
<td>506.00 (4th)</td>
</tr>
<tr>
<td>Urumqi</td>
<td>Urumqi (Xinjiang)</td>
<td>2013</td>
<td>Shanghai Volkswagen Automotive Co., Ltd.</td>
<td>Assemble</td>
<td>0.677 (2010)</td>
<td>5,372 (18th)</td>
<td>104.00 (25th)</td>
</tr>
<tr>
<td>Foshan</td>
<td>Foshan (Guangdong)</td>
<td>2013</td>
<td>FAW-Volkswagen Automotive Co., Ltd.</td>
<td>Complete VW and Audi vehicles, components</td>
<td>0.730 (2010)</td>
<td>8,570 (8th)</td>
<td>838.00 (1st)</td>
</tr>
</tbody>
</table>

Notes: 1City (province), 2Year of establishment, 3City, 4US$ in 2011 (province ranking), 5US$ billion in 2011 (province ranking).

Source: Compiled from Volkswagen (2012, 2013)
4.2.4 China

VWG has 12 assembly plants in China total, located in several provinces/municipalities: Shanghai (Anting, Loutang and Jiading), Jilin (Changchun), Jiangsu (Changzhou, Nanjing, Yizheng), Sichuan (Chengdu), Zhejiang (Ningbo), Liaoning (Dalian), Guangdong (Foshan) and Xinjiang (Urumqi) (Table 5). Most of those cities have relatively high HDI levels. Only Urumqi’s HDI is under 0.7. In addition, the GDP per capita for these provinces demonstrate high HDI indicators. Most of them are among the top ten provinces in terms of GDP per capita as well as total GDP. Jilin ranked only 22nd place in terms of GDP but 11th in terms of GDP per capita, since the province does not have a very dense population (China NBS, 2012). Meanwhile, Sichuan ranks 8th in terms of total GDP, but a relative low GDP per capita (24th), since its population is very high density. However, both provinces have quite favourable economic situations, since at least one of the economic indicators is high. Only Xinjiang has a relatively low GDP and GDP per capita.

Shanghai is China’s largest city in terms of population and one of the cities with the strongest economic development. It was the pioneer when China undertook economic reform. In 1990, the Chinese government decided to build economic and technological development zones and SEZs in Shanghai to stimulate local industrial development and attract FDI. As early as 1978, Shanghai hosted its first automobile assembly plant. Furthermore, Shanghai is a harbour city, with a convenient transport connection to other Chinese cities as well as foreign countries (Shanghai Government, 2014). Due to institutional constraints for FDI in the automobile industry, VWG established a JV with a Chinese firm establishing Shanghai Volkswagen Automotive Company from ‘below zero’ as mentioned by Posth (2008). Moreover, a number of management issues and problems faced this JV, particularly differences in attitudes, practices and cultural aspects (Posth, 2008).

Shanghai, Changzhou, Nanjing, Yizheng (Jiangsu) and Ningbo (Zhejiang) all belong to the Yangtze River Delta Economic Zone, which has Shanghai as its central point. This region is China’s most complete industrial area, with a very good geographical position and transport connections. This region has a variety of industry sectors, including electricity, textiles, steel, and automobile industries. This region’s GDP accounts for 20% of the China’s total GDP. The region began industrialisation very early and has enough of an available workforce (Xinhua, 2004).

Another Chinese VWG plant is located in Jilin, where the first Chinese automobile assembly plant was built. Changchun (Jilin) and Dalian (Liaoning) both belong to another very important industrial zone, the Northeast industrial base. This zone is very important for China’s industrialisation and is known as the cradle of Chinese industry. This region mainly concentrates on heavy industry such as steel, oil, and shipping as well as the automotive industry. VWG built its second Chinese JV firm in Jilin. This region’s development has slowed down since the turn of the new century. Nevertheless, in 2009, the government decided to revitalise the old Northeast Industrial Base’s policy with several measures to maintain the region’s competencies and stimulate its development (China State Council, 2010).

Like Shanghai, Guangdong province belongs to a Chinese economic zone: the Pearl River Delta economic zone. This zone is considered China’s most economically dynamic region, since it was the first such region after the launch of China’s reform program. This region is along the Pearl River and very close to Hong Kong, a special geographical
position that provides it with very good transport connections. As early as 1979, the region was allowed to establish SEZ to attract FDI (China State Council, 2010).

As mentioned earlier, Xinjiang is the least developed among all the host provinces. Why would VWG choose it as an assembly plant location? Xinjiang, officially called the Xinjiang Uyghur Autonomous Region, is an autonomous region of China. It is the largest Chinese administrative division with a size of 1.6 million km$^2$. Xinjiang is located in the Western China and borders many countries such as Russia, Mongolia, and Kazakhstan. The region has rich natural resource including oil, gas, and minerals. However, like many Western Chinese provinces, the Xinjiang’s economic development is far behind of provinces in other Chinese regions.

To reduce the large differences in development between Southeast and Western China, the government has launched the China Western Development strategy, which includes Xinjiang, as well as Sichuan. This strategy aims for the development of infrastructure in Western China as well as incentives for FDI. Since this strategy launched, Western China’s economy and general development have achieved a significant growth (China Statistic Center, 2013).

As in other BRIC countries, VWG built assembly plants in China in areas with high development and favourable economic conditions in addition to the availability of good infrastructure, sufficient manpower and government policies for FDI.

4.3 Summary of VWG’s internationalisation process in BRIC countries

Table 6 provides an overview of all of VWG’s plants in BRIC countries according to earlier analysis. VWG has 23 plants in BRIC countries total. Eighteen of them demonstrate high HDI levels, which mean that the general development is relatively good in those areas. Twenty of the plants are located in high-income regions compared to other locations in the host country. Twenty-one are located in favourable geographical locations, which means they are harbour cities; close to the capital; or close to the borders of other important cities, states/provinces, or countries. All the assembly plants are established in good infrastructure areas, which mean that the manufacturing units are located in industrial areas with good transport connections and workforce availability. Most importantly, all the locations received institutional support, such as special government policies to attract FDI and stimulate development in the automobile industry.

| VWG plants General development Economy Geographical location Infrastructure Institution |
|----------------|----------------|----------------|-----------------|-----------------|
| Number of plants | 18 | 20 | 21 | 22 | 23 |
| Percentage of plants | 78% | 87% | 91% | 96% | 100% |

BRIC countries’ general institution aspects are not considered satisfactory compared to that of the advanced markets. Therefore, establishing its own production facilities helps a firm to reduce transaction costs, which provides transaction-based ownership advantages (Ot). Moreover, the automobile industry sector in BRIC countries is not well developed in comparison to Germany. In this way, VWG possesses asset-based ownership advantages (Oa), which relate to products and services, as well as institutional-based ownership advantages (Oi). By establishing its own plants in BRIC countries, VWG not
only brought its technique but also its own culture and norms (Dunning and Lundan, 2008a).

The reasons why VWG chooses certain regions to enter and expand its operations can be understood through the OLI paradigm’s the location advantages. Traditional location attractions normally refer to the existence of raw materials, low wages, and special tariffs. Institutional-based location advantages (Li) refer to institutional related advantages such as laws, regulations, and conversions (Dunning and Lundan, 2008a). Based on subnational perspective, it should be noted that not all plant locations share well developed locations and good infrastructure, but one thing they all share is institutional-based location advantages. Whether special tax rates or the establishment of industrial centre, every location enjoys support from its local government. Local regulations or policies play a big role in terms of attracting FDI. Additionally, establishing its own product facilities in these locations reduces the extra cost of intermediate goods for the firm producing internalisation advantages. This relates to the institutional situation of individual markets, since all BRIC countries used to have local industry protection policies. For instance, a typical measure would be setting a high tax for imported components. In order to overcome that extra cost, the firm could choose to make a high commitment by building its own local plant, leading to internalisation advantages.

5 Conclusions

This study investigates VWG’s entry and expansion into BRIC countries in depth. Traditionally, scholars have focused analysis about firm internationalisation from a country level perspective, which investigates the whole process. However, since firms’ decisions can be influenced by many different factors and each country exhibits its own characteristics, it is also important consider the specific situation of each location and make a comparison to better understand the location choice.

5.1 Theoretical contribution

This study provides contribution to the comparative management theory by going in depth to the individual cases for comparative methods (Schollhammer, 1969; Redding, 1994). Our study made a comparison analysis of a specific company, which is VWG, operating in four national locations (i.e., BRIC countries). By doing that, this research contributes to the literature by taking a further look at countries on an individual level and by analysing the distinctiveness of each market on a subnational level (i.e., cities/states/provinces). In this way, this study does not miss each market’s specific conditions, but also keeps in mind the whole picture of the location choices.

In addition, this study shows that VWG’s entry mode into some BRIC countries did not follow a standard form of gradual internationalisation as stated by the Uppsala Model, while location advantages and some subnational conditions exerted a great influence on subsequent investments. It extends the location advantages of OLI paradigm by looking at the conditions of subnational levels instead of focusing only at the country levels. In addition, scholars typical examine institutions in the context of developed countries, which present great environmental differences when compared to emerging markets. Thus, this study contributes to an understanding of how location at the subnational
perspective affects location choices at entry and subsequent investment in emerging markets.

5.2 Limitations and future research

Nevertheless, the study possesses some limitations. First, some subnational level data was not available, particularly data prior to the 1980s. This could have led to small influences on the results. Second, this research focused on archival method of case study research, since it was difficult to get access and conduct interviews in for different locations. In addition, by using archival sources, other factors or market demands that were not accounted for might have affected the VWG’s location choice decision in BRIC countries. Finally, the study exclusively analyses VWG’s entry and subsequent investments and does not account the internationalisation movement of the firm’s main competitors.

Further research could analyse whether other automobile firms make the location decision in the same way in this context. What leads to differences and similarities? Moreover, this case study analysed diverse influencing factors on the entry and subsequent investments, mostly governmental aspects such as policies to attract investment. Future research could also further investigate institutional factors at the firm-level aspect (i.e., intraorganisation) and examine how such institutional factors, such as a company’s culture, influences its own international location choice’s decision.

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