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Welcoming you to issue number 48, I would like to start by acknowledging the list of Reviewers at the end of this issue. These academics accepted our requests to access the submissions considered for publication in issue numbers 45, 46, 47 and 48. I am very grateful for their time and expertise. Their efforts are reflected in keeping our academic standards and enhancing reputation of our Journal.

The current issue includes six papers and an interesting book review. The papers cover various topics grounded in economics and management disciplines.

The initial two papers concern important aspects of German economy's functioning. The first article “Potential Consequences of the Energiewende for the Manufacturing Sector in Germany” by Hubertus Bardt describes German manufacturing companies challenged by risks and opportunities resulting from the government's abandonment of nuclear power and new focus on renewable energy. Particularly energy-intensive industries face cost increases, and a potential negative impact on international competitiveness. Other manufacturing companies dependent on energy-intensive industries may also experience similar consequences. At the same time the author identifies opportunities arising from the energy transition, such as applications of renewable energies and energy efficiency growth.

The second paper “Rebalancing the Market Power. Manufacturer and Retailer Brands in the German Food Retail Market” by Andreas Bielig describes a German food retail market dominated by a narrow oligopoly of leading domestic retailers – Edeka, the Schwarz Gruppe, Rewe and Aldi. They are successful in realigning their market position not only thanks to their competitive prices, but also by undertaking upwards integration and major expansion of their retailer brand portfolios. The latter strategy means entering into traditional market segments of manufacturer brands.

The next paper “A Dynamic Capabilities Perspective of High-Growth Firms: Organisational Aspects” by Andrea Szalavetz describes empirical research to examine HGFs’ responses to growth-specific problems. It “discusses how dynamic capabilities shape the outcome of HGFs’ efforts to meet the managerial challenges posed by rapid growth” in Hungary. The research results reveal the strong explanatory power of dynamic capabilities for the surveyed companies performance.

research was initiated by surveying a sample of 480 telecommunication subscribers in Nigeria. Next an AHP model was built to assess the determinants of customer retention decisions. Further data analysis enabled a ranking of these determinants revealing that call quality ranked first in the retention decision.

The fifth article takes us to Andalucia in Spain. Its titled “Economic Growth, Exchange Rate and Constrained Competitiveness of the Tourism Sector in Andalucía”, and was written by Muhammad Ali Nasir, Junjie Wu, and José Calderón Guerrero. The authors empirically examine the relationship between tourism and economic growth. They also investigate key factors affecting tourism income in Andalucía looking for the potential development engines of the region. Next they suggest policy implications of their research results for the Andalucía government.

The article “Emerging Varieties of Capitalism in Transition Countries: Literature Review” by Dariusz Leszczyński examines three influential classifications of capitalism proposed by Coates, Hall and Soskice and Amable. The author posits that these classifications are unsuitable for evaluating transition economies because they ignore the uniqueness of transition economies and the complexity of the transformation process. His critique is also directed at a recent classification developed by Myant and Drahokoupil, who distinguished five ideal models of capitalism that have evolved within transition countries.


I do hope that issue 48 of our Journal will be of interest to many readers.
The abandonment of nuclear power and new focus on renewable energy sources represents a fundamental change in the structure of Germany’s electricity supply. In the wake of this change in energy policy (which is widely referred to as an energy turnaround), prices started to rise immediately and further increases are to be expected in the years ahead. For the manufacturing sector, this cost burden has been mitigated by exempting energy-intensive sectors from additional costs. However, this causes high levels of uncertainty for large electricity consumers as their current exceptional status may be called into question at some point in the future.

Moreover, the price and cost effects of the German energy policy are not only restricted to energy-intensive enterprises. The metal production, parts of the chemical industry and other industries closely linked to electricity consumers in a complex value chain face higher price and cost risks, as do large segments of the manufacturing sector, which work closely with energy-intensive companies. These dense networks are critical in the joint development of innovations, one of the German industry’s main competitive advantages.

This strength of the German economy may turn into a risk if the future of electricity-intensive industries is hampered by rising national energy prices. A potential relocation of energy-intensive companies to other countries would also weaken the competitiveness of other areas of German industry. Such risks need to be compared with new market opportunities provided by the energy turnaround. The industry seeks those opportunities especially in renewable energies and techniques for improving energy efficiency.
Background: The Energiewende in Germany

The German Energiewende is without international precedent. There is no blueprint to follow, no experience to draw conclusions from. The transition, phasing-out of nuclear energy and building an energy system based on renewable energies, is a challenge for energy producers and large consumers that can hardly be underestimated. The technical challenge is huge, but the need to organize a secure, affordable energy supply for a country with a large manufacturing sector adds additional complexity. Researchers and international institutions analyze various aspects of the Energiewende, including economic effects, technological options, security of supply and political processes. The International Energy Agency proposes to focus e.g. on cost reduction, further improvements of market regulation, and investments in distribution [IEA, 2013, p. 16.].


![Graph showing renewable energy shares in Germany from 1991 to 2050.](image)

Source: ArbeitsgemeinschaftEnergiebilanzen; EEG.

The energy concept of 2010 and the accelerated phase-out of nuclear energy in 2011 mark the building of a consensus about transforming the energy system until 2050 [Bundesregierung, 2010; Bundesregierung, 2011]. While the Energiewende is supposed to reduce energy sector emissions, other dimensions of the energy trilemma need to be considered [Bardt, 2010, p. 4.; IW Köln, 2010, p. 2.]. While the political priority was to reduce environmental effects, security of supply and affordability remain important for economic development in an industrialized country like Germany. So far, security
of supply has remained high, but prices have risen significantly due to the promotion of renewable energies and other instruments.

The core of the energy transition is the promotion of renewable energies that should dominate the electricity supply in the middle of the century. According to targets defined by the federal government, solar and wind power, biomass and other sources of renewable electricity should increase to meet 80 percent of total demand (Fig. 1). Since 1991, the share of power from these sources promoted by subsidies has increased from 3.2 percent to 22.9 percent in 2012. After increasing by 20 percentage points in two decades, the remaining forty years until 2050 should bring an increase of an additional 60 percentage points.

The economic effects of the Energiewende are fundamental. The increase of retail prices due to rising levies on electricity consumption can endanger the competitiveness of certain companies and industries. Higher electricity costs can have a negative effect on domestic investments. These relations will be discussed in this paper.

Overview and Methods

The energy transition in Germany aims at an energy supply that produces most electricity with renewable energies by mid-century. What seems to be a smooth transition for the electricity sector can have a fundamental influence on the manufacturing sector. All large consumers of electric energy face additional risks regarding security of supply and additional costs. A stable supply of electricity is essential for production processes, public infrastructure, and private households [Petermann et al., 2010, p. 29]. While a decrease in security of supply is a rather subtle process, threats from additional costs caused by higher energy prices are more obvious. Political debates about an additional burden for energy-intensive industries to finance feed-in tariffs for renewable energies add strategic risks, which make decisions to invest in Germany more difficult. This is most critical for energy-intensive industries. However, industries with a lower share of electricity costs may face a negative impact on their competitiveness if value chains are disrupted because of energy politics. On the other side, additional opportunities can also arise from the energy transition, which have to be weighed against the threats caused by increasing electricity prices.

This paper presents opportunities and threats arising from the Energiewende for the manufacturing sector, focusing on the effects of rising electricity costs on private investment. The analysis of the indirect risks and opportunities arising from the energy transition for non-energy-intensive industries is based on a broad survey, which was conducted in 2012. Depending on the questions and filters applied, 250 to 1,500 manufacturing sector executives in Germany have been surveyed [Bardt, Kempermann, 2013, p. 20.; Bardt, Kempermann, 2014, p. 4.]. Most of the results allow differentiating between
two types of companies, type-D and type-0. There are three success criteria that describe type-D companies [Baal, Lichtblau, 2012, p. 233.]: they are working on international markets; they invest above average in research and development; and they are more innovative than other companies. About 60 percent of the companies in the manufacturing sector can be classified as type-D. In contrast, type-0 companies do not meet more than one of the criteria. These companies are significantly less successful regarding turnover, employment, profits and prospects.

Additionally, some of the results will be differentiated by the following industries: chemical, machinery, metals and metal products, and electronics and vehicles. All results will be extrapolated based on employment data. This allows a quantifying of the results according to the respective significance for the manufacturing sector.

**Direct Cost Effects**

Today, many companies realize the first effects of the Energiewende. The German energy transition assumes the fading out of nuclear energy until 2022. Its main focus, however, is to increase the share of electricity production from renewable energies to more than 80 percent by 2050.

One of the main problems for the manufacturing sector here involves increasing energy prices. While market-based net electricity prices have remained fairly constant over the last years, there has been a significant increase of taxes and other government-related charges. More than 80 percent of companies face rising energy prices due to increasing levies on electricity. This share will probably grow over the next years (Fig. 2). Expectations regarding future developments have not been explained in the survey; but they will probably influence investment decisions, whether they are justified or not.

Almost one in four companies has identified better market opportunities due to the energy transition. One company out of six believes in increasing turnover in the short term, e.g., because they produce energy-efficient technologies. Medium-term prospects are a little better. The share of companies that fear threats for existing markets is similar. In the short run, about 10 percent expect a decline in employment and turnover as price competitiveness may be endangered. In the medium run, these shares are higher: 24 percent of the companies fear lower employment figures, while 16 percent expect a decrease in turnover.

The largest policy impact is expected in the future stability of energy supply. Only 12 percent of the companies see a short-term decline of security as a consequence of the Energiewende. In the medium run, this share is about 20 percentage points higher: a third of companies assume constraints of electricity supply. Rising energy costs are among the main challenges for the manufacturing sector. This is especially true for energy-intensive
companies. Costs that apply only in Germany and not in other countries can become a significant threat if energy is the main cost factor for a company.

**FIGURE 2.** Expected consequences of the Energiewende „Does the Energiewende have direct consequences for your company?“ (share of answers, by percent, of all companies surveyed)

Expectations can influence investment decisions regardless of their justification. **Source:** IW-Zukunftspanel 2012.

**TABLE 1. Direct effects of the Energiewende (in percent)**

<table>
<thead>
<tr>
<th></th>
<th>Manufacturing sector</th>
<th>Type-0</th>
<th>Type-D</th>
<th>Chemical industry</th>
<th>Metals and metal products</th>
<th>Machinery</th>
<th>Electronics and vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional market opportunities</td>
<td>24.8</td>
<td>18.8</td>
<td>26.8</td>
<td>21.9</td>
<td>17.5</td>
<td>28.4</td>
<td>42.1</td>
</tr>
<tr>
<td>Threats for existing markets</td>
<td>22.9</td>
<td>16.0</td>
<td>24.2</td>
<td>33.3</td>
<td>41.8</td>
<td>10.1</td>
<td>13.6</td>
</tr>
<tr>
<td>Additional turnover</td>
<td>16.5</td>
<td>11.2</td>
<td>19.0</td>
<td>4.4</td>
<td>9.0</td>
<td>17.4</td>
<td>35.8</td>
</tr>
<tr>
<td>Loss of turnover</td>
<td>8.1</td>
<td>8.4</td>
<td>7.2</td>
<td>6.0</td>
<td>8.6</td>
<td>4.7</td>
<td>16.7</td>
</tr>
<tr>
<td>Rising energy costs</td>
<td>81.1</td>
<td>72.2</td>
<td>83.3</td>
<td>81.2</td>
<td>77.9</td>
<td>70.8</td>
<td>91.8</td>
</tr>
<tr>
<td>Decreasing employment</td>
<td>11.2</td>
<td>9.0</td>
<td>13.0</td>
<td>15.5</td>
<td>17.7</td>
<td>4.1</td>
<td>12.5</td>
</tr>
<tr>
<td>Reduced security of supply</td>
<td>11.8</td>
<td>6.0</td>
<td>14.3</td>
<td>18.5</td>
<td>18.9</td>
<td>3.4</td>
<td>11.8</td>
</tr>
</tbody>
</table>

**Source:** IW-Zukunftspanel 2012.
Table 1 shows more detailed results, indicating significant differences between selected industries and types of companies. While, for example, more than 40 percent of all electronics and automotive industry companies believe in additional market opportunities, over 40 percent of those in the metal industry expect threats for existing markets. Turnover developments show differences as well: about one out of three electronics or automotive companies has realized rising turnover due to the Energiewende. In contrast, this was only true for one out of eleven companies in the metal industry and one out of twenty in the chemical industry.

Companies that are innovative, do research, and work internationally gain more benefits from the energy transition than others. Almost 20 percent of these type-D companies managed to increase their turnover, as against 11 percent of type-0 companies. Rising energy costs are more important for type-D than for type-0 companies. About 83 percent of the more successful businesses face higher costs. The share among type-0 companies is about 11 percentage points lower.

To identify those industries that are most affected by rising electricity prices, absolute consumption of electricity and energy intensity should be considered. The chemicals and metal industry alone consume 19 and 18 percent of the electricity delivered by electricity suppliers to the manufacturing sector. Other industries, like automobile, construction, paper, food, glass and machinery production use only between 5.5 and 8.3 percent of the industrial demand of electricity. Furthermore, energy intensity is very high in the paper and chemical industry, along with the glass and ceramic, and metal industries.

The new energy policies, in conjunction with their impact on electricity prices, have become very important for German enterprises. According to a poll conducted by KfW, 61 percent of all German companies think that energy costs are an important factor when decisions about new investments are made [KfWBankengruppe / ZEW, 2012, p. 38].

The development of net investment by energy-intensive industries reveals a difficult situation and a lack of confidence in high quality of electricity supply and, in particular, in competitive energy prices in Germany (Fig. 3). In non-energy-intensive industries, net investment has amounted to between −15 and +10 percent of gross investment over the last decade. In total, the sum of gross investments since 2000 almost equals depreciation, which results in a total net investment of 0 in the non-energy-intensive industries. While capital stock has been more or less stable in other industries, the situation of energy-intensive industries has been very difficult. In most years since 2000, net investment by the chemical, paper, glass and ceramic, and metal industry has been negative. In these industries, depreciation has been higher than gross investment. In 2005, for example, net investments were about 28 percent lower than depreciation. Only in 2008 was a positive net investment balance observed. Over the last decade, only 85 percent of all depreciation in energy-intensive industries has been replaced by investments. This is a slow process of disinvestment, which cannot be explained with high energy prices only. But the situation will probably become more critical with a rising national tax burden on energy.
As wholesale prices have recently fallen, large consumers of electricity, which typically pay below wholesale prices and avoid most taxes and levies, are shielded from higher costs. However, most of the special regulations and exemptions that protect these companies from rising levies are limited in time. Future price development is unclear and a major increase following the end of the exemptions is possible. Although the current price is competitive this unclear perspective endangers investment by these companies.

**Indirect Effects on Value Chains and Innovation**

The Energiewende has not only direct (price) effects on energy-intensive industries. There will also be indirect consequences when current value chains or networks are affected. The German economy is characterized by a broad structure of different industries and intensive supply chain networks, which allow a high degree of specialization and division of labor. The specialization or concentration on core competences generates competitive advantages. At the same time, specialization in value chains leads to additional dependencies. If an important supplier drops out, the value chain cannot be sustained. Negative economic consequences for a number of companies in the affected value chain therefore become both possible and probable.
More than 80 percent of the companies asked in the survey have energy-intensive suppliers. They have very close relations within value chains, but further network relations are intense as well: more than 40 percent of all companies in the manufacturing sector co-operate in networks with energy-intensive industries. About a third of the companies of the manufacturing sector see the risk that German suppliers could drop out of the supply chain. The share of companies that co-operate with energy-intensive industries and fear a negative influence on the stability of the value chains is above average. About 40 percent of these companies believe in risks for the supply chain. In contrast, only a quarter of the companies without any cooperation with energy-intensive industries believe so.

The Energiewende can become a real threat to the stability of existing value chains. Companies expect to be indirectly affected if energy-intensive companies lose competitiveness and relocate from Germany due to rising energy costs. Since close relations between energy-intensive and other companies are evident, insecurity cannot be limited to certain sectors. More than a third of all companies in the manufacturing sector expect negative consequences on their own business success if energy-intensive industries lose competitiveness in Germany and 13 percent believe that their domestic research and development networks are endangered as energy-intensive industries have specific core functions in these networks (Table 2).

The long run competitiveness innovation capacities of energy-intensive industries are important for other parts of the manufacturing sector as well (Table 3). The share of manufacturing sector companies that name the innovation potential of energy-intensive industries in Germany as an important factor for their own company is more than 70 percent. Innovative chemicals or metal producing companies contribute to the success of a large part of the German economy. The most successful companies (type-D) rely more than other businesses on energy-intensive industries as the innovation capacities of energy-intensive industries are important for three quarters of these companies. Moreover, about 45 percent of the companies in the manufacturing sector receive important innovation impulses from cooperating with energy-intensive companies.

With energy-intensive industries relocating from Germany, the structures of existing value chains would need to be rearranged. Furthermore, domestic research and development

<table>
<thead>
<tr>
<th>Negative effects on success of own business</th>
<th>Negative effects on R&amp;D networks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metals and metal products 59.3</td>
<td>35.4</td>
</tr>
<tr>
<td>Chemical products 38.6</td>
<td>15.3</td>
</tr>
<tr>
<td>Machinery 29.0</td>
<td>10.1</td>
</tr>
<tr>
<td>Electronics and vehicles 32.9</td>
<td>13.6</td>
</tr>
<tr>
<td>Manufacturing sector (total) 35.7</td>
<td>12.9</td>
</tr>
</tbody>
</table>

networks would be weakened since the innovation impulses of energy-intensive industries for the manufacturing sector in Germany would be reduced, weakening innovation potential and the competitiveness of the whole economy.

**TABLE 3. Innovation capacities of energy-intensive industries (in percent)**

<table>
<thead>
<tr>
<th>Innovation capacities of energy-intensive industries are important for the success of the own business.</th>
<th>Type-0</th>
<th>Type-D</th>
<th>Manufacturing sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>6.6</td>
<td>25.4</td>
<td>23.6</td>
</tr>
<tr>
<td>Somewhat important</td>
<td>42.6</td>
<td>47.7</td>
<td>46.7</td>
</tr>
<tr>
<td>Hardly important</td>
<td>43.8</td>
<td>24.6</td>
<td>27.2</td>
</tr>
<tr>
<td>Not at all important</td>
<td>7.0</td>
<td>2.3</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Co-operation with energy-intensive industries leads to innovation impulses.

<table>
<thead>
<tr>
<th>Co-operation with energy-intensive industries leads to innovation impulses.</th>
<th>Type-0</th>
<th>Type-D</th>
<th>Manufacturing sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, regular impulses</td>
<td>4.7</td>
<td>9.4</td>
<td>9.7</td>
</tr>
<tr>
<td>Yes, occasional impulses</td>
<td>20.4</td>
<td>38.1</td>
<td>36.7</td>
</tr>
<tr>
<td>No impulses</td>
<td>74.9</td>
<td>52.5</td>
<td>53.6</td>
</tr>
</tbody>
</table>


**TABLE 4. Influence of the location of energy-intensive industries (in percent)**

<table>
<thead>
<tr>
<th>Influence of the location of energy-intensive industries (in percent)</th>
<th>Type-0</th>
<th>Type-D</th>
<th>Manufacturing sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>We would source energy-intensive products abroad, but would not pursue common research and development.</td>
<td>11.8</td>
<td>12.9</td>
<td>12.5</td>
</tr>
<tr>
<td>We would source energy-intensive products abroad and would conduct common research and development.</td>
<td>1.7</td>
<td>16.9</td>
<td>15.3</td>
</tr>
<tr>
<td>It depends on the country the supplier would relocate to (distance, regulation etc.).</td>
<td>27.3</td>
<td>28.6</td>
<td>29.3</td>
</tr>
<tr>
<td>It does not matter in which country the supplier is located.</td>
<td>59.2</td>
<td>41.6</td>
<td>42.8</td>
</tr>
</tbody>
</table>


The results discussed so far show that energy-intensive industries play a vital role for the value chains and innovation activities of the German economy. In this context, where these suppliers are located is relevant. Less than 43 percent of the manufacturing sector think that it does not matter in which country the energy-intensive companies they cooperate with are located. Almost a third of the companies state that future cooperation depends on which country energy-intensive suppliers would relocate to. One in eight manufacturing sector companies would import products, but would not rebuild common research and development. A slightly higher share would do both, no matter where these parts of the value chain are based (Table 4).
Many companies of the manufacturing sector in Germany are sceptical about common research and development with energy-intensive suppliers from abroad. Table 5 shows the obstacles impeding better international co-operation. Three of these obstacles are relevant for more than half of the companies of the manufacturing sector: the complexity of contracts; large geographical distances; and potentially higher costs. Almost 30 percent of the German manufacturing sector believe that in many countries technological competences of energy-intensive companies do not meet necessary standards. This is especially relevant for the machinery and metal industry. In addition, almost 40 percent of the companies see lack of trust as the main obstacle for further cooperation in research and development.

### TABLE 5. Obstacles for common research and development in energy-intensive industries abroad (in percent)

<table>
<thead>
<tr>
<th></th>
<th>Type-0</th>
<th>Type-D</th>
<th>Manufacturing sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complexity of contracts</td>
<td>61.2</td>
<td>58.2</td>
<td>58.9</td>
</tr>
<tr>
<td>Large geographical distances</td>
<td>51.1</td>
<td>49.8</td>
<td>51.7</td>
</tr>
<tr>
<td>High costs</td>
<td>44.2</td>
<td>48.2</td>
<td>50.0</td>
</tr>
<tr>
<td>Language barriers</td>
<td>37.5</td>
<td>36.5</td>
<td>39.2</td>
</tr>
<tr>
<td>Lack of trust</td>
<td>30.3</td>
<td>38.1</td>
<td>38.1</td>
</tr>
<tr>
<td>Cultural obstacles</td>
<td>21.6</td>
<td>32.4</td>
<td>32.3</td>
</tr>
<tr>
<td>Deficient technological competences</td>
<td>20.6</td>
<td>30.0</td>
<td>28.5</td>
</tr>
</tbody>
</table>


Deficient competences in technology are foremost a concern of type-D companies. As they are highly human capital-intensive, technological know-how is much more important for them than it is for type-0 companies. Furthermore, type-D companies focus more on lack of trust and cultural obstacles, perhaps because of their more extensive experience with international cooperation, especially outside of Europe.

These obstacles are relevant for international cooperation with energy-intensive industries and also for all kinds of cooperation in research and development with foreign partners. Distortions of existing value chains and cooperation due to the relocation of certain industries would cause a long-lasting loss for the economy as a whole, as many German companies would not be able to establish adequate networks with international partners.

The survey results reveal that rising domestic energy prices would not only endanger energy-intensive industries, but also negatively impact other parts of the manufacturing sector. The potential relocation of energy-intensive companies would destroy supply chains and innovation networks, weakening the innovative potential of important industries. These networks are often based on cooperation between partners from different industries, many of which are part of the domestic energy-intensive sector. In many instances, it is
impossible to replace these with new international innovation partners, at least in the short run. This is especially threatening for the more successful innovation-intensive type-D companies, which are most important for economic development and prosperity in Germany. Securing existing value chains and innovation networks should no longer be underestimated.

FIGURE 4. **Business opportunities caused by the Energiewende (in percent)**

![Figure 4](image)

Source: IW-Zukunftspanel 2012.

**Opportunities for the Manufacturing Sector in Germany**

The Energiewende creates not only risks to the manufacturing sector; new business opportunities are linked with the energy transition process as well, not only in Germany but also globally [Kaminsky, 2010]. More than 11 percent of manufacturing companies believe in major opportunities for their businesses (Fig. 4). About a third of the companies expect minor opportunities. The majority of about 60 percent of the manufacturing sector, however, does not see new prospects in conjunction with the Energiewende. Only 10 percent of the type-D companies expect substantial opportunities, while almost 15 percent of the type-0 companies are optimistic. This demonstrates that those companies, which are especially competitive and successful in today’s markets and which are working in existing international value chains are most sceptical about the potential effects.

Table 6 lists the main business areas in which companies see the most opportunities related to the Energiewende. Renewable energies and energy efficiency are the most important options here, as 85 percent of the companies in the manufacturing sector that see opportunities focus on these areas. Another 4 percent expect growing business
in energy-specific services. With more than 16 percent, this share is much higher in the group of business-related services and construction. Similarly, energy-related construction works are only relevant for 3 percent of the manufacturing sector, as against almost 20 percent of the other companies. Comparing different company types, it can be seen that the more innovative, international and successful companies (type-D) concentrate on energy efficiency, while the less successful type-0 companies – which expect more opportunities from the Energiewende – focus on renewable energies.

<table>
<thead>
<tr>
<th>TABLE 6. Fields of business with opportunities arising from the Energiewende (share of all companies that see opportunities, in percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type-0</strong></td>
</tr>
<tr>
<td><strong>Manufacturing sector</strong></td>
</tr>
<tr>
<td>Renewable energies</td>
</tr>
<tr>
<td>Energy efficiency</td>
</tr>
<tr>
<td>Energy specific consultancy (e.g. „Green IT“)</td>
</tr>
<tr>
<td>Building restoration (e.g. insulation)</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td><strong>Business related services, construction</strong></td>
</tr>
<tr>
<td>Renewable energies</td>
</tr>
<tr>
<td>Energy efficiency</td>
</tr>
<tr>
<td>Energy specific consultancy (e.g. „Green IT“)</td>
</tr>
<tr>
<td>Building restoration (e.g. insulation)</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

**Source:** IW-Zukunftspanel 2012.

**Conclusions**

The transition of German energy brings risks and opportunities. Among companies in Germany there is much uncertainty about the consequences for the own businesses, with 80 percent manufacturing sector companies unsure if opportunities or risks are dominant. Only 1.2 percent believe that the Energiewende strengthens Germany as a business location, while 18.8 percent expect it to become weaker.

The Energiewende is most relevant for the energy sector and energy-intensive industries, which face higher prices or other risks of cost increases, and fear a loss of competitiveness on international markets. Notwithstanding, other companies of the manufacturing sector must be taken into consideration, too, as their innovation capacities partly result from
close cooperation with energy-intensive suppliers. However, new market opportunities will arise as the energy transition is a game changer for important parts of the economy and cannot be seen as a technological challenge only. Especially innovative, export oriented and successful companies are closely linked to energy-intensive industries. Cooperative innovation is a competitive advantage, which would be at risk if energy prices were to endanger energy-intensive industries. These forms of cooperation could hardly be replaced by new international value chains in the short term. Cooperative innovation between different industries is one of the strengths of the manufacturing sector in Germany today. If innovation impulses from energy-intensive industries are reduced in the future, the position of other industries on world markets will become weaker. However, opportunities arising from the energy transition must not be forgotten. In this context, renewable energies and energy efficiency are the most important fields for the manufacturing sector. The less successful, international and innovative the companies are, the more opportunities in renewable energies arise. More global and innovative companies, on the other hand, focus on energy efficiency.

Notes

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2 This paper is based on a presentation at the Warsaw School of Economics in November 2014.

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Rebalancing the Market Power.  
Manufacturer and Retailer Brands  
in the German Food Retail Market

Abstract

The German food retail market is considered to be one of the most competitive markets worldwide. A narrow oligopoly of domestic retail chains dominates competition at the national and regional levels, driven mostly by price competition and extensive market coverage. As a result, market entrance for potential newcomers is highly restricted, even for such global players like Wal-Mart, which retreated in 2006 after nine years of substantial financial losses in Germany. There have been discernable attempts by the domestic incumbents to rebalance the traditional “task division”, affecting the range of customers choices as well as retail brands. However, within ten years the share of large retailers brands earnings in the total food retail market increased from 21.8 percent to 38.8 percent in 2012, as “house brands” optimized their assortment, increased their independence from main suppliers and squeezed out competitors. The empirical analysis presented below describes the role played by different retail brands in German food retail market as measured by their market power, and considers its political implications.

Keywords: manufacturer brands, retailer brands, market structure, market power, food retail  
JEL: E23, L1, L81, O34
Introduction

The economic interdependences of manufacturer and retailer brands have attracted growing research interest. Many economics related works focus on the link between retailer brands and consumer demand [Baltas, 1997; Baltas et al., 1997; Gonzales, Mieres et al., 2006; Glynn, Chen, 2009]. Some researchers have also explored the role of leading retailers in the current growth of retail brands [Davies et al., 1986; Fitzell, 1993; Hoch, 1996; Dhar, Hoch, 1997; Dunne, Narasimham, 1999; Burt, 2000; Kumar, Steenkamp, 2007; Mills, 1995; Steenkamp, Dekimpe 1997; Steiner, 2004]. In addition, the literature considers the relationship between retailers and suppliers and the role that retail brands play in this interdependence [Shaw et al., 1992; Bhasin et al., 1995; Cotterill, Putis, 2001; Scott-Morton, Zettelmeier, 2004; Johansson, Burt, 2004].

The current research analyzes the German food retail market from an empirical perspective, showing the impact of market structures on its functioning and analyzing how changes in competition affect the role of incumbents. The article focuses first on market structures and resulting market power, ignoring the impact of competition processes on the food retail market. Based on a concept originated from the Harvard School [Schmidt, 2005, pp. 56–62] of the “market structure-conduct-performance paradigm” we use a quantitative approach of market share analysis relying on data provided by the German food retail market survey of the German Federal Antitrust Office Bundeskartellamt in 2014, which provides information on the role of retail brands in food products retailing in the 2008–2014 period. In the second part, we consider the interaction of large retailing enterprises and their suppliers in two food categories in the period 2008–2010. When analyzing market structures we rely on policy instruments used by German and European policies makers for the short and medium term. When a long term perspective is considered competition concepts of the Chicago and Austrian Schools [Schmidt, 2005, pp. 14–25] are employed to address evolutionary market processes. Both approaches suggest questions for future research.

Food Retail Market in Germany

The volume of the German food retail market is about 165.9 billion € in 2015, making it one of the biggest in Europe [Statista, 2015]. This retail market has some exceptional characteristics in terms of domestic competition, as illustrated by statement of the former CEO of the German retail chain Metro Hans-Joachim Körber, who labelled the German market as “the hardest in Europe” and its competition as a “chalybeate bath” [Grabitz, Seidel, 2006]. According to analysts and practitioners, the German food retail sector
is intensely competitive, mainly through prices charged by the leading domestic retail enterprises [Der Handel, 2014; Bundesverband der deutschen Ernährungsindustrie, 2015; Hoffmann and Loy, 2010, p. 1]. As a result of this competition in the last two decades any attempt to enter German market by foreign retailers has failed, as illustrated by the French retailer Intermarche in 2004 and the U.S. retailer Wal-Mart in 2006 [Spiegel online, 2006; Handelsblatt, 2004]. There are multiple reasons for those failed attempts, including excess supply capacities, very small business margins, and the unique characteristics of German customers. Given those failed attempts it is not surprising that leading global retailers, such as the British Tesco or the Dutch Ahold, hesitate to enter the German market. Nevertheless, customer prices for food items in Germany are not lower than in the rest of Europe, as the food price in Germany reached (in 2014) an index of 109.6 in comparison to the EU-28 average (see Figure 1).

**FIGURE 1. Food price levels in European Union in 2014 [index, EU-28 = 100, PPP]**

The German food price index positions Germany roughly in the middle of the EU. Countries such as France, the U.K, and Poland have lower price indices [Eurostat, 2015] and Denmark was considered the most expensive country for customers (index value of 135.2). Clearly, competition in the German retail market is not generating major price discounts as compared to other European market. Economic theory implies that price levels result from market processes, competition and, specifically, the behavior of incumbents or potential entrants. The current above average food price level in Germany therefore
reflects the effects of firms’ competitive behavior counteracting and partially compensating competitive pressure on the food market. The implications of this competitive process for manufacturer and retail brands are analyzed in this paper. Our research does not cover consumers market behaviors as well as the distribution density effects resulting from the deviation of market shares and market power of competitors.

**TABLE 1. Distribution of earnings on German food retail market by leading enterprises in 2006 and 2010**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Schwarz Gruppe</td>
<td>25–30</td>
<td>20–25</td>
<td>20–25</td>
<td>&lt; 20</td>
</tr>
<tr>
<td>– Lidl</td>
<td>&lt; 20</td>
<td>&lt; 15</td>
<td>10–15</td>
<td>10–15</td>
</tr>
<tr>
<td>– Kaufland</td>
<td>&lt; 15</td>
<td>&lt; 10</td>
<td>5–10</td>
<td>5–10</td>
</tr>
<tr>
<td>Rewe/Rewe Dortmund</td>
<td>20–25</td>
<td>&lt; 20</td>
<td>15–20</td>
<td>15–20</td>
</tr>
<tr>
<td>Aldi</td>
<td>15–20</td>
<td>&lt; 20</td>
<td>15–20</td>
<td>15–20</td>
</tr>
<tr>
<td>Metro</td>
<td>&lt; 10</td>
<td>&gt; 5</td>
<td>5–10</td>
<td>5–10</td>
</tr>
<tr>
<td>Midsize group (every retailer):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tengelmann, Globus, Norma, tegut,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bartels-Langness, Netto Stavahan-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dohle, Coop</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metro</td>
<td>&lt; 3</td>
<td>&lt; 3</td>
<td>&lt; 3</td>
<td>&lt; 3</td>
</tr>
<tr>
<td>Small size group (every retailer):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bünting, Jibi, Klass+Kock, Wasgau</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(now Rewe)</td>
<td>&lt; 1</td>
<td>&lt; 1</td>
<td>&lt; 1</td>
<td>&lt; 1</td>
</tr>
</tbody>
</table>

Leading oligopolists Edeka, Schwarz Gruppe, Rewe, Aldi in gray.


Considering the market supply side, food retail in Germany is clearly dominated by a narrow oligopoly of domestic retailers, which has remained stable over the last two decades (see Table 1). Four large incumbents, Edeka, the Schwarz Gruppe, Rewe and Aldi hold the overwhelming share of the retail market, followed by Metro [BKartA, 2014, p. 78]. The largest enterprise (Edeka) classified in 2010 by the Bundeskartellamt according its earnings in food retail of between 30 and 35 billion €, holds a market share of 25–30%, and the second largest, Schwarz Gruppe, represented by Lidl and Kaufland, earned 25–30 billion € and holds a 20–25% market share. Rewe, as the third largest retailer, earned 20–25 billion €, holding a share of 15–20%. The discounter Aldi holds a market share of 15–20%, with 15–20 billion € in earnings. Because of its focus on the discount market segment, Aldi is only partially comparable to other leading retailers. The group of large retailers also includes Metro, though with smaller earnings (less than 10 billion €)
and a share of 5–10% followed by a group of eight mid-size retailers, each with earnings of less than 3 billion €, and a smaller sized group with earnings of less than one billion €. In 2006–2010 the leading retailers, especially Edeka and the Schwarz Gruppe, increased their market shares by expanding earnings, whereas Rewe, Aldi and Metro increased their earnings only by the market average growth rate.

**FIGURE 2.** Distribution of earnings and concentration ratios of leading enterprises in food retail (incl. non-food sales) in Germany 1995–2011

The Monopolkommission measured the distribution of earnings and concentration ratios of the leading retailers in food retail (incl. also non-food sales) in 1995–2011 [Monopolkommission, 2012, pp. 359 f.]. Data showed that Edeka developed from the third-largest retailer to a leader by increasing its market share from 11.9 to 19.9% (see Figure 2). Despite the legal corporate structure of Edeka, it acts on procurement and retail markets as an economic entity with a uniform brand policy for stores, homogenous assortment and bundled procurement structures. The largest retailer in 1995, Metro, lost share (from 17.7 to 13.2%), whereas the second largest incumbent, Rewe, increased share from 12.9 to 15.4%. The discounter Aldi held a constant share of around 10% in the German market. Until 2000 the retailer Tengelmann belonged to the top five largest enterprises.
In 2005 it was superseded by the Schwarz Gruppe. According to the Monopolkommission, the five leading enterprises held in 2011 a share of 71.6% of total retail earnings. This indicates a very high concentration in food retailing which has increased by 12.2 percentage points since 1995. The group of the three largest retailers captured 48.5% of the market (CR 3) in 2011, showing an increase of 6 percentage points and signaling an even more intensified concentration of market power among the Big Three on the German market. Based on an evaluation of competitive market power, the five largest enterprises maintain a dominant position in food retail whereas concentration ratios indicate that a group of the three largest firms remain below the threshold signaling market dominance.

FIGURE 3. Number of branches and sales area sizes of leading food retailers in Germany 2000–2010

An important source of the market power of the leading retailer oligopoly is its extensive market coverage, inducing excessive oversupply capacities and thereby limiting “space of operation” for near competitors. Figure 3 shows on the left scale the expansive development of sales area sizes of the five leading retailers from 2000 to 2010 [Monopolkommission, 2012, pp. 353–359]. The two leading companies, Edeka and the Schwarz Gruppe, increased their capacities (Edeka from 3.28 to 5.37 mill. m², Schwarz Gruppe from 2.95 to 5.21 mill. m²). Concerning the number of branches, indicated at the right...
scale, Edeka expanded its presence on the market (from 3,983 to 7,846 branches). Aldi and the Schwarz Gruppe also increased the numbers of shops. In contrast, the second largest retailer, Rewe, reduced its sales sites slightly to 4,740 locations and Metro, with 320 branches in 2010, relied mostly on larger-sized stores, which makes comparisons with other retailers problematic.

In terms of retail branches only two large enterprises, Edeka and Rewe, are represented in all store formats nationwide, with the exception of hard discounter sales (see Table 2) [BKartA, 2014, pp. 82 f.]. They operate consumer and supermarkets of all sizes as well as soft discount stores at the national level. Only the regional retail chain Bartels-Langness provides a nearly comprehensive spectrum of sales areas in Germany. The third large national retailer, the Schwarz Gruppe, provides a broader variety of products than do supermarkets.

### TABLE 2. Store formats in food retail in Germany in 2010

<table>
<thead>
<tr>
<th>Store formats</th>
<th>Number of products</th>
<th>Share of private brands in total earnings [%]</th>
<th>Size of stores [m²]</th>
<th>Retailer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large consumer store</td>
<td>20.000−160.000</td>
<td>3−18</td>
<td>&gt; 2.500</td>
<td>Edeka, Rewe, Metro, Bartels-Langness, Schwarz Gruppe, Coop, Bünting, tegut, Dohle, Globus</td>
</tr>
<tr>
<td>Small consumer store</td>
<td>12.000−74.000</td>
<td>1−19</td>
<td>1.000−2.499</td>
<td>Edeka, Rewe, Bartels-Langness, Schwarz Gruppe, Coop, Bünting, Tengelmann, Klaas+Kock, tegut, Dohle</td>
</tr>
<tr>
<td>Large supermarket</td>
<td>11.000−27.000</td>
<td>5−28</td>
<td>400−999</td>
<td>Edeka, Rewe, Bartels-Langness, Coop, Bünting, Tengelmann, Klaas+Kock</td>
</tr>
<tr>
<td>Small supermarket</td>
<td>5.000−17.000</td>
<td>6−33</td>
<td>100−399</td>
<td>Edeka, Rewe, Bartels-Langness, Tengelmann</td>
</tr>
<tr>
<td>Discouter</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Soft discounter</td>
<td>1.400−4.900</td>
<td>30−80</td>
<td>-</td>
<td>Edeka, Rewe, Schwarz Gruppe, Norma, Netto Stavenhagen</td>
</tr>
<tr>
<td>– Hard discounter</td>
<td>850–1.000</td>
<td>82−100</td>
<td>-</td>
<td>Aldi</td>
</tr>
</tbody>
</table>

Source: own elaboration based on BKartA (2014), pp. 82 f.

In 2010 the share of earnings generated by private (retail) brands (in total sales) reached 3−18% in large consumer stores and 1−19% in smaller consumer stores, which is less than in supermarkets (5−28% in large and 6−33% in small ones). Schwarz Gruppe, which includes soft discounter Lidl, provides 1.400−4.900 products. The share of earnings
generated by private (retail brands) are as high as 30–80%. The major discount chain, Aldi, provides assortments of only 850–1,000 articles. In majority they are private (retail) brand items (82–100% of total earnings). Most discounter on the German market remain in soft discount sector They force price competition with hard Discounters, but act as price leaders only in some market segments.

**TABLE 3. Upstream vertical integration of leading food retailers in Germany 2010**

<table>
<thead>
<tr>
<th>Retailer</th>
<th>Food sector</th>
<th>Production facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edeka</td>
<td>Meat products and sausages</td>
<td>15 meat processing plants</td>
</tr>
<tr>
<td></td>
<td>Bakery products</td>
<td>17 industrial bakeries</td>
</tr>
<tr>
<td></td>
<td>Fruit juices</td>
<td>Sonnländer Holding GmbH</td>
</tr>
<tr>
<td></td>
<td>Mineral waters</td>
<td>Schwarzwald-Sprudel GmbH</td>
</tr>
<tr>
<td></td>
<td>Wines</td>
<td>Ortenauer Weinkellerei</td>
</tr>
<tr>
<td>Schwarz Gruppe</td>
<td>Meat products and sausages</td>
<td>Kaufland Fleischwaren</td>
</tr>
<tr>
<td></td>
<td>Bakery products</td>
<td>1 industrial bakery</td>
</tr>
<tr>
<td></td>
<td>Mineral waters</td>
<td>Mitteldeutsche Erfischungsgetränke GmbH &amp; Co. KG</td>
</tr>
<tr>
<td></td>
<td>Chocolate products</td>
<td>Solent GmbH &amp; Co. KG.</td>
</tr>
<tr>
<td>Rewe</td>
<td>Meat products and sausages</td>
<td>Metzgerei Wilhelm Brandenburg</td>
</tr>
<tr>
<td></td>
<td>Bakery products</td>
<td>Glocken Bäckerei, Bäckerei Rothermel</td>
</tr>
<tr>
<td>Aldi</td>
<td>Coffee</td>
<td>2 Aldi roasting plants in Weyhe &amp; Herten</td>
</tr>
<tr>
<td>Wasgau</td>
<td>Meat products and sausages</td>
<td>1 meat processing plant</td>
</tr>
<tr>
<td></td>
<td>Bakery products</td>
<td>1 industrial bakery</td>
</tr>
<tr>
<td>Globus</td>
<td>Meat products and sausages</td>
<td>local butcheries</td>
</tr>
<tr>
<td></td>
<td>Bakery products</td>
<td>local bakeries</td>
</tr>
<tr>
<td>Bartels-Langness</td>
<td>Meat products and sausages</td>
<td>1 meat processing plant</td>
</tr>
<tr>
<td>Klass+Kock</td>
<td>Meat products and sausages</td>
<td>1 meat processing plant</td>
</tr>
<tr>
<td>Coop</td>
<td>Bakery products</td>
<td>1 industrial bakery</td>
</tr>
<tr>
<td>Bünting</td>
<td>Tea</td>
<td>Bünting Teehandelshaus</td>
</tr>
</tbody>
</table>

Source: own elaboration based on BKartA (2014), pp. 79 f.

In past years many large food retailers have intensified their vertical integration (upstream integration) with the food supply sector to lower their dependence on large suppliers and optimize their value chains (see Table 3) [BKartA, 2014, pp. 79 f.]. The most advanced integration in terms of product spectrum and production quantities is exhibited by the largest retailer, Edeka, which produces their own meat, sausages, bakery products, fruit juices, mineral waters and even wines for its own stores and for partners. Other leading
retailers, like the Schwarz Gruppe and Rewe, also engage intensively in food production. The discounter Aldi runs two coffee roasting plants and is the largest producer of roasted coffee in Germany. Some smaller retailers also practice intensively in vertical integration, mostly in meat and sausage or bakery products, securing their own competitive supply in these core product categories. This upstream integration has improved the position of retailers.

**Retail Brands and Market Power in Germany**

In the period 2008–2014 retail brands continuously increased their importance in the retail market, as indicated in the Figure 4. [Nielsen Company, 2015a]. After several years of stagnation their share in total earnings increased from 38.6 in 2010 to 41.3% in 2014, indicating an expansive international trend of brand development by large retailers seeking new profit opportunities and securing supply of retailer-customized products.

![Figure 4. Share of retail brands in earnings on retail market in Germany 2008–2014 [%]](chart)


In Germany however, the food retail market has, in contrast to European trends, maintained a 24% share in 2014, which is a medium share, in retail brands earnings [IRi, 2015], as indicated by Figure 5. Countries like France (29.1) or Netherlands (27.3) have significantly larger retail brand shares; others, like Italy (18.0), have smaller ones. The smallest share is recorded in the U.S., where the retail brand share is 16.4%. Some countries in Europe, such as Spain and the UK, have 42.0 and 51.5% shares respectively. Hence, the emergence of retailer brands in Germany is still lagging behind the leading
European economies and remains 17.3%-points below the current share prevalent in the German general retail sector.

FIGURE 5. Retail brands shares in earnings generated in food retail markets in selected countries in 2014 [%]

Self-service-warehouses and supermarkets in Spain, Greece, Netherlands, France and Italy; Kantar Worldpanel total market U.K. 52 weeks at 14/09/2014 in U.K.; Supermarkets and convenience stores in U.S.A.; self-service-warehouses, supermarkets and drugstores in Germany.


German retailers not only expanded the quantity and the share of retail brands. They also improved diversification of their assortments and market penetration [BKartA, 2014, p. 107]. Table 4 shows the effects of retail brand policies beyond the original assignment of covering the low price segment, which is regarded as a basic must-stock. All retailers provide at least one medium price retail brand assortment, mostly with ecological or quality characteristics, that are often also combined with regional products (a policy that extends to discounters). The visible advance of nearly all large retailers (including all discounters) with positioning of their brands in the premium segment is also very striking. During the last several years retailers substantially increased their efforts to establish retail (private) brands in various market segments to accompany manufacturers brands. Along with the large, established production facilities, described above, the strong sales market power of leading retailers on the German market permits them to directly compete with large producers, owners of strong manufacturer brands. As a result, dependence on large suppliers has diminished and the market power of large retailers on the procurement side has increased, with the hard discounter Aldi as an outstanding example. The soft discounter Lidl, like the large full-range retailers Edeka and Rewe and the substantially smaller enterprise Dohle, engaged in price competition and retail brand expansion, being the only discounter present in all retail brand segments.
TABLE 4. Retail (private) brand segments of leading food retailers in Germany in 2010

<table>
<thead>
<tr>
<th>Retailer</th>
<th>Low price segment</th>
<th>Medium price segment</th>
<th>Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Quality</td>
<td>Ecological</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Full-range retailers</td>
<td></td>
</tr>
<tr>
<td>Edeka</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Rewe</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Metro</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Kaufland</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Tengelmann</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Bartels-Langness</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Dohle</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Coop</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Globus</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Bünting</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Jibi</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Klaas+Kock</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wasgau (now Rewe)</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

Discounters

| Aldi              | x                 | x       | x          |         |         |
| Lidl              | x                 | x       | x          | x        | x        |
| Penny             | x                 | x       | x          |         | x        |
| Netto             | x                 | x       | x          |         | x        |
| Norma             | x                 | x       | x          |         | x        |

Leading oligopoly Edeka, Schwarz Gruppe (Kaufland, Lidl), Rewe, Aldi in gray.


Despite the general expansion of food retail brands their prevalence differs strongly among particular food categories on the German market as indicated by Figure 6 [Nielsen Company, 2015b]. The average share of retail brands in food retail in 2014 was 42.8%, only slightly higher than the year before and most food categories experienced small year per year-share variations. Remarkably, among seven food categories, including bakery (53.3%) and milk products (54.7%), those with retail brand shares exceeding 50% included self-service cheese (59.7%), sausages (58.4%), wet finished products (57.2%), wine & sparkling wine (44.7%), and ice cream (50.2%). The lowest shares of private (retail) brands included cheese with service (3.0%) and beer (12.8%), revealing that habits and preferences of customers, which rely more on familiar (manufacturer) brands, intensively determine their purchases. In case of wine and ice cream products retailers gained substantial market share despite competition from strong international brands, which suggests the intensified future expansion efforts also in other food categories with strong customer brand affinity.
FIGURE 6. **Share of retail brands in food retail in Germany (incl. drugstores) in 2014 [%]**

![Graph showing share of retail brands in food retail in Germany](image)

*Source: own elaboration based on Nielsen Company (2015b).*

Large retailers, as measured by their sales area size, number of branches and nationwide distribution network, have strong negotiating power on the procurement markets. [BKartA, 2014, pp. 151–154]. In 2010 the aggregated share of procurements on the food market of the leading oligopoly (Edeka, the Schwarz Gruppe, Rewe and Aldi) reached 84%, which provides them with unique market power. Given that the Schwarz Gruppe consists of two different economic entities (Kaufland and Lidl) the corresponding threshold for market dominance of the leading oligopoly is CR5 = 66.67%. These companies enjoy a joint market position according to the joint power concept of horizontal market power. Their procurement share varies between food categories, ranging from 71.1% in ice cream to 87.6% in fruits. In the procurement of manufacturer brands the leading oligopoly enjoys a 73.2% share, leaving smaller competitors a slightly larger market share than in the whole market. This indicates a lesser comparative disadvantage of smaller competitors in this product (brand) category. Under most conservative estimates the joint share of the large firms (considering Kaufland and Lidl as formally independent entities) is still 6.53% points above the market dominance threshold according the concentration ratio CR5. When considering particular food categories, the procurement shares of the “big four” reveal major differences: the spectrum varies from 26.2% in meat (self-service) to 87.3% in poultry. Aside from the meat category, the procurement share in self-service sausages is 45.3%, which is rather small, indicating that large retailers rely mainly on other...
supply sources. In contrast, all other food categories reveal procurement shares above 70%, signaling a major market power against the supply side. When the procurement of retail brands is considered, the differences of oligopoly market shares are even higher: the spectrum ranges from 19.8% in cheese (service) to 96.6% in meat (service). With the exception of meat (self-service), all other food categories exhibit procurement shares above 82%. The average share in total food is 88.9%, which indicates that large retailers can use their dominant market power on the demand side in retail brands even more than in manufacturer brands procurement. In 11 of 24 food categories they reach retail brand procurement shares above 90%, including such consumer products as meat and sausages (service), fruits or bakery products, and wine, sparkling wine and spirits.

FIGURE 7. **Aggregated share of leading retailers in procurements of manufacturer brands and private brands in food retailing in Germany in 2010 [%]**

- **Cheese**: service
- **Meat**: self-service
- **Preserved Foods & finished products**
- **Basic foodstuffs**
- **Waters**
- **Milk products**
- **Frozen foods**
- **Sausages**: self-service
- **Beer**
- **Cheese**: self-service
- **Icecream**
- **Food total**
- **Hot beverages**
- **Dietary Fats & oils**
- **Breakfast, Baby & other meals**
- **Wine, sparkling wine & spirits**
- **Non-alcoholic beverages**
- **Vegetables**
- **Bakery products**
- **Pastries & durable baked products**
- **Fine foods, spices & convenience food**
- **Poultry**
- **Sausages**: service
- **Fruits**
- **Meat**: service

- Share of procurements of producer brands
- Share of procurements of retail brands

Leading retailers: Edeka, Schwarz Gruppe (Kaufland, Lidl), Rewe, Aldi.
Positions of food segments ranked by share of retail brand procurements.

Manufacturer and Retailer Brands in Selected Food Market Segments

To analyze in more detail the strong interdependence of large German retailers and suppliers on the procurement market for food, two food categories are selected: sparkling wine and roasted coffee. This choice was based on some unique aspects of representation and substantial differences between particular market segments.

Sparkling Wine Manufacturer and Retailer Brands

The retail sales of sparkling wine in Germany are clearly dominated by manufacturer brands. Their share reaches 89% of total earnings, which reduces the role of retail brands in this market segment to a minor level of 11% (Figure 8, left scale) [BKartA, 2014, p. 172].

FIGURE 8. Share of retailer brands in total earnings (left scale) [%] in retailing of sparkling wine in Germany in 2010 and its dynamics in 2008–2010 (right scale) [%-points] by distribution channels


Food retailers only reach a comparable manufacturer-retailer brand ratio with larger shares of brands among quantitative buyers (27%) though the strong role of manufacturer
brands is evident. There appears to be a high concentration of manufacturer brands among specialized retailers and direct distributors, which is absent in retail brands. The retail brand shares for all distribution channels, with the exception of quantitative buyers, decreased slightly in 2008–2010 (see Figure 8, right scale), strengthening the position of manufacturer brands [BKartA, 2014, p. 172]. When the market shares of leading retailers in sparkling wine procurements are considered, the market shares of the three large enterprises exceeded 15%, with the Schwarz Gruppe being the largest (see Table 5) [BKartA, 2014, p. 173]. In 2008–2010 their shares remained constant, with the exception of Rewe, which improved its procurement position. As was the case of manufacturer and retail brands, the remaining retailers have maintained an aggregated share of only 5–10%. In manufacturer brand procurement Edeka and the Schwarz Gruppe held shares of 20–25% each, with Rewe being the third largest buyer (15–20%). The data for hard discounter Aldi are not available, but it did not engage in manufacturer brands procurements. By contrast, Aldi held a 45–50% share in procurements of retail brands in the German market and was expanding its position in 2008–2010 against the shrinking general market trend. In the market for sparkling wine the concentration ratio CR₅ indicates a dominant market position of this hard discounter. The next largest retailer on the demand side, the Schwarz Gruppe, maintained only 10–15% of procurements. Two dominant sellers, Edeka and Rewe, held relatively small market shares of less than 5% and 10%, respectively. Since the concentration ratio CR₅ (even when a “conservative” approach is used) fell, the above mentioned firms still maintain a dominant market position. As a result on the demand side manufacturer brand procurements are represented by three to four large retailers; in retailer brands the level of concentration on the demand side is even higher, with two to three retailers.

**TABLE 5. Market shares of retailers by manufacturer and retailer brands of sparkling wine in Germany in 2010 [%]**

<table>
<thead>
<tr>
<th>Retailer</th>
<th>Entire market share</th>
<th>Share in manufacturer brands</th>
<th>Share in retailer brands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edeka</td>
<td>15–20 (0)</td>
<td>20–25 (+5)</td>
<td>&lt; 5 (-5)</td>
</tr>
<tr>
<td>Rewe</td>
<td>15–20 (+5)</td>
<td>15–20 (0)</td>
<td>5–10 (0)</td>
</tr>
<tr>
<td>Schwarz Gruppe</td>
<td>20–25 (0)</td>
<td>20–25 (0)</td>
<td>10–15 (~5)</td>
</tr>
<tr>
<td>Metro</td>
<td>5–10 (0)</td>
<td>5–10 (0)</td>
<td>&lt; 1 (0)</td>
</tr>
<tr>
<td>Aldi</td>
<td>5–10 (0)</td>
<td>-</td>
<td>45–50 (+5)</td>
</tr>
<tr>
<td>Remaining retailers</td>
<td>5–10 (0)</td>
<td>5–10 (~5)</td>
<td>5–10 (0)</td>
</tr>
</tbody>
</table>

Leading enterprise gray.
Market share category changes 2008–2010 in percentage points in brackets.
TABLE 6. **Market shares of wine producers by manufacturer and retailer brands in Germany in 2010 [%]**

<table>
<thead>
<tr>
<th>Producer</th>
<th>Entire market share</th>
<th>Share on manufacturer brands</th>
<th>Share on retailer brands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotkäppchen-Mumm</td>
<td>40–45 (+5)</td>
<td>50–55 (+5)</td>
<td>-</td>
</tr>
<tr>
<td>Henkell</td>
<td>15–20 (0)</td>
<td>10–15 (0)</td>
<td>30–35 (+5)</td>
</tr>
<tr>
<td>Freixenet</td>
<td>15–20 (–5)</td>
<td>15–20 (–5)</td>
<td>15–20 (0)</td>
</tr>
<tr>
<td>Peter Herres</td>
<td>&lt; 5 (–)</td>
<td>&lt; 5 (–)</td>
<td>20–25 (–)</td>
</tr>
<tr>
<td>Schloss Wachenheim</td>
<td>&lt; 5 (–5)</td>
<td>&lt; 5 (0)</td>
<td>15–20 (0)</td>
</tr>
<tr>
<td>Rüdesheimer Weinkellerei</td>
<td>&lt; 5 (0)</td>
<td>-</td>
<td>5–10 (0)</td>
</tr>
</tbody>
</table>

Leading supplier in gray.
Market share category changes 2008–2010 in percentage points in brackets.

**Source:** own elaboration based on BKartA (2014), p. 179.

The supply side of sparkling wine for procurements is also highly concentrated, as table 6 shows [BKartA, 2014, p. 179]. With respect to food retail distribution channels, the entire market is dominated by one supplier, Rotkäppchen-Mumm with a market share of 40–45% in sparkling wine, and a potential to increase by 5% points a year. The two next largest competitors, Henkell and Freixenet, hold substantially smaller shares (15–20%), and the remaining firms hold only minor market shares. When considering the supply of sparkling wine using all measured concentration ratios (CR₁, CR₃ and CR₅) the incumbents hold a dominant market position, signaling their overwhelming market power. If manufacturer brands are considered, the leading producer, Rotkäppchen-Mumm, holds an even larger share of 50–55%, whereas the share of Henkell declined to 10–15%. Here, as in the entire market, the supply side of manufacturer brands is mainly concentrated among three large enterprises with one leading producer, which not only dominates the field but was also able to expand its position. Hence, the supply side of manufacturer brands shows for all delineations of leading enterprises concentration ratios not only above the threshold of dominance but also above that of the entire market. In contrast, regarding retailer brand supply another market constellation can be stated: the supplier structure of retail brands is different from manufacturer brands, absent the leading player Rotkäppchen-Mumm, which concentrates only on higher revenue margins, and with stronger position of smaller suppliers, with lower margin but nevertheless sufficient large markets for their businesses. The leaders are Henkell, with the largest (30–35%) and fastest growing market share, followed by Peter Herres with 20–25%, Freixenet and Schloss Wachenheim (15–20% each) and Rüdesheimer Weinkellerei, with a 5–10% share. Some suppliers, like Henkell, Schloss Wachenheim and especially Peter Herres, focus more on retailer brands (as indicated by their market shares). The winery Rüdesheimer Weinkellerei uses only retail brands, which is not the case for Rotkäppchen-Mumm. For the group of leading enterprises in retailer brands the market concentration is CR₁ and CR₃ (CR₃...
refers to a dominant market power level), which is smaller than for manufacturer brands, when considering CR₅, an even larger concentration is visible. Hence, the existing market concentration is large enough to develop substantial market power on the supply side and induce strong interdependences between demand and supply side on the procurement market. Finally, in the sparkling wine procurement market three to four major retailers are faced with three to four major suppliers, which creates intensive market interactions and interdependences.

Manufacturer and Retailer Brands in Roasted Coffee

German roasted coffee retail sales are also dominated by strong manufacturer brands. They account for 83% of total earnings, leaving little room for other brands in this market (17% as indicated by Figure 9 on left scale) [BKartA, 2014, p. 208]. Food retailers exhibit a similar manufacturer-retailer brand market ratio. Export distribution channels maintain a 47% share of retail brands. As in the case of sparkling wine, specialized retailers and direct distributors reveal that the German coffee market is characterized by a high concentration of manufacturer brands, whereas quantity buyers (similar to the observed wine pattern), represent a marginal share of retail brands (6%). This suggests the major role of strong manufacturer brands in the coffee market (with the exception of export), in which retail brands account for nearly half of market volume. In 2008–2010, retail brands shares in all distribution channels (with the exception of export and specialized retailers and direct distribution) increased (right scale) [BKartA, 2014, p. 208], particularly at the wholesale level (by 5%-points).

When the market shares of leading retailers of roasted coffee are considered, three large firms, Edeka, Rewe and the Schwarz Gruppe, have market shares of between 15–20%, (see Table 7) [BKartA, 2014, p. 209].

The two other large retailers, Metro and Aldi, hold only small shares of the market. For Aldi this small share results from its own large production facilities, which make the company independent from external suppliers and their market power. Of all retailers, only Rewe improved its procurement position. All other retailers shares remained constant or shrunk in 2008–2010 and the remaining retailers providing manufacturer brands maintained constant aggregated shares of 15–20%. In manufacturer brand procurement leading Edeka, reached a share of 15–20%, whereas Rewe and Schwarz Gruppe each secured 10–15%. The share of the remaining retailer, Metro, was below 5%, whereas Aldi was absent among sellers and buyers of manufacturer brands in roasted coffee. However, Aldi still conducts 5–10% of the purchases of retail brands coffee, adding to its own substantial own in house production. The largest retailer on the demand side, Schwarz Gruppe, reached a share of 20–25% of procurements, followed by Rewe with 15–20% and Edeka with 10–15%. As a result, in manufacturer brand procurements the demand side is represented by the three large retailers with nearly equal shares. In retailer brands, demand is visibly more concentrated in the group of the largest three retailers, showing
a stepwise graduated market share structure. These three are followed by Aldi, a smaller but important player for purposes of supply diversification and reduction of market concentration. Thus, the degree of market concentration in retailer brands procurements and market power in demand is high and increasing in 2008–2010 after the addition of Edeka and Rewe. However, from a competition policy perspective neither leading firms on the demand side of roasted coffee nor manufacturers of retailer brands reach concentration levels granting them dominant market positions.

FIGURE 9. Share of retailer brands in total earnings (left scale) [%] in retail trade of roasted coffee in Germany in 2010 and its dynamics (right scale) [%-points] by distribution channels

The supply side for procurements of roasted coffee reveals a larger concentration, as indicated in Table 8. [BKartA, 2014, p. 215].

The German food retail distribution channel is led by a single large supplier, Kraft Foods/Mondelez, with a total market share of 20–25% in roasted coffee, which could increase its share by 5%-points in 2008–2010, followed by two competitors Allois Dallmayr and Melitta Kaffee with shares of 15–20% each. The remaining smaller suppliers include J.J. Darboven with 10–15% share and Gebr. Westhoff and Sara Lee, each with 5–10% market share. In the last years the three largest supplier increased their shares by 5%-points,
and the concentration ratio for the three largest enterprises CR$_3$ evidences their dominant market position, whereas the CR$_5$ indicates “nearly dominance level”.

**TABLE 7. Market shares of retailers by manufacturer and retailer brands of roasted coffee in Germany in 2010 [%]**

<table>
<thead>
<tr>
<th>Retailer</th>
<th>Entire market share</th>
<th>Share in manufacturer brands</th>
<th>Share in retailer brands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edeka</td>
<td>15–20 (0)</td>
<td>15–20 (0)</td>
<td>10–15 (+5)</td>
</tr>
<tr>
<td>Rewe</td>
<td>15–20 (+5)</td>
<td>10–15 (0)</td>
<td>15–20 (+5)</td>
</tr>
<tr>
<td>Schwarz Gruppe</td>
<td>15–20 (0)</td>
<td>10–15 (–5)</td>
<td>20–25 (0)</td>
</tr>
<tr>
<td>Metro</td>
<td>&lt; 5 (–5)</td>
<td>&lt; 5 (–5)</td>
<td>&lt; 5 (0)</td>
</tr>
<tr>
<td>Aldi</td>
<td>&lt; 1 (–4)</td>
<td>-</td>
<td>5–10 (0)</td>
</tr>
<tr>
<td>Remaining retailers</td>
<td>15–20 (0)</td>
<td>15–20 (0)</td>
<td>5–10 (0)</td>
</tr>
</tbody>
</table>

Leading enterprise gray.
Market shares for roasted coffee without Tschibo (commission business), Aldi without production of own facilities.
Market share category changes 2008–2010 in percentage points in brackets.

**TABLE 8. Market shares of suppliers in roasted coffee food retail in Germany in 2010 by manufacturer and retailer brands [%]**

<table>
<thead>
<tr>
<th>Enterprise</th>
<th>Entire market share</th>
<th>Share in manufacturer brands</th>
<th>Share in retailer brands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allois Dallmayr</td>
<td>15–20 (+5)</td>
<td>15–20 (+5)</td>
<td>20–25 (0)</td>
</tr>
<tr>
<td>Kraft Foods/Mondelez</td>
<td>20–25 (+5)</td>
<td>25–30 (+5)</td>
<td>-</td>
</tr>
<tr>
<td>Melitta Kaffee</td>
<td>15–20 (+5)</td>
<td>20–25 (+5)</td>
<td>&lt; 1 (–)</td>
</tr>
<tr>
<td>J.J. Darboven</td>
<td>10–15 (0)</td>
<td>10–15 (0)</td>
<td>5–10 (0)</td>
</tr>
<tr>
<td>Gebr. Westhoff</td>
<td>5–10 (0)</td>
<td>-</td>
<td>35–40 (–10)</td>
</tr>
<tr>
<td>Sara Lee</td>
<td>5–10 (+5)</td>
<td>5–10 (0)</td>
<td>-</td>
</tr>
<tr>
<td>Luigi Lavazza</td>
<td>&lt; 5 (0)</td>
<td>&lt; 5 (0)</td>
<td>-</td>
</tr>
<tr>
<td>Hubert Tempelmann</td>
<td>&lt; 5 (0)</td>
<td>&lt; 1 (0)</td>
<td>20–25 (+10)</td>
</tr>
</tbody>
</table>

Leading supplier gray.
Market share category changes 2008–2010 in percentage points in brackets.

This market concentration increases in manufacturer brands. Kraft Foods/Mondelez is the largest supplier of manufacturer brands in roasted coffee products, with a market share of 25–30% and Melitta Kaffee second with a 20–25% share. Both companies have experiencing rising trends, and market concentration of manufacturer brands is substantially higher than in the entire market. Concentration ratios for the three and five largest
suppliers are far beyond the market dominance threshold of competition policy. This is ameliorated by the actions of the supplier Gebr. Westhoff, which is not engaged in production and therefore does not deliver manufacturer brands, reducing market diversification. Gebr. Westhoff is the leading supplier of coffee retail brands in the German market with a market share of 35–40%, followed by the next largest supplier, Allois Dallmayr with 20–25% market share. Other producers, like Kraft Foods/Mondelez, Sara Lee or Luigi Lavazza, do not supply retail brands at all, which makes them pure manufacturer brand suppliers. Others supply only small quantities, as is the case of J.J. Darboven or Melitta Kaffee. This specialization in one of two market segments in roasted coffee is followed by Hubert Tempelmann, the second “hidden champion” in coffee products, which delivers only marginal amounts of manufacturer brands but maintains a 20–25% market share in retail brands. Hubert Tempelmann increased its share by 10%-points in 2008–2010, whereas the leading supplier Gebr. Westhoff recorded losses of shares of equal size. When comparing manufacturer brands with retailer brands in roasted coffee a substantially larger market concentration emerges in the latter. Market concentration of retailer brand products exceeds the level of market dominance CR₃ and CR₅ and nearing the CR₆. This implies that the supply of roasted coffee is relatively diversified among six suppliers, of which four deliver substantial shares of that market. In manufacturer brands the group of large suppliers consists of five competitors. In retailer brands the market concentration is substantially higher, with four large suppliers of which three deliver at least 75% of the market. As in the case of sparkling wine, this market structure is leading to intensive interdependences for most incumbents: three or four large retailers are faced with four to five large suppliers, allowing both parties to exercise their substantial market power in the coffee market and squeeze out smaller competitors en passant via realization of advantageous price conditions in procurements or sales. Such market structure limits the number of partners for the major players to cooperate with. Large retailers, like Aldi with its roasting houses or Edeka, reduce this problem by forcing their vertical integration, and covering a broad spectrum of food supply through their own production.

Conclusions

The German food retail market is dominated by a narrow oligopoly of leading domestic retailers, Edeka, the Schwarz Gruppe, Rewe and Aldi, which not only drive price competition processes but also realign their market position via strong efforts in upwards-integration and major expansion of their retailer brand assortments. In 2014 the entire market share of retail brands reached 41.3%. Most retailers aim for comprehensive coverage of the customer market, entering thereby into traditional market segments of manufacturer brands, what intensifies competition between suppliers and retailers. In 2010 retailer
brand market shares varied between 59.7% and 3.0% with an average of 42.8% among food products. Consequently, the increased retailer brand share together with their overwhelming demand share in procurements allows large retailers to exercise substantial market power. The average share of entire procurements in foods of the leading oligopoly reached 84%, in manufacturer brands 73.2% and 88.9%, in retailer brands, which from perspective of competition policy indicates a dominant market position in each segment. If market power in procurements is leveraged by retailers via better conditions into the customer market, smaller competitors will be gradually squeezed out of the market. Especially in retail brands large retailers are enabled to increase their market power, thereby using it to widen the gap between them and smaller competitors. The potential of retail brands seem to support stronger market positions of large incumbents even to a higher degree than in manufacturer brands. The increasing emergence of retail brands in food retail creates an opportunity for large enterprises to further increase their market power. The ongoing increasing market concentration in German food retail can be fostered by a suitable trademark policies applied to large retailers with sufficient financial resources to provide a specific assortment of retail brands. This process may have negative consequences for consumers, dependent suppliers in the value chain, and smaller competitors in retail, who are forced into specialization strategies. These general preliminary results of dominating market power are confirmed by an analysis of the market segments of sparkling wine and roasted coffee, where an intensive market concentration on the supplier side is found. A narrow oligopoly of retailers is faced with narrow oligopolies of mostly specialized suppliers in particular market segments, leading to restricted space of operation for both sides. This holds true especially where dominant suppliers of manufacturer brands also hold large market shares in retailer brands and retailers do not have sufficient supply alternatives. To escape this procurement prisoner-dilemma retailers engage intensively in upwards-integration to install their own large production facilities. The prevalence of retailer brands can therefore be interpreted as an instrument to force competition processes at both seller and buyer markets and a strategy to avoid intensive market power in procurements.

Despite this ongoing process of rebalancing market power in seller and buyer markets German food retailing providing manufacturer brands and more diversified retailer brands does not reveal serious market imbalances in general. However, the food retail market concentrations for procurements of manufacturer and retail brands are above the level of market dominance of the leading retailer oligopoly. In addition, in selected food products the large retailers enjoy growing market power in retailer brands, all under permanent supervision of German competition authorities whose role is to prevent the misuse of dominant market positions [BKartA, 2014, Monopolkommission, 2012].
Notes

1 Author’s e-mail address: andreas.bielig@sgh.waw.pl.
2 The terms „manufacturer brand” and „retailer brand” are not uniformly used in economic literature. For the first also producer brand is used in numerous reports, whereas for the latter private label, own label or store brands is widely common.
3 Narrow oligopolies are from the perspective of competition policy according the concept of workable competition by Kantzenbach [1967] considered to be characterised by over-optimal interdependencies of incumbents, leading to 1. non-functional power struggles (oligopolistic wars) or 2. factual restriction of competition due to parallel market behaviour [Schmidt, 2005, p. 12]. Based on considerations about a causal relation of market structure and expected intensity of market competition hence a wide oligopoly would be regarded to induce an optimal competition level.
4 Market power is regarded in competition policy as an important indicator for the restriction of the necessary “material freedom of operation” on markets for economic subjects [Schmidt, 2005, p. 30]. In the theory of competition policy two cases of horizontal market power are distinguished: 1. traditional single power concepts (for monopolies, partial monopolies or dominant positions of singular enterprises) and, for the analysis of market power in the German food retail market for the most cases more relevant, 2. joint power concepts with a focus on joint profit maximization on basis of tacit collusion of enterprise groups [Schmidt, 2005, p. 80]. The German competition law codifies in § 18 no. 4–6 GWB [Gesetz gegen Wettbewerbsbeschränkungen] a general assumption of market power in the sense of market dominance for the cases of one dominant enterprise with a minimum market share of 40% (CR<sub>1</sub>=40%), of three or less enterprises with a share of 50% (CR<sub>3</sub>=50%) and five or less enterprises with a share of 66.67% (CR<sub>5</sub>=66.67%). A dominant enterprise is characterized by a situation of 1. lack of competitors, 2. missing competition pressure or 3. a dominant position in comparison with its competitors (§ 18 no. 1 GWB). In § 19 GWB the legislator codifies consequently a ban on the misuse of dominant market positions from enterprises, what underlines the importance of the preservation of market competition by competition policy. With respect to the case of our analysis it is essential to note that the legislator formulates in § 18 no. 4–6 general assumptions of market dominance, which can be refuted by affected enterprises with invalidating arguments. Therefore also for all explanations of market power or even market dominance with market shares in this contribution the assumption character is holding based on legal and economic grounds.

References


A Dynamic Capabilities Perspective of High-Growth Firms: Organizational Aspects

"... while dynamic capabilities are certainly idiosyncratic in their details [...] specific dynamic capabilities also exhibit common features that are associated with effective processes across firms.” [Eisenhardt-Martin, 2000, p. 1108.]

Abstract

Drawing on interviews conducted at five Hungarian high-growth firms (HGFs), this paper discusses how dynamic capabilities shape the outcome of HGFs’ efforts to meet the managerial challenges posed by rapid growth. HGFs are investigated in the context of a relatively under-researched country: Hungary. The research demonstrates that dynamic capabilities have strong explanatory power for the surveyed companies’ achievements, in a similar manner to what is established in the literature on HGFs in advanced economies.

The micro-mechanisms of DC’ deployment is explored by investigating the organizational solutions implemented at the surveyed firms in response to emerging growth-related problems. These responses were found to be similar across the sample. The recurrent growth-related reconfiguration of organizational structures and introduction of various organizational innovations were the result of systematically developed DC and non-abating organizational learning.

Keywords: high-growth firms, dynamic capabilities, organizational innovations, organizational learning, Hungary

JEL: L22, L25, L26
Introduction

Ever since the contribution of high-growth firms (HGFs) to job creation, aggregate economic performance and productivity growth became obvious, and their above average innovativeness and internationalization potential recognized [classical references include Birch, 1979; Birch-Medoff, 1994; Davidsson, 1991; Storey, 1994; see also literature reviews by Ács, 2011; Coad et al., 2014; Delmar et al., 2003; Henreksson–Johansson, 2010], a wealth of studies have set up theoretical frameworks to identify the factors that account for HGFs’ performance.

While the classical strand within the scholarship on HGFs has unanimously demonstrated their heterogeneous nature (HGFs are not concentrated in high-technology sectors, nor are they necessarily new or small firms – see reviews by Coad et al., 2014; Delmar et al., 2003; Henreksson–Johansson, 2010], management and entrepreneurship scholars have highlighted the homogeneity of factors that explain high growth performance [Chan et al. 2006; Colombelli et al., 2014; Parker et al., 2010; Smallbone et al., 1995; Sadler-Smith et al., 2003]. These latter scholars posit that behavioral features, such as founder profiles and entrepreneurial vision, management style and managerial skills need to be examined in the context that these attributes are leveraged: the mechanism by which entrepreneurs overcome the recurring managerial challenges. Success can be explained with the features of the entrepreneurial process of identifying, evaluating and exploiting business opportunities, rather than with the features of the entrepreneurs.

The challenges entrepreneurs face, and the attributes needed to overcome them, are quite similar in rapid growth periods. Scrutinized from the point of view how the entrepreneurial process is managed, HGFs are similar. HGFs resemble each other in terms of the dynamic and flexible character of their management strategy, and their outstanding organizational learning and adaptation capability [Barbero et al., 2011; Chan et al., 2006].

In short, management scholars tend to identify similarities rather than differences in the HGF-ecosystem: they point to various dynamic capabilities as key, cross-cutting explanatory factors of outstanding performance.

This paper applies the dynamic capabilities framework for the analysis of a subset of HGFs: technology-oriented, relatively young, small and medium-sized enterprises (SMEs).

The central research question is how dynamic capabilities (DC) manifest themselves while HGFs strive to meet the managerial challenges posed by rapid growth. This issue, i.e. the micro-mechanisms of firms’ deploying their DC, is relatively under-investigated: most papers are conceptual (they are limited to a theoretical discussion of DC).

Accordingly, the aim of this paper is to test theory through case study-based research. Our analysis is based on interviews with the owners & founders and/or top managers of five Hungarian HGFs, selected from the author’s database of successful Hungarian SMEs. Case studies allow for a deep and detailed insight in the qualitative issues our investigation
Definition and Context

Responding to Terjesen et al.’s [2013] call to extend the current dominant theoretical perspectives of entrepreneurship research (e.g. institutions, culture, resource-based view, transaction cost economics) and integrate theories from management and international business scholarship, this paper draws on the concept of DC [Eisenhardt-Martin, 2000; Teece et al. 1997] when analyzing the means of organizational transformation during a rapid growth process.

From a wealth of partially overlapping definitions of DC [see reviews by Hsu–Wang, 2012; Zahra et al., 2006] we formulate ours as **capabilities to build, release, and reconfigure a firm's internal resources and integrate external ones, in response to changes in the external and internal business environment.** This definition distinguishes DC from a firm's substantive (operational) capabilities needed to perform basic functional firm activities: DC change, extend or reconfigure existing substantive capabilities [Winter, 2003]. DC are accumulated through deliberate organizational learning [Eisenhardt–Martin, 2000; Zollo–Winter, 2002]. According to Zahra et al.’s insightful explanation “managers […] do not, and probably should not, create ‘once-and-for-all’ solutions or routines for their operations but continually re-configure or revise the capabilities they have developed” [2006, p. 920–21].

The strong relationship between DC and entrepreneurship theories is evident in the light of Teece’s [2007] extended definition of DC. Teece disaggregates DC into “the
capacity (1) to sense and shape opportunities and threats, (2) to seize opportunities, and (3) to maintain competitiveness through enhancing, combining, and, when necessary, reconfiguring the business enterprise's tangible and intangible assets” [p. 1319].

Development of DC is accompanied and engendered by the accumulation of complementary assets [Teece, 1986] and by organizational changes. In a reciprocal relation, complementary assets assist managers’ integration, building and reconfiguration of internal and external competencies. Conversely, DC are indispensable for effective complementary asset accumulation: for identifying, building and/or accessing the resources that will be necessary to capture the benefits of a firm-specific strategy, technology, or innovation.

In a similar vein, the development of specific organizational forms, such as flexible organisations featuring a high degree of delegation, make it easier for firms to generate innovations and access external knowledge: an important dynamic capability [Foss et al., 2011]. Conversely, DC are necessary to ensure a continuous alignment between a firm's modes of organizing and its changing strategic needs.

Another line of research related to our investigations concerns HGFs in general and managerial challenges associated with high growth in particular. The experiences of the highest-performing segment of the entrepreneurial ecosystem constitute a field of increasing scholarly attention within the entrepreneurship literature [Coad et al., 2014; Wennberg, 2013]. Although, as pointed out by Wennberg [2013], most studies in this field are macro-oriented, and investigate the role of HGFs for job creation, industry dynamics, economic growth and innovation [see e.g. Ács, 2011], the scholarship encompassing contributions that adopt a managerial approach when investigating HGFs is also reaching a mature stage.

Contributions to this latter strand can be summarized as being concerned with why and how HGFs grow. The first question addresses – among others – the features and behavior of HGFs and of their founders [e.g. Sadler-Smith et al., 2003; St-Jean et al., 2008]. The second investigates HGFs’ strategy; for example, how technological and market knowledge is built up, configured and reconfigured in the growth process, [e.g. Deligianni et al., 2014].

A research question frequently addressed by strategic management scholars concerns the ways HGFs overcome challenges that emerge during rapid growth [Agarwal–Helfat, 2009; Hambrick-Crozier, 1986; Mueller et al., 2012; Wasserman, 2008]. The consensus in the literature is that new and additional managerial capabilities become indispensable when firms grow. As organizations become more complex, they need to undergo multiple renewal processes (managerial practices need to change and organizational attributes refreshed, replaced and/or reconfigured).

HGFs became the subject of scholarly scrutiny relatively recently in Hungary. For nearly two decades after the change of the regime, Hungarian scholars’ key research question addressed the opposite issue: why Hungarian SMEs perform poorly; why they are unable and/or unwilling to grow?
Major [2003; 2008] showed that despite substantial government support, Hungarian SMEs produce far less than their input endowments would suggest. Small firms’ failure to graduate into medium-sized ones is explained by technical and allocative inefficiencies and cultural factors, such as taking profit out of (rather than reinvesting into) their small, family-managed ventures.

In an international comparison measured by the Global Entrepreneurship and Development Index [GEDI, Ács et al., 2015], entrepreneurship in Hungary scores rather weakly, especially in terms of entrepreneurs’ engagement in process and product innovation and the availability of risk capital [Szerb et al., 2012]. The persistence of Hungarian SMEs’ weak growth potential (and weak commitment to grow) is mirrored by the low value of the GEDI pillar that quantifies nascent and start-up business owners’ growth ambitions. Szerb et al. [2012] found that of the three GEDI sub-indices (Entrepreneurial Attitudes, Entrepreneurial Activities and Entrepreneurial Aspirations), Hungary receives the lowest scores for Entrepreneurial Aspirations.²

The value of this sub-index is far below those of Hungary’s CEE counterparts and those of advanced economies.

By the end of the 2000s, the traditional focus of Hungarian SME-researchers on the deficiencies of entrepreneurial performance became more diversified: Hungarian scholars have also identified the HGF segment within the Hungarian business ecosystem and begun investigating HGFs’ attributes [Békés-Muraközy, 2012; Papanek, 2010].

In line with the literature, Hungarian case-study-based investigations found a strong correlation between high growth and innovativeness, high growth and internationalization, and high growth and venture financing [Szerb et al. 2012]. The main barriers to the further growth of Hungarian HGFs are also similar to those faced by their advanced economy peers: access to financing and an adequately skilled workforce [Csapó, 2011].

Research Method and Sample

Since our research questions address complex, multifaceted, and dynamically changing issues that are contextually situated, exploratory research and comparative, multiple-case analysis aiming at inductive theory building seemed an optimal approach [Eisenhardt, 1989; Yin, 2003].

We used both primary and secondary data sources. Primary data collection involved face-to-face or telephone interviews with founders and/or managers of the sampled companies. Our interviews were guided by a semi-structured interview protocol with open-ended questions about the problems that emerged in the course of growth periods and reactions to them.

Given the relatively low precision of qualitative methods and impossibility of following strict replication logic [Yin, 2003], several other actions were taken to ensure reliability
and validity (above and beyond the creation of an interview protocol to ensure systematic data collection). First, we verified our findings by adopting multiple perspectives, i.e. by triangulating case study information with information from secondary data sources, such as newspaper articles describing the given firm’s achievements, information brochures, business reports and publicly available balance sheet and profit and loss statements. Second, draft reports were sent back to the interviewed managers for approval and feedback. Third, wherever possible, we prepared interviews with more than one representative of the firms sampled, or employed a ‘repeated interview’ technique to clarify selected details.

Having created a database of encountered problems, proposed responses, and changes implemented at the surveyed firms, we first filtered the results with regard to Winter's [2003] thesis that DC are not about *ad hoc* problem solving: they are repeatable (persistent) capabilities to adjust to changes in the external environment through changes in the firm’s resource base. Next, we analyzed the filtered stock of problems and solutions to identify commonalities. Dominant parts of the responses were either related to the development or acquisition of additional organizational resources and competences or to the reconfiguration of the organizational structure.3

**TABLE 1. Data on the surveyed companies**

<table>
<thead>
<tr>
<th>Foundation</th>
<th>Product</th>
<th>Number of employees (2014)</th>
<th>Sales 2014 (€ m)</th>
<th>Sales growth, %, (from – to)</th>
<th>Continuous growth*</th>
<th>Managed by owner &amp; founder</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 2004</td>
<td>Customized software, contract R&amp;D</td>
<td>30</td>
<td>0.7</td>
<td>540 (2009–2013)</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>B 2008</td>
<td>Renewable energy-based heating and air-conditioning solutions</td>
<td>4</td>
<td>1.85</td>
<td>415 (2011–2014)</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>C 2005</td>
<td>GPS tracking system solutions</td>
<td>63</td>
<td>3.2</td>
<td>438 (2009–2014)</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>D 2007</td>
<td>Online accommodation brokerage</td>
<td>97</td>
<td>4.47</td>
<td>1325 (2011–2014)</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>E 2005</td>
<td>Time-lapse embryo monitoring system</td>
<td>38</td>
<td>2.87</td>
<td>430 (2011–2014)</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>

* = continuous growth since inception
Source: author’s compilation based on corporate data.

Our sample is composed of five companies, selected on the basis of three criteria. First, they operate in technology-intensive industries and their products and/or services are based on the innovative idea(s)/solution(s) of the founder (they should be examples of technology-based entrepreneurship). Second, they are indigenously owned, and established by individual entrepreneurs. Nevertheless, if a surveyed company complied with all
our selection criteria but was recently acquired by a foreign investor, this was considered an asset that adds new insights. Third, they exhibit high (turnover) growth periods of at least 20% annually, for at least three years.

Drawing on the author’s database of newspaper articles on successful Hungarian SMEs, a theoretical sampling procedure was adopted [Eisenhardt, 1989]: we selected cases that were considered revelatory and particularly suitable for offering theoretical insights. As we were interested in identifying commonalities behind idiosyncratic corporate histories, we included companies of different sizes and sectors. Table 1 provides a summary description of the sample companies.

Research Results

In line with the relevant literature concerning the homogeneity of challenges faced by HGFs in high growth periods [Chan et al., 2006] the problems mentioned during the interviews were more or less similar across firms. They included problems associated with increasing size and organizational complexity (leadership problems; stresses and strains stemming from deficiencies in the internal information flow), and traditional managerial challenges associated with expansion (reputation development, international expansion and market knowledge building, recruitment and retention, financing).

This section will review the proposed organizational solutions, i.e. organizational changes implemented by the surveyed firms to resolve the emerging problems. First, the application of textbook-type best practice organizational solutions (to growth related problems) is presented. In the next two subsections, we describe more fundamental organizational transformations implemented by the surveyed firms.

Textbook-Type Best Practice Organizational Solutions to Growth Related Problems

Successful entrepreneurs in technology-oriented sectors can seize the identified business opportunities if they are able to combine two activities: technology development and business development. A common mistake entrepreneurs in technology-oriented sectors commit is devoting too much attention to technology development at the expense of business development. The surveyed HGFs managed to avoid this first trap along their business development trajectory: they exhibited outstanding growth performance because in addition to strong technological capabilities and entrepreneurial orientation [Lumpkin–Dess, 1996], they possess extraordinary business development and marketing capabilities.
Sustaining growth and managing a growing organization, however, requires more than a visionary entrepreneur who can seize the identified business opportunities. The first common problem mentioned by practically all managers interviewed is that organizational growth triggers a multiplication of tasks that are different from the original two core activities.

New capabilities were deemed necessary, such as overseeing increasingly complex structures and interactions; employee selection and team building; organization of efficient internal communication (and management of communication problems); management and control of transaction costs that tend to increase rapidly along with growth, and so forth.

Tensions emerged not only because of founders-executives’ declining oversight and the excessive time required to implement, coordinate and control rapidly multiplying support tasks. Another cause of recurrent conflicts (as explained by the founders interviewed) was that above a certain threshold turnover, the low level of division of labor (employee versatility) that initially worked well frequently provoked hard-to-manage problems, as illustrated by the following interview excerpt.

“We realized that our firm resembles a small pirate ship: everyone in the crew can equally be engaged in navigation, maintenance and battle, and everyone can decide where to go next. This manner of operation was self-evident when we were three or four, but over time clashes in authority and problems stemming from lack of information what our colleagues have negotiated upon with the new customers have become increasingly frequent.”

The surveyed firms’ responses to these problems, though idiosyncratic in their details, can nevertheless be easily classified as professionalization of leadership and reconfiguration of the organizational structure. The actions implemented included

- recruitment of new managers and the building of a management team;
- increasing internal functional specialization, and the creation of functional departments;
- authority decentralization: founders’ delegation of responsibility for operational tasks to lower levels, in order to become more focused on strategic functions;
- founders’ giving up the managing director’s position and hiring a professional CEO;

These actions provided a solution to the founder-executive’s diminishing oversight of increasingly complex operations.

The surveyed cases featured non-negligible differences with respect to some details. Transferring leadership tasks to a professional manager was in one case considered a relief by the scientist and founder of the company: in this vein he could return to scientific research and delegate management tasks to someone experienced in coordination, control, strategy building and implementation.

In another case, the professionalization of leadership was triggered by a serious illness that forced the founder to take a step backwards. The founder’s son, who had been working with his father since the firm’s inception as chief technical officer and developer (but was equally involved in managing everyday operations), became the chief strategy officer. The
family owners gradually hired professional managers for an increasing number of business functions, e.g. for marketing and customer relationship management.

In a third case the need to involve a venture capital investor prompted the hiring of a professional manager who created an organizational structure acceptable for venture capital investors. The new managing director clearly delineated internal responsibilities and created a transparent organization with a clear-cut strategy and well-defined responsibilities.

In another case the partial takeover of the firm led to transforming the organization: The new owner appointed a managing director who determined the development trajectory, and identified the functional areas that are bound to become the engines of growth: a marketing-intensive growth period first, and a product development-intensive growth period thereafter. Strategy implementation involved substantial job creation, which triggered an increase in task specialization and hierarchical levels.

Besides firm-specific details, the key commonality can be summarized as follows. The problems that emerged in the course of each surveyed firm’s growth processes required a reconfiguration of the framework that shapes the firm’s work. This reconfiguration involved professionalization of the leadership and decentralization of planning, operating and control functions (together with the decentralization of decision-making). By this process the organizations became increasingly formalized: internal specialization increased, employee and task versatility receded, and informal, functionally integrated organizations evolved into functionally specialized, formally organized entities.

Note that reconfiguring the organizational structure involved some resource shedding. Although a founder’s relinquishment of management control to professional managers improves an HGF’s further growth or, at least, ensure the sustainability of past achievements [Abebe–Alvarado, 2013; Boeker–Karichalil, 2002; Wasserman, 2008], a founder’s ‘stepping back’ may have deprived some organizations of the ambition and commitment that characterized that founder. The founder’s drive, described by McGrath–MacMillan [2000] as the entrepreneur’s capability to engage the energy of all who work with him, was replaced by the professionalism of the newly hired CEO and the formal routines of the human resources management processes.

**Fundamental Organizational Changes**

In some cases the organizational transformation that accompanied the surveyed companies’ growth has transcended a simple ‘definition and delineation of responsibilities’ and professionalization of leadership. Growth triggered (or was accompanied by) more fundamental organizational changes.

Organizational changes at (C) took a new turn following their decision to transform the applied business model. Recognizing that services ensure a continuous and predictable
flow of income,\(^4\) (C) redefined its business model from one of selling and deploying devices (GPS tracking systems) into providing GPS-based services (route registry, theft protection; tracking, temperature monitoring). In terms of strategy, this implied an increased focus on customer retention through additional and improved services. Instead of seeking new customers, selling upgraded services to existing customers and improving customer loyalty became the primary objectives.\(^5\) Changes in strategy entailed a movement towards a customer-focused organizational structure. Key account manager posts were created and the corporate organization was redesigned around them. Consequently, the previously well-delineated functional boundaries (that had been defined as an outcome of C's adjustment to growth related problems, such as task multiplication and the founder-executive's declining overview) have become more permeable again, as a result of increased reliance on cross-functional teams.

A's case exemplifies a radical organizational innovation. (A) developed an organizational framework that enables continuous change: a par excellence manifestation of DC! Beyond a certain threshold of size and degree of product mix diversification, (A) decided to create separate legal entities for each new product that had already proved its viability. The goal of the organizational transformation was to structure individual products or product families as independent profit centers. Meanwhile the interviewed (original) company transformed itself into a holding company that provided back office services, financing, and marketing services to the individual portfolio companies. The holding company retained responsibility for new product development and delegated incremental development tasks to the newly created companies. This obviously implied the delegation of a number of responsibilities to the managing directors of individual product lines. Consequently, authority became decentralized: the managing directors of the portfolio companies controlled the everyday operational affairs related to their product lines. The founder of the original company has become the CEO of the holding company. He coordinated the portfolio companies and was responsible for business development, financing, and the coordination of new product development.

In other cases growth related organizational transformation had an impact on a given firm's boundaries.

Rapid growth at (E) prompted a decision to insource tasks that had previously been carried out by external contractors, such as hardware and software development and component development (manufacturing tasks, however, remained outsourced). "Bringing external knowledge in-house reduces risks and ensures that key competences develop in line with growth," the interviewed manager explained.

Conversely, (B) opted to manage growth through outsourcing (indirect job creation, instead of offering full-time employment). It decided to outsource support functions, such as accounting or legal services, and work together with business partners and subcontractors that undertake the construction, related administrative work, and maintenance and control of B's running systems. Furthermore, (B) established a network of (freelance)
engineers working on a contractual basis. B’s solution is subject to continuous adaptive and incremental innovations. The design of new projects and project proposals also requires substantial engineering work. Accordingly, the executive manager currently works together with and coordinates the development activities of 15 to 20 engineers. Some of them have become strategic partners who have worked for (B) as subcontractors for several years now. Altogether, irrespective of B’s rapid revenue growth (sales increased more than fourfold between 2011 and 2014) there are only four employees.

A key commonality of the idiosyncratic developments listed above was that each surveyed firm adjusted its operational mode and business models during the business development process. On one hand, these corporate initiatives had organizational implications. On the other hand, the surveyed HGFs reconfigured the organizational structure to facilitate further adjustments to changes in the internal and external environment.

Beyond structural organizational innovations, the surveyed firms initiated and implemented several procedural organizational innovations (POI) to mitigate the tensions arising from the growing complexity of their operations.

One of the most common POI was the purchase or in-house development of corporate information systems that contributed to increasing organizational effectiveness and transactional transparency. Moreover, as the manager of (C) explained, their deployment of a SAP system proved to be a means of reputation building: corporate customers recognized the value associated with this specific type of intangible investment and considered it tangible evidence of a long-term strategy.

A further common POI was the surveyed firms’ formalization of rules and procedures. This is illustrated by the accounts of three informants.

"From time to time similar problems emerged, and we started to ponder again and again what kind of decision to take. For example, there was no agreement on the extent of discounts that can be offered to selected customers. One of our sales employees tended to offer larger discounts than the others, and customers who did not receive equal benefits got upset. So we immediately decided to establish consistency by specifying every possible circumstance under which discounts can be offered."

"We suddenly realized that the development process of new products takes much more time than previously. When asked about the reason, the software development staff explained that they keep receiving urgent tasks from the marketing and customer relationship management employees: they have to fix a number of problems signaled by the customers. It soon turned out that customers have in reality asked for the development of additional functionalities, but they communicated their requirements as if there were problems with the existing software. Developers spent a couple of hours/days to implement the emerging requirements and meanwhile they stopped working on the development tasks assigned to them. We decided to ‘specify the hierarchy’, and stipulated that it is only the top management who can assign new tasks to software developers. Problems and additional wishes signaled to the customer
relationship management staff have to be compiled and they undergo a review and selection process. Furthermore, we stipulated that every employee has to keep a work diary.”

“We felt increasing pressure to write down rules for everything. Nevertheless, we tried to leave sufficient scope for spontaneity and preserve as much of our organizational tradition as possible. At the same time it was necessary to formally stipulate behavioral regularities in the case of blue collar workers: we have even prepared a manual for them that specifies all the work processes to be implemented and determines their sequencing as well.”

These firm-specific details highlight that DC are indispensable in deciding what to formalize. Formal rules abate intra-organizational conflicts but tend to jeopardize flexibility. DC are manifest in management’s ability to assess the constraining and the enabling effects of each action aimed at the formalization of work processes.

Another POI adopted sooner or later by every firm in the sample was the development of strategic plans. Although the founders had a clear vision about how to proceed with and carry out business development, they did not start with writing formal business plans. With the upscaling of operations however, the need to develop a formal strategy became increasingly pressing. In some cases, formal plans determining a firm’s mission, detailing short and medium-term business development trajectory, stipulating objectives, the describing strategy implementation and the related responsibilities became a necessary condition of attracting external investors. Others prepared partial strategy papers that either addressed one single business function, e.g., preparation of a medium term marketing strategy; and setting up of a technology roadmap that directed development activities or determined the tasks related to one specific strategic action, such as expanding into a new market.

As the narratives of the interviewed executives made it clear, strategic planning was initially an ad hoc exercise that gradually became a continuous activity. Initial plans were refined and expanded to cover additional business functions. Furthermore, in two cases the founder/CEO pointed out that management regularly assesses the validity of the plans, modifies the objectives as necessary and sets up new targets: these activities, again, are par excellence manifestations of DC. Strategic planning achieved a qualitatively higher development level in one case, where the new strategy papers started to incorporate performance evaluation criteria as well.

**Inter-O rganizational Innovations**

In a typology of organizational innovations developed by Armbruster et al. [2008], organizational innovations are differentiated along an intra-organizational and inter-organizational dimension. The foregoing discussion reviewed examples of intra-organizational
transformation, implemented in reaction to emerging growth-specific problems. Ambruster et al. defined inter-organizational innovations as the development of “new organizational structures or procedures beyond a company’s boundaries. These comprise new organizational structures in an organization’s environment, such as R&D cooperation with customers, just-in-time processes with suppliers or customers or supply chain management practices with suppliers” [p. 646].

Our interviews have uncovered a number of inter-organizational innovations implemented by the surveyed firms to resolve emerging managerial challenges perceived as obstacles to sustained competitiveness.

As the quotations below make it clear, the founders and managers of the surveyed HGFs encountered a number of traditional business development challenges – some of which could be handled by either building strategic alliances and/or implementing other inter-organizational innovations that increase the given firms’ outreach beyond corporate boundaries – or by attracting an external investor.

“We have come to realize that we are not the best in commercializing every product we develop.”
“To gain the contract of a high-capital-expenditure project, it is indispensable to establish credibility and build international reputation. Even if our solution is innovative and promises rapid return, it is tremendously difficult for a small Hungarian firm, to achieve trust and gain recognition in a competitive landscape dominated by large international actors in this industry.”
“It was not the well-capitalized status of our new owner that was the most important for us, rather, that this firm has been present in the global market for 25 years: it has a well-established brand name and access to key users and researchers all over the world. Through its global technical support organization it is in close contact with the clinics where the products are used: for a biotechnology firm nothing can be more valuable.”

The inter-organizational innovations the managers interviewed mentioned effectively address a number of traditional managerial challenges associated with expansion.

(B) created strategic alliances with several key suppliers. One of its suppliers, a global manufacturer of air conditioning systems, recommends B’s renewable energy system solution to its own clients (who are property developers). In return, B integrates the supplier’s air conditioning system (and some other components) into its solution. In a similar vein, B established collaborative partnerships with other part and sub-system suppliers of its complex system.

(E) entered into strategic alliances with selected users of its technology (clinics). Users evaluate the technology and provide regular feedback on their experiences, giving the firm real world inputs for further technology improvement.

(D)’s expansion was boosted by a strategic alliance with a competitor. To increase and diversify its supply, (D) integrated the supply of a German online accommodation brokerage
firm into its own. At the same time it also increased the organization’s outreach beyond corporate boundaries by strategic alliances with online news portals, and by building up a network of marketing and sales agents in a variety of countries (similarly to B and C).

Similarly to the aforementioned examples of inter-organizational innovations in the form of collaborative partnerships to access complementary assets, attracting an external investor also proved to be a means of mobilizing external resources. In two cases, the required volume of complementary financial and intangible resources increased so swiftly during the expansion phase that the takeover of the firm by an external investor proved to be inevitable. In both cases, the acquisition of the HGF by an external investor has reinforced the above-reviewed organizational transformations.

**Discussion and Conclusions**

The key argument that was illustrated with case studies in this paper was that behind idiosyncratic details, successful HGFs are quite similar in terms of a) the factors that account for their sustained competitiveness; and b) the challenges they face in the course of rapid growth periods. HGF founders and executives can effectively manage the entrepreneurial process and survive rapid growth periods through developing and leveraging dynamic capabilities. They continually revise and renew both their managerial practices and the configuration of the organization.

Intra- and/or inter-organizational changes are implemented in response to the extension and the growing complexity of resources. In this vein, new organizational solutions facilitate the rational use of an increased and/or diversified resource base. Moreover, changes in strategy triggered (or were accompanied by) changes in the organizational structure. Organizational innovations were sometimes also introduced in anticipation of forthcoming changes in the business environment. In summary, organizational changes support the effective implementation of changes in strategy, driven by a changing environment and a firm's growing resource base.

The objective of this paper was to explore how DC become manifest while HGFs strive to meet the managerial challenges posed by rapid growth. We delved into the micro mechanisms of HGFs’ leveraging their DC by scrutinizing the organizational solutions they implemented in response to problems. We found more or less similar organizational responses to growth-specific problems across the sample.

In response to internal and external environment changes due to growth, the surveyed firms developed new operational and organizational routines and built networks to access and integrate additional resources. The recurrent growth-related reconfiguration of the organizational structure and the introduction of various organizational innovations are the result of systematically developed DC and of non-abating organizational learning.
Certain limitations of this research are, however, worth noting. The applicability of our findings may be limited by the type of firms investigated here. As indicated previously, sample firms illustrate the experiences of a well-delineated subset of HGFs: technology-oriented, relatively young SMEs. Moreover, the small sample size also constrains generalization. Further studies may integrate perspectives that are currently missing because of the small sample size, for example the impact of innovation collaborations that are also primary examples of inter-organizational innovations.9

Furthermore, our focus was limited to organizational responses to emerging growth-specific problems, which is one element, or rather one manifestation of the multidimensional and complex processes DC are leveraged while reconfiguring internal and integrating external resources. Further empirical research is necessary to examine HGFs’ responses to growth-specific problems, and to identify and analyze additional commonalities.

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Notes

1 Author’s e-mail address: aszalave@gmail.com
2 “Entrepreneurial Aspiration refers to the distinctive, qualitative, market expanding, wealth enhancing entrepreneurial activity such as the newness of the product and technology used by a venture, internationalization, high growth ambitions as well as the availability of risk capital.” [Szerb et al., 2012, p. 18; emphasis added].
3 Another type of responses targeted the development and accumulation of complementary assets. The related strategic actions will be analyzed in a companion paper.
4 C’s GPS devices are currently installed in more than 20,000 cars.
5 Needless to emphasize that the expansion of the customer base remained an important business objective also after the redefinition of C’s customer value proposition.
6 Armbruster et al. [2008] classify organizational innovation in two categories: structural organizational innovation and procedural organizational innovation. The former refers to changes in the divisional structure of functions and/or in the number of hierarchical levels. Structural organizational innovation may also affect the firm’s boundaries (offshoring, or reshoring, in-or outsourcing, relocation, etc.). Procedural organizational innovation affects the routines, processes and operations of a company.
7 In B’s case, increasing the organization’s outreach and developing strategic partnerships was driven also by industry-specific features. Local building regulations often stipulate that the design of the renewable energy system that is integrated in residential or commercial buildings is carried out by a locally
approved and certified specialist. Moreover, construction works are subject to a number of regulations, and individual phases of project implementation require permissions and statutory approvals issued by local authorities. Consequently, collaboration with principal contractors, local partners and subcontractors is self-evident.

8 The author is indebted to the anonymous reviewer of her paper for raising the points described in this paragraph.

9 Although interviewees have been explicitly asked about their experiences with open innovation, sample companies have not engaged in R&D collaboration with external stakeholders yet. This finding may be explained with small sample size and with the characteristics of small, technology-oriented start-ups to bring (and keep) key competences in-house.

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An Analytic Hierarchy Process Analysis: Application to Subscriber Retention Decisions in the Nigerian Mobile Telecommunications

Abstract

The introduction of mobile number portability (MNP) in the Nigerian telecommunications industry has brought a new challenge for mobile operators. This study investigates the use of Analytic Hierarchy Process (AHP) in customer retention decisions in the Nigerian telecommunication industry using a cross-sectional survey design. Primary data were obtained through questionnaires administered to 480 mobile telecommunications subscribers in six tertiary institutions located in Lagos State, Nigeria. These educational institutions were chosen using a multistage sampling technique. Of 438 questionnaires received from subscribers, 408 were valid. Based on this sample data an AHP model was built to assess the determinants of customer retention decisions. Next, eigen values, an eigen vector and maximum lambda ($\lambda_{\text{Max}}$) were obtained using the AHP analysis for the matrices. This analysis shows that customers considered call quality as the important in the retention decision. We conclude that AHP is a meaningful tool for determining
what motivates retention decisions, that can help network operators formulate effective
customer retention strategies.

**Keywords:** analytic hierarchy process, mobile number portability, retention management,
telecommunication, marketing strategies

**JEL:** M1, M2, M31, M150, C83

**Introduction**

A key issue for telecommunications service providers in Nigeria today is customer
churn: that is, the inability of firms to retain subscribers over time. This problem is rampant, and negatively affects such companies as Code-Division Multiple Access (CDMA): Starcom PLC, Multilinks, O’nets, and Reletel. Although most industries undergo expected churn, i.e. a loss of some customers to competition, retaining customers is the goal of all companies, including mobile telecommunication and wireless companies [Arthur, 2008]. Reducing churn is often addressed by academics and practitioners assisting telecom companies seeking ways to acquire new customers [Rahul, 1999]. In this study, we examine relevant issues motivating customers’ retention decisions in the telecomm industry. To assess network operator performance and the effectiveness of technical and/or on marketing/corporate strategies we need to examine service quality [Douligeris, Pereira, 1994]. Methodologically, we rely on the Analytic Hierarchy process (AHP) for data analysis because it allows us to elicit weights for each attribute and decision level and helps explain individual decisions regarding preferred product or service providers. To implement the AHP analysis, we conducted a survey of subscribers who were asked to value different services attributes in hierarchical order. This approach is based on the literature and focus group discussion (FDG) on telecommunication services delivery and customer retention in Nigeria.

The acceptance of limited inconsistency and the possibility of managing it is often considered an advantage of the AHP method [Harker, Vargas, 1987]. Measures of inconsistency set AHP analysis apart from other multi-criteria methods such as goal programming, Multi-Attribute Utility Theory (MAUT), conjoint analysis (CA), or choice experiments. AHP allows us to determine preference scores at individual level, which the CA does not, AHP is considered the most appropriate for this study. An additional advantage of the AHP analysis is that it is a flexible method and permits the tracing of inconsistencies. [Ramanathan, 2001].

Network operators ought to offer impeccable substitute services for subscribers. However, the situation in Nigeria is different as operators’ SIM cards are interchangeable. Therefore, average expenditures on telecommunication are increased due to the common
need to keep multiple SIM cards to access a range of services not offered by any single operator. This makes the search for a suitable telecom service a continuous process. The mentioned practice makes it hard for telecommunication operators to satisfy customers, who are many SIMs users. This in turn results in frequent brand switching and/or maintaining accounts with different providers, thereby making it difficult for telecom operators (or carriers) to retain customers [Oyatoye, Adebiyi, Amole, 2015]. Subsequently, it is essential to model retention behavior to provide the solution that will enhance subscribers’ satisfaction. Subsequently, an optimal retention model needs to identify solutions that will enhance subscribers’ satisfaction.

The growth in the telecommunication industry experienced in Nigeria since being deregulated in 2001 appears to have made the market more competitive and difficult for the service providers to retain or exercise a monopoly over their customer. In fact, most Nigerians seeking better price and quality service find it easy to change their service provider, since the switching cost is sometimes close to zero naira (local currency unit in Nigeria denomination). The inability of some telecom operators to retain customers leads to declining profit levels and likely negative customer recommendations [Reichheld, Sasser, 1990]. In addition, the cost of getting a new customer may be significantly higher than the cost of retaining an existing one [Siber, 1997]. Consequently, Rashid [2010] claims that the telecommunications industry is unstable and developing quickly in relation to market dynamicity and competition, and constantly develops new tools and products, that present customers with new options [Cedric, Laanya, Martin Khenchaf, 2004; Mozer, Dodier, Colagrosso, Guerra-Salcedo, Wolniewicz, 2002].

The vital problem faced by companies, including those in the telecommunication industry is loss of customers to competitors, which is called attrition. A customer who leaves a service provider in favor of a competitor costs provider more than revenue paid by a new customer [Mozer et al, 2002]. Thus, inability to retain customers’ is one of the major problems faced by telecommunication companies in general [Behravan, Rahman, 2012]. As Behravan and Rahman observed, for many service industries the utmost concern is monitoring customer churn. Statistical data on the telecommunication industry indicates a 20 to 40 percent churn rate in many countries [Ahna, Hana, Lee, 2006] which leads to a decrease in profits and in the number of premium price plans, reduction in market share and loss of potential customer recommendations needed to expand market share.

The introduction of MNP in April 2013 appears to have made the Nigeria telecommunications business environment more volatile and competitive, as subscribers can easily switch (port) telecommunications service providers while still maintaining their original phone number. Thus, keeping profitable subscribers loyal is central to business success and growth in the telecommunication industry. To better address factors contributing to increased retention, one needs to understand customer motivation when switching providers. In order to from a guide to effective customer retention strategies in the industry
various factors motivating customers need to be prioritized and appropriate weights attached to those factors, which is the major objective of this research.

Thus, this study uses the AHP model for estimating the determinants of customers’ retention decision in the Nigerian telecommunications industry. The specific objectives include:
(i) model customer retention behavior of mobile phone subscribers in the Nigeria telecommunication industry with AHP;
(ii) analyze the customer retention drivers in the telecommunication industry using AHP;
(iii) prioritize the influence of customer retention drivers on customers’ retention decision.

Literature Review

Analytic Hierarchy Process Applications

AHP is a Multicriteria Decision Analysis methodology that allows both objective and subjective factors to be considered in the decision-making process. Similar to other MCDA techniques, its purpose is to develop a theory and provide a methodology for modeling unstructured decision problems [Okeola, Sule, 2012]. AHP helps to determine which variable has the highest priority in influencing a particular decision. AHP assumes that people are more capable of creating comparative decisions than absolute decisions, and is based on the key rules of disintegration, relative decision, and synthesis of priorities [Dey, 2003].

Studies on the application of AHP are not limited to developed countries. As shown below, the AHP methodology has been applied to Nigeria to analyze various decision-making situations:
(i) Choice: Choosing one option from a set of options [Oyatoye, Okpokpo, Adekoya, 2010];
(ii) Prioritization/evaluation: Determining comparative value of a set of options [Ogunyemi, Ibiwoye, Oyatoye, 2011];
(iii) Resource allocation: Discovering better combinations of options subject to different restrictions [Joseph, Oyatoye, Ihie, 2011; Oluwafemi, Oyatoye, 2012];
(iv) Benchmarking: Benchmarking processes or systems with other known processes or systems [Okeola, Sule, 2012].

None of the above studies deals with the Nigerian telecommunications and, to the best of our knowledge, no study has used this methodology to model and estimate customer behavior in that industry. The industries where AHP has been applied include health care, defense, project planning, technological forecasting, marketing, new product pricing, economic forecasting, policy evaluation, and social sciences. When used in conflict analysis, military operations research, regional and urban planning, Research and Development management and space investigation, AHP served was used as the dominant (and adaptable) decision-making process model for setting priorities and making decisions based on
qualitative and quantitative analysis. The methodology reduces complicated judgments to a series of one-on-one assessments, and then synthesizes outcomes.

Retaining customers in the Nigerian telecommunications industry is a complex problem affecting all stakeholders. The severity of the problems has increased because customers can retain their phone numbers when switching service providers. Besides helping companies reach decisions AHP also explains the way people think. This study is designed to help model subscriber thinking, to facilitate rational decision-making regarding mobile network provider retention. The study serves as the basis for developing industry to enhance customer satisfaction and, therefore, customer retention.

### Customer Retention

Since implementation of the MNP in April 2013 (by which customers can switch providers and keep their phone number) telecommunication need to move beyond a new customer focus (through buying a new SIM card) and include the retention problem, which for many firms is the key to profitability [Wilson, Soni, O’Keeffe, 1995]. In most countries, the telecommunications industry facilitates effective communications and also generates revenues in excess of operational costs. Thus, customer retention accounts for between 25% to 80% of firm profits [Reichheld, Kenny, 1990], and the longer a customer stays with an organization the more valuable he/she becomes [Reichheld Sasser, 1990]. This is linked to a number of factors, including the higher initial costs of introducing and attracting new customers, increases in both the value and number of purchases, customer understanding of the organization, and positive word-of-mouth marketing.

Apart from the benefits that customer longevity brings, research also indicates that the costs of customer retention activities are lower than the costs of acquiring new customers. According to Rust and Zahorik [1993] attracting new customers may be five times as costly as keeping existing ones. As Portela and Menezes [2011] revealed, customer retention became a buzzword in the 1990s, mainly due to the work of Reichheld and Sasser [1990], who first evidenced its advantages [Carroll, 1992; Dowling, Uncles, 1997; East, Hammond, Gendall, 2006; Gupta, Zeithami, 2006; Reinartz, Kumar, 2000]. Although, their results did not converge in all respects, these works changed related marketing theories. Following this new paradigm, many firms have focused on customer retention, which should be strongly linked to lifetime customer value (the expected net present value of future cash flows of the customer). Therefore, enterprises should not try to retain all current customers regardless of their contribution to company’s profits [Gupta, Lehmann, 2003; Jain, Singh, 2002; Malthouse, Blattberg, 2004; Thomas, Reinartz, Kumar, 2004] and efforts to retain unprofitable customer should be eliminated [Thomas et al., 2004].

Customer retention requires maintaining continuous relationships with customers over the long term. High retention means low defection [Ahmad, Buttle, 2001]. Ramakrishnan [2006] defines customer retention as preventing customers from going to competitors. Customer retention depends on company efforts to satisfy existing customers so that they
will continue to do business with it [Mostert, Meyer, Rensburg, 2009] and is measured by the number of customers retained over a given time period [Dawes, 2009]. In a highly competitive environment characterized by ever better deals [Fluss, 2010], annual customer attrition rates range from 7% in industries of high exit barriers such as banking and insurance, to almost 40% in the mobile phone industry, which is therefore considered to be particularly challenging [Molapo, Mukwada, 2011].

Customer retention has a direct impact on long-term customer lifetime value, which is a more profitable avenue for firms seeking growth and protection from market fluctuations [Gee, Coates and Nicholson, 2008]. Corroborating this argument, Lombard [2009] argues that today pressure on companies to retain customers is fueled by a market in which customer acquisition is slow. Customer retention is particularly important when decreasing loyalty and sales cycles are aggravating the business environment (Molapo, Mukwada, 2011).

Typically, customer retention falls within the Customer Relationship Management (CRM) Department. According to Payne [2006], CRM seeks to create and develop relationships with carefully targeted subscribers to improve customer value, corporate profitability and shareholder value. Thus, effort by telecommunications firms to improve customer value helps to ensure business and profits. Hennig-Thurau and Hansen [2000] argued that CRM is now one of the most prosperous branches of marketing theory and a critical management tool for business.

The argument supporting retention efforts relies on a straightforward cost/benefit analysis. It costs less to keep existing customers than to acquire new ones because the fixed costs involved in are high at the beginning stages of the commercial relationship [Hurley, 2004; Reichheld, Kenny, 1990]. To retain customers, telecommunications companies must understand their subscribers and the factors that will motivate them to remain with the current service provider.

**Methodology**

This research work is descriptive and analytical in nature. Data collection was based on questionnaire survey method. The questionnaire was structured in an analytical hierarchy process (AHP) format. The sample consisted of 480 telecommunication operators subscribers (staff, students, visitors and persons conducting businesses on campuses) across six tertiary institutions (University of Lagos, Akoka; Yaba College of Technology, Yaba; Lagos State University, Ojo; Micheal Otedola College of Primary Education, Epe; Wolex Polytechnic, Ikeja and Caleb University, Imota), all Lagos State, Nigeria. A non-probability convenience sampling of subscribers of four GSM players (MTN, Airtel, Glo and Etisalat) in the Nigeria telecommunications industry was used. Four hundred and eight copies of the questionnaires (85% of the sample) were returned and considered valid for
our analysis, which was done by calculating the weight of the criteria and alternatives. The process using AHP method involved two stages [Taylor III, 2002]:

i. First Stage. Determinants of customer retention in the Nigerian telecommunication industry: (a) Establishing a pair-wise comparison matrix for each decision alternative for each criterion; (b) Synthesization; (c) Establishing a pair-wise comparison matrix for each criteria; (d) Establishing the normalized matrix; (e) Establishing the preference vector; (f) Calculating overall values for each decision alternative; and (g) Determining the rank of alternatives according to the values acquired in the previous stage.

ii. Second Stage. Test of Consistency: The test of consistency was carried out using the following formulas:

\[ CI = \frac{\lambda_{\text{max}} - n}{n - 1} \]  

where \( \lambda_{\text{max}} = \sum w_i c_i \)

After acquiring a Consistency Index (CI), a Consistency Ratio (CR) was calculated using the formula:

\[ CR = \frac{CI}{RI} \]

where \( n \) is the number of items compared; \( W_i \) is the weight; \( C_i \) is the sum along the column; CR is the consistency ratio; CI is the consistency index; and RI is the random consistency index. The Random Consistency Index (RI) appears in Table 1.

<table>
<thead>
<tr>
<th>N</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>R.I.</td>
<td>0</td>
<td>0</td>
<td>0.58</td>
<td>0.90</td>
<td>1.12</td>
<td>1.32</td>
<td>1.41</td>
<td>1.45</td>
<td>1.49</td>
<td>1.54</td>
<td>1.48</td>
<td>1.56</td>
<td>1.57</td>
<td>1.59</td>
<td></td>
</tr>
</tbody>
</table>

Source: adapted from Saaty [2000].

If CR \( \geq 10\% \), the data acquired is inconsistent, otherwise (CR < 10\%) the data acquired is consistent. The results obtained from the above process are reported and discussed in the next section of this paper.

The AHP Model for Customers’ Retention

The hierarchy of the model is as follows:


Level 2. The Criteria: There are seven criteria, namely, quality of calls, competitive rates, efficient internet plan, frequent promotions/bonuses, good complaint management, widely spread/known number and message delivery.
Level 3. The Alternatives: The components of each customer retention driver formed the alternatives. The alternative for quality of calls are call clarity and no call drop from the network operator; for competitive rates low costs of calls and of text messaging, while efficient internet plan has sufficient data with low cost and ineffective-affordable data plan as its alternatives. For frequency of promotion, frequent free data, free calls services and free SMS services from network operators are the alternatives while good complaint management has prompt response by operator’s agent and late response but effective by network operator’s agents as its alternatives. Widely spread mobile number and long in-use number are the alternatives for widely spread/know number criteria. Message delivery has prompt delivery of complete message, late delivery of complete message and prompt delivery of incomplete message as alternatives. The hierarchical model is presented in Figure 1.

FIGURE 1. Proposed hierarchical model for customers’ retention decision in the Nigeria telecommunications industry

Determinants of customer retention decision in the Nigeria telecommunications industry

- Quality of calls
- Competitive rate
- Efficient internet plan
- Frequency of promotions
- Good complaint management
- Well known contact
- Prompt message delivery

Source: own elaboration.

Keys:
- CC – Call clarity
- NCD – No calls drops
- COC – Cheapness of calls
- CTM – Cheapness of text messages
- CDP – Cheap data plan
- SDWLC – Sufficient data at low cost
- IDP – Insufficient, affordable data plan
- FFID – Frequent free internet data
- FCS – Frequent free calls services
- FSMS – Free SMS
- PRCA – Prompt response by customer agent
- LRBE – Late response but effective
- WSMN – Widely spread mobile number
- LUN – Long in use number
- PDCM – Prompt delivery of complete message
- LDCM – Late delivery of complete message
- PDIM – Prompt delivery of incomplete message
Results and Discussion

A total of 3,264 comparison matrices were constructed from the survey responses. For the AHP analysis, each comparison matrix must be reduced to one (1) for each level of the hierarchy. Therefore, the 3,264 matrices were reduced to eight (8) comparison matrices by finding the average of each matrix after the first individual questionnaires analysis.

The values in the last column of Table 2 are the weights/priority vectors, which have a direct physical meaning in interpreting our AHP results. They define the contribution or weight of those criteria relative to the goal, which is to determine the contribution of each criterion to a subscribers’ decision to retain a network provider. Following AHP procedure, decision irregularities also need to be checked. The main objective is to obtain sufficient information to decide whether the customers have been coherent with their choices. The irregularity index is built on a maximum lambda value, which is calculated by adding the product of each element in the eigenvector (weight) and the respective column total of the original comparison matrix. Table 3 demonstrates the calculation of the maximum eigen value also called maximum lambda ($\lambda_{\text{Max}}$).

The test of consistency (consistency index) is calculated below:

$$CI = \frac{\lambda_{\text{Max}} - n}{n - 1} = \frac{7.1542 - 7}{7 - 1} = 0.1542/6 = 0.0257$$

In order to validate that the consistency index is acceptable, Saaty [2000] suggests a consistency ratio (CR), which is resolved by the ratio between the consistency index and random consistency index (RI). The matrix is deemed consistent if the resultant ratio is less than 10%. The random index value is secure and based on the amount of evaluated measures as shown in table 1.

In the case of the retention criteria in relation to the goal of determinant of customer retention, the consistency ratio for the 7 by 7 matrix is calculated as follows:

$$CR = \frac{CI}{RI} = \frac{0.0257}{1.32} = 0.0195 = 2\% < 10\%$$

Since its value is less than 10%, the matrix is considered to be consistent.

When considering eigen vector values/priority weight of customer retention criteria, it is evident that the quality of calls is the highest determinant of customers retention, with about 22.62% influence in the decision to retain a network, leaving the remaining six criteria to share 77.38% in their influence on customer retention decisions.

Tables from 12 to 25 (see Appendix) provide the reduced matrix and the calculation of maximum eigen value for each of the decision alternatives (third level of the hierarchical structure).
### TABLE 2. Reduced matrix for customer retention criteria

<table>
<thead>
<tr>
<th>Decision criteria</th>
<th>Quality of calls</th>
<th>Competitive rate</th>
<th>Efficient internet plan</th>
<th>Frequency of promotions/bonuses</th>
<th>Good complaint management</th>
<th>Widely spread/known numbers</th>
<th>Prompt message delivery</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of calls</td>
<td>1.0000</td>
<td>1.5042</td>
<td>1.5360</td>
<td>2.5635</td>
<td>2.2547</td>
<td>1.7947</td>
<td>1.5283</td>
<td>0.2262</td>
</tr>
<tr>
<td>Competitive rate</td>
<td>0.6648</td>
<td>1.0000</td>
<td>1.1860</td>
<td>2.0390</td>
<td>2.1077</td>
<td>1.8813</td>
<td>1.7323</td>
<td>0.1878</td>
</tr>
<tr>
<td>Efficient internet plan</td>
<td>0.6510</td>
<td>0.8432</td>
<td>1.0000</td>
<td>1.8943</td>
<td>1.8655</td>
<td>1.6048</td>
<td>1.8894</td>
<td>0.1716</td>
</tr>
<tr>
<td>Frequency of promotions/bonuses</td>
<td>0.3901</td>
<td>0.4904</td>
<td>0.5279</td>
<td>1.0000</td>
<td>1.6168</td>
<td>1.6399</td>
<td>1.3498</td>
<td>0.1182</td>
</tr>
<tr>
<td>Good complaint management</td>
<td>0.4435</td>
<td>0.4744</td>
<td>0.5361</td>
<td>0.6185</td>
<td>1.0000</td>
<td>1.4816</td>
<td>1.1584</td>
<td>0.1005</td>
</tr>
<tr>
<td>Widely spread/known numbers</td>
<td>0.5572</td>
<td>0.5315</td>
<td>0.6231</td>
<td>0.6098</td>
<td>0.6750</td>
<td>1.0000</td>
<td>1.2384</td>
<td>0.0976</td>
</tr>
<tr>
<td>Prompt message delivery</td>
<td>0.6543</td>
<td>0.5773</td>
<td>0.5293</td>
<td>0.7408</td>
<td>0.8633</td>
<td>0.8075</td>
<td>1.0000</td>
<td>0.0982</td>
</tr>
</tbody>
</table>

Source: own elaboration.

### TABLE 3. The calculation of the maximum eigen value for retention criteria

<table>
<thead>
<tr>
<th>Decision criteria</th>
<th>Quality of calls</th>
<th>Competitive rate</th>
<th>Efficient internet plan</th>
<th>Frequency of promotions/bonuses</th>
<th>Good complaint management</th>
<th>Widely spread/known numbers</th>
<th>Prompt message delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigen vector/weight</td>
<td>0.2262</td>
<td>0.1878</td>
<td>0.1716</td>
<td>0.1182</td>
<td>0.1005</td>
<td>0.0976</td>
<td>0.0982</td>
</tr>
<tr>
<td>Maximum eigen value ((\lambda_{\text{max}}))</td>
<td>(\lambda_{\text{max}} = 7.1542)</td>
<td>(\lambda_{\text{max}} = 7.1542)</td>
<td>(\lambda_{\text{max}} = 7.1542)</td>
<td>(\lambda_{\text{max}} = 7.1542)</td>
<td>(\lambda_{\text{max}} = 7.1542)</td>
<td>(\lambda_{\text{max}} = 7.1542)</td>
<td>(\lambda_{\text{max}} = 7.1542)</td>
</tr>
</tbody>
</table>

Source: own elaboration.
TABLE 4. Analysis of alternatives with respect to prompt message delivery

<table>
<thead>
<tr>
<th>Decision alternative of prompt message delivery</th>
<th>Prompt delivery of complete message</th>
<th>Late delivery of complete message</th>
<th>Prompt delivery of incomplete message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pooled average composite priority</td>
<td>0.6755</td>
<td>0.1971</td>
<td>0.1274</td>
</tr>
<tr>
<td>Relative preference ranking</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: own elaboration.

Table 4 reveals the pooled average composite priority and the relative rank of preference for the three alternatives under prompt message delivery. Subscribers most preferred a message delivery system that allows complete text message delivered to receivers, followed by message delivery late but still complete, while prompt incomplete message delivery was least preferred. This rating reveals that the rapid and complete message delivery enhances customer satisfaction and encourages customer retention.

TABLE 5. Analysis of alternatives with respect to the well-known number

<table>
<thead>
<tr>
<th>Decision alternative of well-known number</th>
<th>Widely spread mobile number</th>
<th>Long in use number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pooled average composite priority</td>
<td>0.7956</td>
<td>0.2044</td>
</tr>
<tr>
<td>Relative preference ranking</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: own elaboration.

Table 5 reveals the pooled average composite priority and the relative rank of preference for the two widely known number alternatives. Subscribers ranked a phone number that has been contacted by a large number of callers highest. The lowest ranking was associated with the period of time since a phone number was assigned (in other words., one may be using a number for a long time, but only few people contact that number). Preference for a mobile number that has been reached by a large number of callers is consistent with business sense, because mobile numbers spread through advertisements to many people help subscribers and therefore, subscriber retention.

TABLE 6. Analysis of alternatives with respect to the good complaint management

<table>
<thead>
<tr>
<th>Decision alternative of good complaint management</th>
<th>Prompt response by customer agent</th>
<th>Late response but effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pooled average composite priority</td>
<td>0.8167</td>
<td>0.1833</td>
</tr>
<tr>
<td>Relative preference ranking</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: own elaboration.
Table 6 shows that mobile subscribers ranked prompt responses to customer complaints over late responses. This implies that when an average GSM subscriber calls the customer agent of the network provider (customer centre), he/she has little or no time to waste listening to music and not been attended to. When the issue meant to be resolved is not attended to and the productive time of customers are wasted (listening to uncomplimentary music or advert of the company) in waiting for customer agent, subscribers do get annoyed. Thus, customer ranked the prompt response by customer agent first. This will engender mutual respect, benefits as network operator cannot survive without profitable customer, and thus, the need to satisfy customer telecommunication needs and want in order to get maximum profit cannot be compromised.

TABLE 7. Analysis of alternatives with respect to the frequency of promotion

<table>
<thead>
<tr>
<th>Decision alternatives of frequency of promotion</th>
<th>Frequent free internet data</th>
<th>Frequent free calls services</th>
<th>Free SMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pooled average composite priority</td>
<td>0.5638</td>
<td>0.3251</td>
<td>0.1111</td>
</tr>
<tr>
<td>Relative preference ranking</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: own elaboration.

Table 7 shows that, regarding alternatives to the frequency of network provider promotional activities, subscribers ranked frequent free internet data highest, followed by free calls, with free SMS being least preferred. Since most of the survey respondents are college students the results indicate that promotions targeting this group of subscribers should include bonus data/internet access rather than free calls or free SMS. It should be noted that different groups (subscribers) can differently rank the alternatives.

TABLE 8. Analysis of alternatives with respect to the efficient internet plan

<table>
<thead>
<tr>
<th>Decision alternatives of efficient Internet plan</th>
<th>Sufficient data / low cost</th>
<th>Inefficient- affordable data plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pooled average composite priority</td>
<td>0.8720</td>
<td>0.1280</td>
</tr>
<tr>
<td>Relative preference ranking</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 8 displays the two alternatives to an efficient internet plan in connection with customer retention. Respondents ranked sufficient data with low cost higher (with a pooled composite priority of 0.8720) and inefficient affordable data plan second (with a composite priority of 0.1280). Thus, internet plan is efficient to customer if it is sufficient in 87.20 per cent for data/internet requirements. Service providers should strive to meet these data criteria to influence retention decisions.
### TABLE 9. Analysis of alternatives with respect to the attractive rates

<table>
<thead>
<tr>
<th>Decision alternatives of attractive rates</th>
<th>Low cost of calls</th>
<th>Low cost of text messages</th>
<th>Low cost of data plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pooled average composite priority</td>
<td>0.6764</td>
<td>0.1422</td>
<td>0.1814</td>
</tr>
<tr>
<td>Relative preference ranking</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: own elaboration.

Table 9 shows the priority of rate alternatives, as respondents preferred calls to be less expensive than low cost text messages and low cost of data plan. Subscribers rank low call cost of calls highest among the three alternatives. As indicated in the table, the costs of calls contributed 67.64 percent of what customers view of pricing by network providers, while the costs of data plan contributes 18.14 per cent and cost of text messaging contributed 14.22 per cent. Thus, subscribers ranked the costs of call as the most important factor in deciding if a network provider has a good rate, followed by a low cost data plan, while the cost of text messaging was least important.

### TABLE 10. Analysis of alternatives with respect to the quality of calls

<table>
<thead>
<tr>
<th>Decision alternatives of quality of calls</th>
<th>Clarity of calls</th>
<th>No call drop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pooled average composite priority</td>
<td>0.8485</td>
<td>0.1515</td>
</tr>
<tr>
<td>Relative preference ranking</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: own elaboration.

Table 10 shows the composite priority and relative ranking of alternatives with respect to call quality. Respondents ranked clarity of calls highest, followed by no call drop, with an 84.85 and 15.15 percent impact, respectively in their assessment of the quality of calls. Thus, network providers will maintain loyal customers by providing a high quality of calls and minimizing call drops. This result is consistent with the studies of Oyatoye and Okafor [2011], who employed different methodology (simulation), in finding that call drops is a factor affecting service delivery in Nigerian telecommunication companies. This AHP result supports a need to focus on the quality of calls.

Table 11 reveals the composite priority and ranking of our seven criteria. It shows that quality of calls is the most important customer retention factor, with a 0.2262 priority over other factors. Competitive rates came second with a priority of 0.1878, closely followed by efficient internet plan with a priority of 0.1716. Survey respondents ranked frequency of promotional activities fourth (0.1182), and good complaint management fifth (0.1005). Prompt message delivery was sixth (0.0976) and widely spread/known number seventh (0.0976).
TABLE 11. Composite priorities of the criteria determining customer retention in the Nigerian telecommunications industry

<table>
<thead>
<tr>
<th>Decision criteria</th>
<th>Quality of calls</th>
<th>Competitive rates</th>
<th>Efficient internet plan</th>
<th>Promotions/bonuses frequency</th>
<th>Good complaint management</th>
<th>Widely known numbers</th>
<th>Prompt message delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pooled average composite priority</td>
<td>0.2262</td>
<td>0.1878</td>
<td>0.1716</td>
<td>0.1182</td>
<td>0.1005</td>
<td>0.0976</td>
<td>0.0982</td>
</tr>
<tr>
<td>Relative preference ranking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: own elaboration.

Conclusions

The study supported Douligeris and Pereira’s notion that “AHP is as an appropriate tool to be used in the evaluation of quality of telecommunication services or for the choice of the most suitable networking technology” [1994, p. 249]. Our results show that quality of calls is the most important customer retention factor, followed by competitive rates, efficient internet plan, frequency of promotional activities, good complaint management, prompt message delivery, and widely spread/known number (see Figure 2. in Appendix). These results were comprehensive enough to reveal customers. They should therefore also serve as a benchmark against which the priorities of network operators should be aligned, if they seek to maximize customer retention.

Recommendations

(i) GSM operators should improve service quality through an appropriate mix of retention drivers to increase market share.

(ii) Network operators should consider use of the Analytic Hierarchy Process model to discern customer, rather than make data base driven predictions.

(iii) Mobile telecommunication services providers should strengthen service delivery focusing on highly ranked alternatives in order to increase customer loyalty.

(iv) Regulatory agencies should monitor the delivery of services by network providers in Nigeria, in line with priorities set by stakeholders/experts to improve industry performance.

(v) There is a need for the National Communications Commission (NCC) to develop a mechanism that captures important customer retention criteria, as revealed by the AHP, in assessing telecommunication services delivery.
Notes

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References


# Appendix

**TABLE 12. Reduced matrix for quality of calls alternatives**

<table>
<thead>
<tr>
<th>Quality of calls</th>
<th>Clarity of calls</th>
<th>No call drop</th>
<th>Weight</th>
<th>$\lambda_{\text{max}} = 2.0001$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarity of calls</td>
<td>1.0000</td>
<td>5.6016</td>
<td>0.8485</td>
<td>CI = 0.0000</td>
</tr>
<tr>
<td>No call drop</td>
<td>0.1785</td>
<td>1.0000</td>
<td>0.1515</td>
<td>CR = 0.0000</td>
</tr>
</tbody>
</table>

*Source: own elaboration.*

**TABLE 13. The calculation of the maximum eigen value for quality of calls alternatives**

<table>
<thead>
<tr>
<th>Decision alternative of quality of calls</th>
<th>Clarity of calls</th>
<th>No call drop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigen vector/weight</td>
<td>0.8485</td>
<td>0.1515</td>
</tr>
<tr>
<td>Column sum</td>
<td>1.1785</td>
<td>6.6016</td>
</tr>
<tr>
<td>Maximum eigen value ($\lambda_{\text{max}}$)</td>
<td>$\lambda_{\text{max}} = {(0.8485<em>1.1785) + (0.1515</em>6.6016)} = 1.0000 + 1.0001 = 2.0001$</td>
<td></td>
</tr>
</tbody>
</table>

*Source: own elaboration.*

**TABLE 14. Reduced matrix for competitive rates alternatives**

<table>
<thead>
<tr>
<th>Competitive rates</th>
<th>Cheap calls</th>
<th>Cheap text messages</th>
<th>Cheap data plan</th>
<th>Weight</th>
<th>$\lambda_{\text{max}} = 3.0796$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheap calls</td>
<td>1.0000</td>
<td>6.1281</td>
<td>3.0503</td>
<td>0.6764</td>
<td>CI = 0.0398</td>
</tr>
<tr>
<td>Cheap text messages</td>
<td>0.1632</td>
<td>1.0000</td>
<td>0.9771</td>
<td>0.1422</td>
<td>CR = 0.06862</td>
</tr>
<tr>
<td>Cheap data plan</td>
<td>0.3278</td>
<td>1.0234</td>
<td>1.0000</td>
<td>0.1814</td>
<td></td>
</tr>
</tbody>
</table>

*Source: own elaboration.*

**TABLE 15. The calculation of the maximum eigenvalue for competitive rates alternatives**

<table>
<thead>
<tr>
<th>Competitive rates alternatives</th>
<th>Cheap calls</th>
<th>Cheap text messages</th>
<th>Cheap data plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigen vector/weight</td>
<td>0.6764</td>
<td>0.1422</td>
<td>0.1814</td>
</tr>
<tr>
<td>Column sum</td>
<td>1.4910</td>
<td>8.1515</td>
<td>5.0274</td>
</tr>
<tr>
<td>Maximum eigen value ($\lambda_{\text{max}}$)</td>
<td>$\lambda_{\text{max}} = {(0.6764<em>1.4910) + (0.1422</em>8.1515) + (0.1814*5.0274)} = 1.0085 + 1.1591 + 0.9120 = 3.0796$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: own elaboration.*

\[CI = \frac{(\lambda_{\text{max}} - n)}{(n - 1)} = \frac{(3.0796 - 3)}{3 - 1} = 0.0796 / 2 = 0.0398\]

\[CR = \frac{CI}{RI} = 0.0398/0.58 = 0.06862 = 7\% < 10\%\]
### TABLE 16. Reduced matrix for efficient internet plan alternatives

<table>
<thead>
<tr>
<th>Efficient internet plan</th>
<th>Sufficient data at low cost</th>
<th>Insufficient- affordable data plan</th>
<th>Weight</th>
<th>$\lambda_{max} = 2.0000$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sufficient data at low cost</td>
<td>1.0000</td>
<td>6.8101</td>
<td>0.8720</td>
<td>CI = 0.0000</td>
</tr>
<tr>
<td>Insufficient- affordable data plan</td>
<td>0.1468</td>
<td>1.0000</td>
<td>0.1280</td>
<td>CR = 0.0000</td>
</tr>
</tbody>
</table>

Source: own elaboration.

### TABLE 17. The calculation of the maximum eigenvalue for efficient internet plan alternatives

<table>
<thead>
<tr>
<th>Efficient internet plan alternatives</th>
<th>Sufficient data at low cost</th>
<th>Insufficient- affordable data plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigen vector/weight</td>
<td>0.8720</td>
<td>0.1280</td>
</tr>
<tr>
<td>Column sum</td>
<td>1.1468</td>
<td>7.8101</td>
</tr>
<tr>
<td>Maximum eigen value ($\lambda_{max}$)</td>
<td>$\lambda_{max} = (0.8720<em>0.1468) + (0.1280</em>7.8101) = 1.0000 + 1.0000 = 2.0000$</td>
<td></td>
</tr>
</tbody>
</table>

Source: own elaboration.

### TABLE 18. Reduced matrix for frequency of promotion alternatives

<table>
<thead>
<tr>
<th>Frequency of promotion</th>
<th>Frequent free internet data</th>
<th>Frequent free calls services</th>
<th>Free SMS</th>
<th>Weight</th>
<th>$\lambda_{max} = 3.0576$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent free internet data</td>
<td>1.0000</td>
<td>2.1619</td>
<td>4.1893</td>
<td>0.5638</td>
<td></td>
</tr>
<tr>
<td>Frequency free calls services</td>
<td>0.4626</td>
<td>1.0000</td>
<td>3.6419</td>
<td>0.3251</td>
<td>CI = 0.0288</td>
</tr>
<tr>
<td>Free SMS</td>
<td>0.2387</td>
<td>0.2746</td>
<td>1.0000</td>
<td>0.1111</td>
<td>CR = 0.0497</td>
</tr>
</tbody>
</table>

Source: own elaboration.

### TABLE 19. The calculation of the maximum eigenvalue for frequency of promotions alternatives

<table>
<thead>
<tr>
<th>Promotions frequency alternatives</th>
<th>Frequent free internet data</th>
<th>Frequent free calls services</th>
<th>Frequent free SMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigen vector/weight</td>
<td>0.5638</td>
<td>0.3251</td>
<td>0.1111</td>
</tr>
<tr>
<td>Column sum</td>
<td>1.7013</td>
<td>3.4365</td>
<td>8.8312</td>
</tr>
<tr>
<td>Maximum eigen value ($\lambda_{max}$)</td>
<td>$\lambda_{max} = (0.5638<em>1.7013) + (0.3251</em>3.4365) + (0.1111*8.8312) = 0.9592 + 1.1172 + 0.9812 = 3.0576$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: own elaboration.

\[
\text{CI} = (\lambda_{max} - n)/(n - 1) = (3.0576 - 3)/3 - 1 = 0.0576 / 2 = 0.0288
\]

\[
\text{CR} = \frac{\text{CI}}{\text{RI}} = 0.0288/0.58 = 0.0497 < 5% < 10%
\]
TABLE 20. Reduced matrix for good complaint management alternatives

<table>
<thead>
<tr>
<th>Good complaint management</th>
<th>Prompt response by customer agent</th>
<th>Late response but effective</th>
<th>Weight $\lambda_{\text{max}} = 2.0000$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prompt response by customer agent</td>
<td>1.0000</td>
<td>4.4552</td>
<td>0.8167 CI = 0.0000</td>
</tr>
<tr>
<td>Late response but effective</td>
<td>0.2245</td>
<td>1.0000</td>
<td>0.1833 CR = 0.0000</td>
</tr>
</tbody>
</table>

Source: own elaboration.

TABLE 21. The calculation of the maximum eigen value for good complaint management alternatives

<table>
<thead>
<tr>
<th>Good complaint management alternatives</th>
<th>Prompt response by customer agent</th>
<th>Late response but effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigen vector/weight</td>
<td>0.8167</td>
<td>0.1833</td>
</tr>
<tr>
<td>Column sum</td>
<td>1.2245</td>
<td>5.4552</td>
</tr>
</tbody>
</table>

$\lambda_{\text{max}} = (0.8167 \times 1.2245) + (0.1833 \times 5.4552) = 1.0000 + 1.0000 = 2.0000$

Source: own elaboration.

TABLE 22. Reduced matrix for well-known number alternatives

<table>
<thead>
<tr>
<th>Well known number</th>
<th>Widely spread mobile number</th>
<th>Long in use number</th>
<th>Weight $\lambda_{\text{max}} = 2.0000$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Widely spread number</td>
<td>1.0000</td>
<td>3.8919</td>
<td>0.7956 CI = 0.0000</td>
</tr>
<tr>
<td>Long in use number</td>
<td>0.2569</td>
<td>1.0000</td>
<td>0.2044 CR = 0.0000</td>
</tr>
</tbody>
</table>

Source: own elaboration.

TABLE 23. The calculation of the maximum eigenvalue for well-known number alternatives

<table>
<thead>
<tr>
<th>Well-known number alternatives</th>
<th>Widely spread mobile number</th>
<th>Long in use number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigen vector/weight</td>
<td>0.7956</td>
<td>0.2044</td>
</tr>
<tr>
<td>Column sum</td>
<td>1.2569</td>
<td>4.8919</td>
</tr>
</tbody>
</table>

$\lambda_{\text{max}} = (0.7956 \times 1.2569) + (0.2044 \times 4.8919) = 1.0000 + 1.0000 = 2.0000$

Source: own elaboration.
TABLE 24. Reduced matrix for prompt message delivery alternatives

<table>
<thead>
<tr>
<th>Message delivery</th>
<th>Prompt delivery of complete message</th>
<th>Late delivery of complete message</th>
<th>Prompt delivery of incomplete message</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prompt delivery of complete message</td>
<td>1.0000</td>
<td>4.3178</td>
<td>4.3987</td>
<td>0.6755 λ&lt;sub&gt;max&lt;/sub&gt; = 3.068</td>
</tr>
<tr>
<td>Late delivery of complete message</td>
<td>0.2316</td>
<td>1.0000</td>
<td>1.9108</td>
<td>0.1971 CI = 0.034</td>
</tr>
<tr>
<td>Prompt delivery of incomplete message</td>
<td>0.2273</td>
<td>0.5233</td>
<td>1.0000</td>
<td>0.1274 CR = 0.0497</td>
</tr>
</tbody>
</table>

Source: own elaboration.

TABLE 25. The calculation of the maximum eigenvalue for message delivery alternatives

<table>
<thead>
<tr>
<th>Message delivery alternatives</th>
<th>Prompt delivery of complete message</th>
<th>Late delivery of complete message</th>
<th>Prompt delivery of incomplete message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigen vector/weight</td>
<td>0.6755</td>
<td>0.1971</td>
<td>0.1274</td>
</tr>
<tr>
<td>Column sum</td>
<td>1.4589</td>
<td>5.8411</td>
<td>7.3095</td>
</tr>
<tr>
<td>Maximum eigen value (λ&lt;sub&gt;max&lt;/sub&gt;)</td>
<td>(\lambda_{max} = \frac{(0.6755 \times 1.4589) + (0.1971 \times 5.8411) + (0.1274 \times 8.8312)}{3} = 0.9855 + 1.1513 + 0.9312 = 3.068)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: own elaboration.

\[
CI = \frac{\lambda_{max} - n}{(n - 1)} = \frac{(3.068 - 3)}{3 - 1} = 0.068 / 2 = 0.034
\]

\[
CR = \frac{CI}{RI} = 0.034/0.58 = 0.0586 < 6% < 10%
\]

FIGURE 2. Customers’ retention decision criteria

Source: own elaboration.
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Economic Growth, Exchange Rate and Constrained Competitiveness of the Tourism Sector in Andalucía

Abstract

This paper examines the relationship between tourism and economic growth, analyzing key factors affecting tourism income in Andalucía, Spain. Based on time series annual data for the period 2005 to 2012 and a multiple regression analysis we show that international tourism has made an important contribution to Andalucía's economic growth. Some of the factors considered in the analysis include the number of luxury hotels, the hotel price index and the exchange rate, though the latter is outside of the control of local authorities under the European Monetary Union (EMU).

Keywords: tourism, economic growth, exchange rate, competitiveness, Andalucía
JEL: F43, L83, O24
Introduction

The tourism sector plays a significant role in economic development for countries with a tourism oriented infrastructure. Since the 1960s tourism has gained importance, becoming one of largest and fastest growing industry around the world, contributing to economic growth through its multiplier effects. According to UNWTO [2013], international tourist travel reached a record high of 1,035 million, generating $1,075 billion of income per year. Today tourism continues to significantly contribute (even in the poorest regions) to world economic growth. The tourism industry includes a wide range of businesses, ranging from restaurants, hotels, transportation, travel agents, insurance companies, the food and health care industries [Uriely et al., 2002]. Today’s EU growth is mostly generated by service industry [McKee, 2008] and the impact of tourism on economic growth includes an overall increase of household and government incomes and improved balance of payments [Lim, 1997; Oh, 2005]. Tourists expenditure concentrates on the consumption of products, for which prices are determined in local markets [Balaguer, Contavella-Jorda, 2002].

Historically, tourism has been a fragmented sector with many problems on the supply and demand sides, and fierce destination competition. As Cracolici and Nijjamp [2008] argued, the competitiveness of tourist destinations is highly related to the its unique attractiveness. As a result, tourist destinations face constant pressure to adjust the attractiveness of their resources to meet demand expectations [Ritchie 2003].

Spain is one of the most popular tourist destinations, ranking fourth in both Europe and globally in the Travel and Tourism Competitiveness Report 2013, moving up from seventh place in 2011. In Spain, Andalucía is the most popular tourist destination. It contains eight provinces, 20% of the country’s population and 17.3% of Spanish territory with a long coastline, sandy beaches, a beautiful countryside, mountain ranges, monuments and historical sites dating back several thousand years. Tourism is an important source of national income for Andalucía, accounting for about 4% of the GDP and employing some 10% of the workforce, both directly and indirectly [Andalucía, 2015]. In 2014 Andalucía received more than 8.5 million international tourists, compared to 7.9 million in 2013, which is a 9% increase on a 13 year average (the average number since year 2000 is 7.8 million per year; the trend of international tourist arrivals is shown in Figure 1. [Andalucía, 2015]. This places Andalucía about twenty fifth among foreign tourist destinations in the world. In terms of national income, total tourist spending in 2013 reached 8.4 billion euro, i.e. 1,067 euro per tourist [Andalucía, 2015].

At the same time, Andalucía is the poorest region in Spain, lacking other engines of growth and relying heavily on tourism for its development. Thus, it is important to understand the factor(s) supporting tourism development in Andalucía.
In general, a number of factors influences attractiveness and competitiveness of a tourism industry. For instance, the literature documents a relationship between GDP, international tourism and the exchange rate in many countries [Dritsakis, 2004; Brida et al., 2010; Falzon, 2012]. Cheng et al. [2013] investigated a relationship between the real exchange rate and income from tourism in the USA and reported that US dollar depreciation had a positive impact on inflows of tourists, as a weaker dollar makes the USA more attractive for foreign visitors [Krugman, Obstfeld, 2009]. However, being a member of the European Monetary Union (EMU) negates exchange rates when considering tourism from other EMU countries.

Another factor impacting tourism is the state of the global economy; for example during the financial crisis in 2007–2009, the inflow of tourists and business travels declined drastically, affecting the hotel and transportation industries in the European Union [WEF, 2013]. The number of international tourists fell by 11%, from a record level 8.4 million to 7.4 million in 2009.7

As mentioned above, the major goal of this study is to examine the relationship between tourism and economic growth in Andalucía in the period of 2005–2012, covering that region’s economic boom, downturn and recovery. The economic variables used in the research include average tourist expenditure, the number of international tourists arrivals, effective exchange rate, hotel price index (exchange rate and hotel price index are proxies for competitiveness), average salary in the tourism sector and real GDP per capita. The paper is organized as follows: we begin by providing a theoretical background for the study, then we describe our methodology and data; in the next section we present and interpret our findings and then we conclude and discuss the findings’ implications.
Literature Review

Tourism-Led Growth Hypothesis

The literature provides a number of studies on the tourism-led growth hypothesis (TLG). Khan et al. [1995], in examining the effects of tourism on growth suggested that there are direct, indirect and induced multiplier effects of tourist spending on GDP and employment. The direct effect includes the initial inflow of income from hotels and travel agents, the indirect effect results from the previous agents buying the essential inputs for their economic activity, and the induced effect arises as a result of spending on unrelated goods and services. A study by Lee and Kwon [1995] also emphasized the importance of foreign tourist receipts as an economic engine of growth, finding that through the multiplier effect tourism generates employment with a greater value-added. This finding has encouraged governments to treat tourism as a strategic sector [Pao, 2005].

Moreover, the income derived from tourists plays a key role in local markets and development as it involves foreign exchange [Hazari, 1993]. As indicated by Balaguer and Cantavella-Jorda [2002], foreign exchange impacts growth as it permits imports of inputs stimulating the overall economy. Based on studies of Greece, Dritsakis [2004] provides direct evidence supporting a strong relationship between the exchange rate and tourism earnings. Similarly Cortes-Jimenez et al. [2009] and Belloumi [2010] argued that foreign exchange earnings generated from international tourism are a comparative advantage for economic growth and, therefore, policy makers should design policies promoting tourism. Overall, a number of studies provide consistent support for the tourism led growth hypothesis, including, for example, Durbarry [2002] on Mauritius, Tosun [1999] on Turkey, Fayissa et al. [2007] on Sub-Saharan Africa, Khalil et al. [2007] on Pakistan, Ching-Fu and Chiou-Wei [2009] on Taiwan and South Korea, and Cortes-Jimenez et al. [2009].

While tourism plays a key role in enhancing economic growth in developing countries, economic diversification and other economic factors need to be considered. For instance, Brau et al. [2003] found that tourism can lead to growth in small countries with a limited industrial base but its impact on growth declines with a country’s size. According to Candela and Cellini [1997] and Lanza [2000], country size can be treated as a proxy for potential economic growth. They found an initial negative relationship between natural resources per capita (tourism specialization) and the size of the country (population). In this sense, Schubert et al. [2011] examined the effects of an increase in tourism demand in Antigua and Barbados, two small islands specializing in tourism, and found that an increase in the number of tourists generates a boom in foreign income and output. Moreover, Lee and Chang [2008] discovered an indirect relationship between tourism and economic growth in developed countries, while for less developed countries a bi-directional causality was found. However, Kim et al. [2006] found a mutual association between tourism and economic growth in Taiwan, which is inconsistent with the results of previous studies.
The possible causes of this inconsistency could be explained by the unique characteristics of the countries involved. This kind of reciprocal temporal relationship might suggest considering tourism as a strategic industry and intrinsic component in a broad context, specifically in the host country’s environment.

**Competitiveness in the Tourism Industry**

Development of the tourism industry is heavily affected by many competitive factors either from a national or global perspective. A study of China’s Sichuan Province [Yang, 2011] showed that the local economy is strongly influenced by the competitiveness of the tourism industry (i.e. wage of employees, star hotels, GDP per capita, number of tourists). Using data on 131 countries, Webster and Ivanov [2014] found a positive relationship between a destination’s competitiveness, economic growth and the tourism industry. The results show that the number of tourists is linked to a High Destination Competitiveness index, as price competitiveness increases the number of visitors. Thus, tourism competitiveness is related to two main components: price and the quality of the tourist destination.

Tourism is subject to severe price competition. Durbarry and Sinclair [2002] found that in Malta the demand for holiday pricing is highly elastic when juxtaposed against offers by such countries such as Turkey or Spain. Falzon [2012] analyzed a relative price index for the most visited countries in the Mediterranean regions to track price fluctuation in the long-term. This price index helps private sector and governments make specific decisions in order to retain or even increase the competitiveness of a region/country, as it is based on real exchange rates. Holiday prices are closely associated with exchange rate. The study by Falzon [2012] showed that over 1997–2002 period, most destinations became cheaper for British tourists as compared to German tourists due to exchange rate differences. Martin and Witt [1987] attempted to establish the exchange rate of identified tourist bundles of goods and services. Cheng et al. [2013] investigated the relationship between real exchange rate and income related to the tourism sector in the USA over the period 1973–2010, and the results showed that US dollar depreciation had a positive impact on foreign tourism. Consequently, literature maintains that price competitiveness is a key factor for the tourism sector.

In destination competitiveness studies, scholars generally agree that in the tourism industry comparative advantage is related to the characteristics of a destination. For example, Vjekoslav et al. [2012] examined the relationship between the competitiveness of Croatia as a tourist destination and the tax burden and suggested that Croatia’s tax burden for tourism industry is substantial but comparable to other countries; Cracolicia and Nijkamp [2008] explored the competitiveness of Southern Italy and found that in some cases, the relevant components of tourist supply play a smaller role than the complementary components of tourist supply. As tourism is susceptible to variations in the environment, research on tourism should treat it as an active and complex activity and consider other factors affecting selection of a destination. In this regard, David and Tóth’s [2011] research
on tourism competitiveness in Hungary shows that the Budapest-Central region is the most attractive in that country. Crouch and Ritchie [1999] confirmed that a competitive tourist destination generates prosperity for a tourist region.

**Impact of Economic Crisis on Tourism in the European Union**

The influence of tourism on economic growth and job creation has been recognized by the Treaty of Lisbon [Europa EU, 2010]. The Treaty emphasizes supporting and promoting tourism. According to Article 175 – Title XXII, of the consolidated version of the Treaty on the European Union and the Treaty on the functioning of the European Union [2010], EU actions should be aimed at:

1. *Promoting competitiveness in the tourism sector via additional actions undertaken by Member States. These are:*
   
   (a) encouraging the creation of a favorable environment for the development of undertakings in this sector;
   
   (b) promoting cooperation between Member States, particularly by the exchange of good practice;

2. *The European Parliament and the Council, acting in accordance with the ordinary legislative procedure, shall establish specific measures to complement actions with Member States to achieve the objective referred to in this Article, excluding any harmonization of the laws and regulations of Member States* [Europa EU, 2010].

As argued earlier, tourism is closely associated with business cycles. An economic downturn can lead to reduced tourism activity, but on the other hand it can support economic recovery and growth in some countries/regions. A number of studies explored the influence of the recent economic 2007–2009 crisis on tourism in the EU. Eugenio-Martin and Campos-Soria [2013] examined the variations in tourism spending and its consequences during the crisis in the EU. Their results show that reduced tourism spending is connected to changes in gross domestic product, which directly depends on economic growth. However, Northern European regions are likely to reduce tourism spending proportionally less than Southern ones. Eugenio-Martin and Campos-Soria's study [2013] further revealed that in the countries most affected by the economic crisis (i.e. such as Portugal, Spain, Italy, Greece), new opportunities stemming from a rising number of tourists led to an increase in employment. Tourists arrivals growth was a consequence of decreasing prices resulting from the economic downturn. Ozcam et al. [2012] examined the perceptions of travel to Turkey during the European economic crisis. Although respondents confirmed negative impact of economic crisis on the tourism, Turkey's tourism was not severely affected by the crisis. Moreover Jucan and Sabina [2013] found that tourism is an important driver for popular tourist countries/regions helping them to recover from the crisis, as contrasted with other non-tourist destinations. The authors emphasized that tourism contributes to economic growth, employment, trade and economic recovery
The above-mentioned literature suggests that in autonomous regions like Andalucía, tourism can play a vital role in economic expansion. This inference is tested in the next section of this study.

Data Sources and Analytical Model

International tourists expenditures (tourism sector income in a country/region) can be influenced by numerous factors. In our study, we investigate the relationship between tourism and economic growth in Andalucía. Our main exploratory variables are: Gross Domestic Product\textsuperscript{10}, tourism earnings, exchange rate\textsuperscript{11}, the number of starred hotels, and the Hotel Price Index. The data were collected from multiple sources including the Spanish Statistical Office, the Andalucía Statistical Yearbook, the Bank of England and the Statistical Office of the European Union. As not all quarterly data were available, the annual data of Andalucía from 2005–2012 are employed. In an attempt to avoid heteroscedasticity, all these variables have been transformed into their natural logarithms.

The econometric model was established as follows:

\[ Y = \alpha + \beta X_{1t} + \beta X_{2t} + \beta X_{3t} + \beta X_{4t} + \beta X_{5t} + \beta X_{6t} + \epsilon t \] (1)

where, \( Y \) is the income generated by the tourism industry in Andalucía [IET, 2013]; \( X_{1} \) is Gross Domestic Product per capita in Andalucía [INE, 2013a]; \( X_{2} \) is International Tourist Arrivals (million) over the period of 2004–2012 in Andalucía [IET, 2013]; \( X_{3} \) is Numbers of starred hotels in Andalucía [Turismo y Deporte de Andalucía, 2012]; \( X_{4} \) is Average salary in the tourism industry in Andalucía [INE, 2013b]; \( X_{5} \) is the Average Exchange Rate Index, Sterling (Jan 2005 = 100) [Bank of England, 2013]; \( X_{6} \) is the Hotel Price Index, Andalucía (Jan 2005 = 100) [INE, 2013c]; \( \epsilon t \) is the err term. Data for \( X_{3} \) (Number of starred hotels) from 2005 to 2006 was not found, and in this case data were obtained by getting the value of the adjacent year. E-views-7 is employed for our multiple regression analysis and ordinary least squares estimation, after logarithmic transformation of the all variables (independent and dependent).

Data Analysis and Findings

A reliable regression model requires a high R-squared value with no serial correlation and no heteroscedasticity in the residuals, showing a normal distribution of residuals. To assess whether our results are robust against heteroscedasticity (unequal variances) and auto-correlation, we performed a diagnostic test before running the regression analysis.
The results showed that the Obs*R-squared was 7.79 and the corresponding $p$-value was higher than the significance level of 5% (Prob = 0.2534 > 0.05). Therefore, we cannot reject the null hypothesis of no heteroscedasticity. We also performed the normality test Jarque-Bera. The $p$-value related to the Jarque-Bera test is higher than the significance level of 5% (Prob = 0.826 > 0.05) and we therefore could not reject the null hypothesis, and the residuals were normally distributed.

The multiple liner regression results are presented in Table 1. The coefficient of determination or R-squared ($R^2$) is 0.999 (99.9%), which indicates a good fit of our model. In fact, around 99.9% of variations of average tourism expenditure are explained by the independent variables incorporated in the model. $F$-statistics is 5517.828 and $P$-value = 0.001. Consequently, at the significance level of 5% (0.05), the model equation proved to be statistically significant. This indicates that the independent variables jointly can influence the dependent variable ($Y$).

### TABLE 1. Multiple linear regression analysis (2005-2012)

<table>
<thead>
<tr>
<th>Independent variables ($X$)</th>
<th>Tourism income ($Y$)</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant ($b_0$)</td>
<td>4.724</td>
<td>0.017</td>
</tr>
<tr>
<td></td>
<td>(36.593)</td>
<td></td>
</tr>
<tr>
<td>GDP per capita ($X_1$)</td>
<td>-0.247</td>
<td>0.019</td>
</tr>
<tr>
<td></td>
<td>(-32.025)</td>
<td></td>
</tr>
<tr>
<td>International tourists arrivals ($X_2$)</td>
<td>0.008</td>
<td>0.053</td>
</tr>
<tr>
<td></td>
<td>(11.777)</td>
<td></td>
</tr>
<tr>
<td>Number of starred hotels ($X_3$)</td>
<td>0.054</td>
<td>0.303</td>
</tr>
<tr>
<td></td>
<td>(1.932)</td>
<td></td>
</tr>
<tr>
<td>Average salary in the tourism ($X_4$)</td>
<td>0.762</td>
<td>0.015</td>
</tr>
<tr>
<td></td>
<td>(40.728)</td>
<td></td>
</tr>
<tr>
<td>Average exchange rate ($X_5$)</td>
<td>0.005</td>
<td>0.804</td>
</tr>
<tr>
<td></td>
<td>(0.316)</td>
<td></td>
</tr>
<tr>
<td>Hotel price index ($X_6$)</td>
<td>-0.749</td>
<td>0.023</td>
</tr>
<tr>
<td></td>
<td>(-26.893)</td>
<td></td>
</tr>
<tr>
<td>$F$ test</td>
<td>5517.828</td>
<td>0.000</td>
</tr>
<tr>
<td>$R$ squared</td>
<td>0.999</td>
<td></td>
</tr>
<tr>
<td>$N$</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

Note: absolute ‘$t$’ ratio in brackets.

**Source:** own elaboration.

The results of individual impact of the explanatory variables showed that the $t$-statistic is significant ($p < 0.05$) for GDP per capita ($X_1$), average salary ($X_4$) and hotel price index.
(\(X_6\)) with \(p\)-values of 0.019, 0.015 and 0.023 respectively. It suggests that these variables are important factors explaining tourism income growth in Andalucía, while the variables of tourist arrivals (\(X_2\)), number of starred hotels (\(X_3\)) and exchange rate (\(X_5\)) are not significant as \(p\)-values are higher than the significance level of 5% (0.05). As the income generated by tourism in Andalucía is part of its GDP and contributes to GDP per capita, we consider it when analyzing the impact of GDP per capita on tourism income. It is unclear if the income per capita in Andalucía's induces tourism expenditure. Methodologically this signifies the possible existence of multicollinearity in the model due to a high correlation among independent variables. To test this issue, we calculated a correlation matrix (Table 2.).

### TABLE 2. Correlation matrix

<table>
<thead>
<tr>
<th>(X_1)</th>
<th>(X_2)</th>
<th>(X_3)</th>
<th>(X_4)</th>
<th>(X_5)</th>
<th>(X_6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.000</td>
<td>-0.346</td>
<td>0.525</td>
<td>0.346</td>
<td>0.367</td>
</tr>
<tr>
<td>(X_2)</td>
<td>0.020</td>
<td>1.000</td>
<td>-0.006</td>
<td>-0.266</td>
<td>-0.593</td>
</tr>
<tr>
<td>(X_3)</td>
<td>-0.346</td>
<td>-0.006</td>
<td>1.000</td>
<td>-0.218</td>
<td>-0.593</td>
</tr>
<tr>
<td>(X_4)</td>
<td>0.525</td>
<td>-0.266</td>
<td>-0.218</td>
<td>1.000</td>
<td>0.312</td>
</tr>
<tr>
<td>(X_5)</td>
<td>0.346</td>
<td>-0.006</td>
<td>-0.218</td>
<td>0.312</td>
<td>1.000</td>
</tr>
<tr>
<td>(X_6)</td>
<td>0.367</td>
<td>-0.593</td>
<td>-0.593</td>
<td>0.312</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Source: own elaboration.

Table 2. shows that substantial correlations were identified between the variables of GDP per capita (\(X_1\)) and average salary (\(X_4\)), international tourists arrivals (\(X_2\)) and hotel price index (\(X_6\)), number of starred hotels (\(X_3\)) and exchange rate (\(X_5\)), and exchange rate (\(X_5\)) and hotel price index (\(X_6\)), which suggests that considerable multicollinearity could exist among these explanatory variables, leading to questionable results.

To find a better model, we re-ran the analysis by evaluating the response of each variable one by one, from the result of the regression of \(Y\) on GDP per capita (\(X_1\)) through to hotel price index (\(X_6\)). The most accurate estimation is \(Y\) to exchange rate (\(X_5\)). This regression model obtained the maximum \(R\)-squared value of 0.724. According to Hair et al. [1998], the higher the value of \(R\)-squared, the greater the explanatory power of the regression. Based on to this explanation, around 72.49% of the total variation of average tourism expenditure (i.e. tourism income) (\(Y\)) is explained by the average exchange rate index (sterling) (\(X_5\)), and additionally both “\(t\)” and “\(F\)” statistics are significant at 5%. As a result, exchange rate (\(X_5\)) is highly significant, which supports the argument that exchange rate has a negative impact on tourism income (Table 3.). In this model, the exchange rate (\(X_5\)) was fixed.
TABLE 3. **Least squares regression for exchange rate** ($X_5$)

<table>
<thead>
<tr>
<th>Independent variable ($X$)</th>
<th>Tourism income ($Y$)</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant ($b_0$)</td>
<td>8.44</td>
<td>0.000</td>
</tr>
<tr>
<td>Average exchange rate ($X_5$)</td>
<td>-0.343</td>
<td>0.007</td>
</tr>
<tr>
<td>$F$ test</td>
<td>15.809</td>
<td>0.007</td>
</tr>
<tr>
<td>$R$ squared</td>
<td>0.724</td>
<td></td>
</tr>
<tr>
<td>$N$</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

Note: absolute ‘$t$’ ratio in brackets.

**Source:** own elaboration.

When estimating the remaining explanatory variables ($X_1$, $X_2$, $X_3$, $X_4$, and $X_6$) the best estimation was found with $X_2$ and the results of this regression are shown in Table 4. The value of the coefficient of determination ($R$-squared) was the highest, suggesting a higher power explanation of the model. In fact, now around 78.38% of the total variation of **average tourism expenditure** (i.e. tourism income, the dependent variable) is explained by exchange rate ($X_5$) and international tourist arrivals ($X_2$). Although the $t$ test for international tourist arrivals ($X_2$) was not significant ($p$-value = 0.295 > 0.05), it showed a positive sign which implied that international tourist arrivals ($X_2$) have a positive impact on tourism income which seems intuitive. In principle, the $F$ test was passed and the $p$-value related to the $F$-statistic was lower than the significance level ($p$-value = 0.021 < 0.05). This indicates that international tourist arrivals ($X_2$) was substantial in adding to the regression model's predictive ability.

TABLE 4. **Least squares regression for $X_5$ and $X_2$**

<table>
<thead>
<tr>
<th>Independent variables ($X$)</th>
<th>Tourism income ($Y$)</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant ($b_0$)</td>
<td>8.111</td>
<td>0.000</td>
</tr>
<tr>
<td>Average exchange rate ($X_5$)</td>
<td>-0.321</td>
<td>0.013</td>
</tr>
<tr>
<td>International tourist arrivals ($X_2$)</td>
<td>0.014</td>
<td>0.295</td>
</tr>
<tr>
<td>$F$ test</td>
<td>9.064</td>
<td>0.0217</td>
</tr>
<tr>
<td>$R$ squared</td>
<td>0.783</td>
<td></td>
</tr>
<tr>
<td>$N$</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

Note: absolute ‘$t$’ ratio in brackets.

**Source:** own elaboration.
Having used a fixed exchange rate \((X_5)\) and international tourist arrivals \((X_2)\), we further regressed to the remaining variables \((X_1, X_3, X_4\) and \(X_6\)). In this case exchange rate \((X_5)\), international tourist arrivals \((X_2)\) and number of starred hotels \((X_3)\) jointly provided the best estimation. The results are shown Table 5. In this new estimation, the value of \(R\)-square again increased considerably, as almost 90% of variations of *average tourism expenditure* (i.e. tourism income) are explained by average exchange rate index (sterling), international tourist arrivals and number of starred hotels. The \(F\) test is significant at five 5% level \((p\text{-value} = 0.020 < 0.05)\). However, individually the explanatory variables \((X_5, X_2\) and \(X_3)\) are not significant. All \(p\)-values were higher than 5% \((\text{Prob } x_5 = 0.678 > 0.05; \text{Prob } x_2 = 0.096 > 0.05 \text{ and } \text{Prob } x_3 = 0.111 > 0.05 \text{ respectively})\). Hence, consistent with our previous findings of correlation among variables and the multicolinearlity problem we return to the prospect of separating independent variables when they are highly correlated to avoid the issue of multicolinearlity.

### Table 5. Least squares regression for \(X_5, X_2\) and \(X_3\)

<table>
<thead>
<tr>
<th>Independent variables ((X))</th>
<th>Tourism income ((Y))</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant ((b_0))</td>
<td>1.837</td>
<td>0.585</td>
</tr>
<tr>
<td>Average exchange rate ((X_5))</td>
<td>-0.063 ((-0.445))</td>
<td>0.678</td>
</tr>
<tr>
<td>International tourists arrivals ((X_2))</td>
<td>0.022 ((2.168))</td>
<td>0.096</td>
</tr>
<tr>
<td>Number of starred hotels ((X_3))</td>
<td>0.672 ((2.039))</td>
<td>0.111</td>
</tr>
<tr>
<td>(F) test</td>
<td>11.245</td>
<td>0.020</td>
</tr>
<tr>
<td>(R) squared</td>
<td>0.894</td>
<td></td>
</tr>
<tr>
<td>(N)</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

Note: absolute ‘\(t\)’ ratio in brackets.

**Source:** own elaboration.

Having used a fixed exchange rate \((X_5)\), international tourist arrivals \((X_2)\) and number of starred hotels \((X_3)\), we ran a regression using the remaining variables \((X_1, X_4\) and \(X_6\)). The results are presented in Table 6. By adding hotel price index \((X_6)\), a higher \(R\)-squared value is obtained.

At this instant around 95% of variations of *average tourism expenditure* (i.e. tourism income) are supported by \(X_5, X_2, X_3\) and \(X_6\). Additionally, the \(F\) test verified that the previous independent variables can jointly influence the dependent variable at the significance level \((p\text{-value} = 0.027 < 0.05)\). Again these variables are not significant at 5% level respectively \((\text{Prob } x_5 = 0.258 > 0.05; \text{Prob } x_2 = 0.880 > 0.05, \text{Prob } x_3 = 0.052 > 0.05\) and
Probability that $X_6 = 0.168 > 0.05$. However, the number of starred hotels ($X_3$) showed a positive sign implying that the number of starred hotels has a direct impact on tourism income, which is intuitive, and the $p$-value (0.111) suggests that it is significant. Hotel price index ($X_6$), appears as significant but with negative impact, which suggests that the increase in hotel price may deter international tourists, however the results are not significant enough to suggest that it could be a major factor, particularly when the number of starred hotels ($X_3$) had a positive impact on tourism income.

### TABLE 6. Least squares regression for $X_5$, $X_2$, $X_3$ and $X_6$

<table>
<thead>
<tr>
<th>Independent variables ($X$)</th>
<th>Tourism income ($Y$)</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant ($b_0$)</td>
<td>2.230</td>
<td>0.435</td>
</tr>
<tr>
<td></td>
<td>0.897</td>
<td></td>
</tr>
<tr>
<td>Average exchange rate ($X_5$)</td>
<td>0.370</td>
<td>0.258</td>
</tr>
<tr>
<td></td>
<td>(1.390)</td>
<td></td>
</tr>
<tr>
<td>International tourists arrivals ($X_2$)</td>
<td>0.002</td>
<td>0.880</td>
</tr>
<tr>
<td></td>
<td>(0.163)</td>
<td></td>
</tr>
<tr>
<td>Number of starred hotels ($X_3$)</td>
<td>0.997</td>
<td>0.052</td>
</tr>
<tr>
<td></td>
<td>(3.125)</td>
<td></td>
</tr>
<tr>
<td>Hotel price index ($X_6$)</td>
<td>–0.968</td>
<td>0.168</td>
</tr>
<tr>
<td></td>
<td>(–1.806)</td>
<td></td>
</tr>
<tr>
<td>$F$ test</td>
<td>14.014</td>
<td>0.027</td>
</tr>
<tr>
<td>$R$ squared</td>
<td>0.949</td>
<td></td>
</tr>
<tr>
<td>$N$</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

Note: absolute ‘$t$’ ratio in brackets.

Source: own elaboration.

It should be noted that GDP per capita ($X_1$) and average salary ($X_4$) cannot be selected due to the multicollinearity problem discussed earlier. If these variables were added to our estimation, $R$-squared would be around 96%, however, neither $F$ (Prob $F_{x1} = 0.120 > 0.05$ and Prob $F_{x4} = 0.075 > 0.05$) or $t$ test are passed at the significance level. Finally, the Breusch-Godfrey Correlation test shows that there is no serial correlation (null hypothesis). The results from the Breusch-Godfrey correlation test show that, the probability of Chi-Square (2) is higher than the significance level of five per cent ($p$-value = 0.08 > 0.05). Consequently, we cannot reject the null hypothesis. Since autocorrelation is not a problem here this is a model worth considering when drawing policy conclusions in the next section.
Conclusion

Andalucía, the poorest region of Spain, is the most attractive destination for international tourists in that country. An examination of key factors contributing to the growth in tourism in Andalucía could shed some light on the potential development engines of the region. This research relied on a time series analysis and robust statistical methods to test the relationship between the tourism sector and economic growth and to identify the determinants of tourism development in Andalucía. The data for 2005–2012 covers periods of the economic boom, downturn and recovery providing a better explanation of the relationship between tourism and economic growth in Andalucía.

The results suggest that when the number of international tourists arrivals increases, the tourism expenditure increases accordingly, which is in line with the Kim et al. [2006] study on Taiwan and Schubert et al. [2011] study on Antigua and Barbuda. The increase in hotel prices lead to a reduction in tourist arrivals and tourist spending as supported by Falzon [2012] and Webster and Ivanov [2014] argument which uses the Destination Competitiveness theory. Our study confirmed the importance of price as a determinant of tourism competitiveness. The results also showed that the number of starred hotels positively augments tourists spending. It also provided empirical support to Yang’s [2011] earlier works indicating that the local economy (China’s Sichuan Province) is strongly influenced by the competitiveness of its tourism. In addition, we found that an increment in the exchange rate index (using appreciation of the sterling pound versus the euro) matters and tourist spending positively responds to a weakening currency. This finding confirms Cheng et al.’s [2013] argument regarding exchange rate and the competitiveness of tourism sector. In summary, exchange rate index, the number of international tourists, the number of starred hotels and hotel price index are the major factors that affect the average tourism income in Andalucía.

These research findings have a number of policy implications for the Andalucía government. Firstly, targeting British tourists when pound sterling appreciates would stimulate tourism, though there is no room to alter euro values as Spain is a member of EMU. Andalucía’s government should also pay attention to other factors: the number of starred hotels and the hotel price index. Declining hotel prices during and after the financial crisis attracted international tourists and the government should make every effort to take advantage of such trend. Secondly, increasing number of starred hotels requires high quality employees and services and relevant government regulations. Thirdly, the increasing number of international tourists requires a joint public and private sector effort to facilitate high quality infrastructure, which calls for a proactive strategy and effective sectoral coordination. If Andalucía develops a coherent strategy supporting growth in tourism and implements effective policies, the multiplier effect should stimulate economic growth in the region.
As do most studies, this research has its limitations. We recognize that it is impossible to test all potential variables that affect economic growth through the tourism industry in Andalucia. In addition, the relatively short period involved may have influenced the general nature of our findings.

Notes

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2 Author’s e-mail address: j.wu@leedsbeckett.ac.uk
3 Author’s e-mail address: calderon8819@hotmail.com
4 Competitiveness is a multidimensional component that is problematic to measure [Scott and Lodge, 1985]. However it could be defined by the level of productivity with which a nation utilizes its human, capital and natural resources [IESE, 2014, available at: http://www.iese.edu/en/ad/AnselmoRubiralta/Apuntes/Comp etitividad_en.html].
8 In a wider analysis, Che Chou [2013] used an empirical study to examine the relationship between tourist expenditure and economic growth in ten transition countries (Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Poland, Romania, Slovakia and Slovenia). The results were paradoxical. The Granger causality test for domestic tourism in Latvia, Slovakia and Cyprus showed that a negative travel policy will diminish economic growth by reducing travel expenditures. Similar results were found in Poland and the Czech Republic. On the other hand, in the case of Hungary and Estonia, two factors that reciprocally affect each other (Endogenous Variable between Economic Growth and Tourism Development) were found. This implies that extreme protection of the travel industry may cause difficulties in economic activity. Finally, the domestic tourism-led growth hypothesis was neutral in the case of Slovenia, Romania and Bulgaria. Experts attributed these results to a minor impact of tourism on total economic activity in these countries.
10 GNP is not used as it includes the nation’s gain on overseas investment, whereas GDP does not [Antoni and Baidal 2003].
11 The devaluation or depreciation of the sterling pound versus the euro is crucial for Andalucia, as the UK is the principal source of international visitors. Therefore, in this study, we consider the exchange rate between sterling and euro.
References


Abstract

The systemic transformation of post-socialist countries from central planning to a market economy was a very complex and unprecedented undertaking. In this study we critically examine three influential classifications proposed by Coates [2000, 2006], Hall and Soskice [2001], and Amable [2003], within the “comparative capitalisms” literature stream, and argue that they are unsuitable for evaluating the progress made by transition economies since 1990. The basis of the criticism stems from timing: these theoretical frameworks were developed primarily to evaluate the growth of advanced and mature capitalist countries. Thus, they fail to capture the unique features of transition economies and the complexity of the transformation process that led to the emergence of different market-based systems. From this vantage point, we discuss and also critique a recent classification developed by Myant and Drahokoupil [2011, 2015], who distinguish five ideal models (i.e. “varieties of capitalism”) that have evolved within transition countries. In our conclusion we point to areas within the field that may be explored by future research.

Keywords: comparative capitalism, international integration, systemic transformation, transition countries, varieties of capitalism.

JEL: E01, E02, E10, F10

Introduction

Karl Polanyi, a well-known Hungarian-American political economist, understood the capitalist economy as an “instituted process” [Polanyi, 2001, pp. 45–58]. According to this
point of view, capitalism may be regarded as a specific type of economy that “must be based in an institutionalized social order by and into which it is formed and organized” [Streeck, 2010, p. 5]. The distinct characteristics of this system (e.g. private property, free markets, wage labor, joint-stock companies, modern finance, etc.) came into existence and developed within diverse historical contexts, national traditions, institutional frameworks, as well as prevailing power structures that imprinted themselves in various ways within different societies [Streeck, 2010, p. 5]. Thus, the change and development of these political and economic institutions over time may lead to the emergence of various forms (i.e. types) of a capitalist system within different countries.

This paper critically examines the literature on the “varieties of capitalism” phenomenon by considering three influential approaches advanced by Coates [2000, 2006], Hall and Soskice [2001] and Amable [2003]. These well-known works investigate comparative capitalist systems, providing relevant and insightful classifications. However, their theoretical frameworks fail to capture the developments in economic and political systems of post-socialist countries, which underwent systemic transformation from central planning to a market economy. The frameworks instead focus on the analysis of stable and mature capitalist economies. Thus, to better understand the complexity and the uniqueness of the process undertaken by transition countries we need to include a broader range of variables (e.g. forms of international integration, state capacity, financial system requirements, etc.) to more fully explain the diversity of the capitalist systems that emerged within post-socialist nations since 1990.

The transition countries (e.g. Russia, Poland or Ukraine, etc.) differ from other emerging capitalist economies (e.g. Mexico, Indonesia or Turkey, etc.) because these nations underwent complex structural reforms and institutional changes with the goal of establishing and developing market-based institutions (e.g. price liberalization, the removal of existing trade barriers, the reform of property rights, privatization of state-owned enterprises, the development of a private financial sector, etc.). This systemic transformation process commenced in 1990 within the former Soviet Union and its satellite states located in the Central and Eastern Europe, which were part of the so-called “Soviet Bloc” [Maszczyk, Rapacki, 2012].

In an attempt to extend the research on “comparative capitalisms,” the author discusses and critically reviews a recent classification advanced by Myant and Drahokoupil [2011, 2015], who investigated post-socialist economies undergoing systemic transformation in Central and Eastern Europe (CEECs), South East Europe (SEECS), and the Commonwealth of Independent States (CIS). Based on empirical data, they distinguished five models of “varieties of capitalism” that emerged within these transition countries since 1990. We hope that this comprehensive classification provides a framework for future research in this area.
Overview of Standard “Varieties of Capitalism” Typologies

Modern capitalism is a complex system that can be analyzed in four different dimensions, namely: economic, psychological, political, and societal. These dimensions comprise several distinct characteristic features, which all capitalist nations share but their extent and pattern vary. For example, the economic dimension entails: “private ownership of the means of production”; “market monetary exchange of commodities for profit”; “competition between units of capital”; and “wage labor.” The observed differences are for typologies proposed by researchers within the “comparative capitalism” field of research [Lane, 2005, pp. 228–229].

Lane defines modern capitalism as “a system of production taking place for global market exchange [that utilizes] money as a [medium of exchange, which] determines differentials of income, levels of investment and the distribution of goods and services.” In such an economic system, productive assets are privately owned either by individuals or various organizations, while a major objective of economic life is the pursuit of profit that enables the accumulation of capital for investment purposes. The role of government, embedded in a pluralistic society, is restricted to “[the provision of] an effective system of law, securing private property, and [the] rights of [the] owners over the proceeds of production” [2007, p. 16].

During the 21st century, the literature on the “varieties of capitalism” has been considerably extended. In this paper, three popular frameworks proposed by Coates [2000, 2006], Hall and Soskice [2001], and Amable [2003], are presented and critically evaluated. These scholars provide various “paradigms” of capitalism, each with its distinct characteristics and complementarities. These typologies explain the institutional similarities and differences between mature and stable developed economies. They form the basis for distinguishing the “varieties of capitalism” that prevail in various advanced capitalist nations.

The theoretical approach proposed by Hall and Soskice [2001] draws a distinction between two different models of coordination that characterize firm activities. Thus, the scholars identify two models of coordination, which exist within modern capitalism. The first category was referred to as “liberal market economies” (i.e. LME), while the second distinguished type was called the “coordinated market economies (i.e. CME) [Hall, Soskice, 2001, pp. 6–54].

In the LME model of capitalism, enterprises run their activities and coordinate with other agents by competitive markets, which are characterized by arms-length relations, as well as formal contracting. This model of coordination favors investment in transferable assets. This type of market-based economy may be found in English-speaking countries such as the USA, the UK, Canada, Australia, and New Zealand [Hall, Soskice, 2001, pp. 6–54]. The LME model exhibits a high level of complementarity between various institutions and processes. The characteristics of “liberal market economies” are: “high
levels of stock market capitalization”; “low levels of employment protection;” “high levels of paid employment;” and “high income inequality” [Lane, 2005, pp. 229–230]. The economic agents are involved in many complex mergers and acquisitions transactions, which are facilitated by highly developed, innovative financial markets.

In the CME model, the enterprises coordinate their activities with other agents through many non-market relationships. This form of coordination occurs through the processes of strategic interaction, which can be explained and modeled by the propositions of the game theory. This model of coordination favors investment in specific assets. Typical examples of the CME model are Germany, Denmark, France, and Japan. The “coordinated market economies” exhibit such distinct features as “high levels of employment protection”, “low stock market capitalization;” “relatively lower numbers of working hours” and “relatively low differentials of income inequality”. In the CME model mergers and acquisitions occur rarely, while trade unions protect the interests of labor. Moreover, the enterprises are coordinated by many vertical or horizontal linkages that exist between firms on the market [Hall, Soskice, 2001, pp. 6–54].

This classification has three major limitations. One is that it only considers one dimension of capitalist economies, dealing with the coordination processes of the economic agents. Based on a single criterion when developing this typology, scholars include into one model (i.e. either the LME or the CME type) very diverse economies. For example, Japan and Germany, which are grouped within the CME category, exhibit very different types of welfare systems for their citizens, as well as different forms of integration with the world economy. Moreover, countries like the United Kingdom, Canada and the USA (all classified within the LME group) also display some diversity concerning welfare provisions for their residents, as well as linkages with the global economy [Lane, 2005, p. 230].

The second limitation of this framework is that when other criteria are applied to distinguish the “varieties of capitalism” in advanced market economies (e.g. industrial profile of a country, the channel of international integration, the forms of innovation adopted, different types of ownership and control mechanisms, etc.), a different combination of country groupings emerges. Thus, a different typology could be established from the one presented by Hall and Soskice [2001] in their approach [Lane, 2005, p. 230].

The third major criticism concerns an underestimation of diversity of the capitalist systems existing in the modern world economy. As a result, the authors introduced a bias, which reduced their reasoning to static terms. For instance, the scholars failed to consider a variety of market-based systems that emerged within the post-socialist countries undergoing systemic transformation from central planning to a market economy. Therefore, over time due to many criticisms, the “varieties of capitalism” approach proposed by Hall and Soskice [2001] has lost its dominant position within the “comparative capitalisms research theory. However, it still remains influential in studying the different models of capitalist systems in the global world economy [Ebenau et al., 2015, pp. 1–2].
Emerging Varieties of Capitalism in Transition Countries: Literature Review

David Coates [2000, 2006] and Bruno Amable [2003] modified the approach developed by Hall and Soskice [2001] by including additional variables, such as product and market competition; wage labor; labor market institutions; the financial intermediation sector; corporate governance issues; social protection schemes; and the notion of a welfare state.

Coates [2000, 2006] identified three models of capitalist economic systems. The first category was called “Market-led capitalism”, where private enterprises pursue short-term profit goals and obtain capital funding in the open financial market. In such an economic system, the government’s involvement is limited to establishing and protecting markets, while labor has restricted statutory industrial, as well as social rights. This type of capitalism is present in English-speaking countries like the United States and the United Kingdom.

The second type is identified as “State-led capitalism,” where business objectives and capital funding are also the responsibility of private enterprises. However, in this model firms make strategic decisions through close liaison with the government agencies. Under “State-led capitalism”, labor lacks strong statutory industrial and social rights, but workers enjoy much closer relations with private enterprises through “company-based welfare provision”. Typical representatives of this system are countries like Japan and South Korea.

The third is called “Negotiated or consensual capitalism”. In this model, government regulation of the market is relatively limited, but the position of labor unions is strong. Thus, they enforce the workers’ rights and social security benefits. Moreover, organized labor unions are directly engaged in the corporate decision-making processes of the enterprises. Typical examples of this system are countries like Germany and Sweden [Coates, 2006, pp. 6–11].

In turn, Amable [2003] distinguished five “varieties of capitalism” of developed market economies using the following criteria: the nature of product markets (i.e. regulated or deregulated); the features of labor markets (i.e. flexible or regulated); the type of prevailing capital finance (i.e. regulated stock markets or commercial banks); the extent and type of welfare state developed; as well as the nature of the education system (i.e. public or private) [Amable, 2003, pp. 171–181].

The first model was called the “Market-based capitalism”. This type is similar to those developed by the Hall and Soskice’s [2001] LME and the Coates’s [2000, 2006] “Market-led capitalism”. The second model was entitled the “Social-democratic capitalism” and its distinct features include: moderate employment protection for the workforce, high level of social welfare, and easy access to training for labor. This type exhibits a coordinated wage-bargaining system, enabling a more systematic wage-setting that favors innovation and productivity. Examples of this capitalist system are countries like Denmark, Finland, and Sweden. Moreover, the “Social-democratic capitalism” model is similar to the “Negotiated or consensual capitalism”, distinguished by Coates [2000, 2006]. The third model, called the “Continental European capitalism”, resembles the “Social-democratic capitalism” category described earlier. However, this model is based on a higher degree
of employment protection and a less-developed welfare state, examples of which include Germany, France, the Netherlands, Belgium, and Switzerland [Amable, 2003, pp. 171–181].

The fourth capitalist system, referred to as the “Mediterranean capitalism” model, exhibits more employment protection for workers but less social protection in comparison with the “Continental European Capitalism” type. Labor protection is exercised through a relatively low-level market competition, and the lack of short-term constraints because of a centralized financial system. Representative examples include Italy, Spain, Portugal, and Greece. The last identified type was called the “Asian capitalism” model. This model is a “State-led capitalism” type proposed by Coates [2000, 2006]. It is highly dependent on corporate business strategies, which are developed in close collaboration with government agencies. The “Asian capitalism” model relies heavily on a centralized financial system that enables the enterprises to formulate long-term strategies. Large corporations provide security for the workforce by retraining, and providing employees with long-term career prospects [Amable, 2003, pp. 171–181].

The major drawback of the standard “varieties of capitalism” theoretical frameworks developed by Coates [2000, 2006], Hall and Soskice [2001], and Amable [2003] is that these classifications are predominantly concerned with analyzing stable, mature market economies. These countries are at a high level of economic development and share a long history of being classified as capitalist nations. On the other hand, all post-socialist countries, which introduced some form of market reform since 1990, display many non-capitalist system features. Thus, these distinct characteristics make the direct adoption of above-described standard “varieties of capitalism” approaches difficult to apply in practice to post-socialist economies.

Many researchers criticized the standard “varieties of capitalism” conceptual frameworks suggesting that these approaches fail to capture the complexity of the changes and progress involved in transformation from central planning to market-based economies [Bohle et al., 2007; Lane, 2007; Myant, Drahokoupil, 2011; Hardy, 2014]. Thus, applying the models proposed by Coates [2000, 2006], Hall and Soskice [2001], and Amable [2003] to the specific conditions of transition countries in the CEECs, SEECs and CIS groups may not be possible or desirable because these nations exhibit inherited ownership and market coordination patterns that are substantially different from those found in developed capitalist nations.

In the former socialist countries the government played an important role as the coordinator of the centrally planned economy. The state exercised public ownership of resources, controlled the supply of domestic currency, and made strategic decisions concerning major investments in the economy. Moreover, the central government determined employment levels, regulated wages, and set the division between personal and public expenditure levels. All former socialist nations developed a relatively advanced industrial base, displayed high literacy among citizens, and exhibited a reasonable level of educational attainment in society [Lane, 2005, p. 231].
Despite some positive achievements of the centrally planned economic system, these countries shared many negative characteristics, including deep macro-economic imbalances; a monopolistic structure of production; an authoritarian style of management; rent-seeking activities of economic agents; and the erosion of professional, as well as work, ethos. These adverse features of the “command economy” legacy strongly hindered transformation efforts to set up modern capitalist institutions. As a result, this long-term “socialist heritage” made a distinct footprint on these countries’ economic and social systems (e.g. the behaviors of their citizens). Thus, the progress made by the post-socialist countries since 1990 substantially differed from the one accomplished by mature, stable market economies [Lane, 2005, p. 231].

In transition economies, many features of capitalism were compromised by: non-market economic relationships; the lack of a complementary ideology; inadequate market institutions; and the absence or shortage of experienced entrepreneurs and investors to launch new business undertakings. In short, these countries are still in the process of developing a mature and stable market system. Therefore, researchers studying the phenomenon of “varieties of capitalism” within post-socialist countries need to not only understand the different forms of market-based economies present within these nations, but also the extent to which a capitalist system has been formed in these societies. As a result, scholars should include other factors in their analysis to identify what type of capitalism was developed in a particular transition country [Lane, 2005, p. 231].

The Unique Nature of the Transition Process from Central Planning to a Market Economy

After the collapse of the communist economic system, the countries of Central and Eastern Europe (i.e. CEECs), Southeastern Europe (i.e. SEECS), and the Commonwealth of Independent States (i.e. CIS) embarked on the road of building a market-based system. The process of transition commences when a country moves away from the characteristics of the socialist system (e.g. exclusive power of the communist party; dominant state ownership of enterprises; central planning and allocation of resources; soft budget constraints; market driven by the sellers; etc.). It is completed when a nation achieves a configuration that makes up the features of a capitalist system (e.g. government support of private property rights and market institutions; dominant private ownership of enterprises; allocation of resources by a free market; hard budget constraints; market driven by the buyers; etc.). This complex undertaking entails both systemic (e.g. privatization of state-owned enterprises) as well as non-systemic (e.g. devaluation of a local currency) changes in the economy and society of a particular country [Kornai, 2000, pp. 30–34].
The transition process can be viewed as either a movement toward a defined end result (i.e. transition) or a change without a specific objective in mind (i.e. transformation) [Myant, Drahokoupil, 2011, p. 299]. Heiduk and Rapacki [2009] argued that the overwhelming majority of former socialist countries commenced systemic transformation without a clearly defined outcome or set goal. However, the end results achieved by these actions, in terms of structural reforms and the building of market institutions, are diverse. As a result, thus far, no single type of capitalist system has emerged within transition countries but several market-based economies can be identified [Myant, Drahokoupil, 2011, p. 299]. The salient features of the socialist and the capitalist economic system are summarized in Table 1.

TABLE 1. The characteristic features of socialist and the capitalist economic systems

<table>
<thead>
<tr>
<th>Characteristic features of socialist economic system</th>
<th>Characteristic features of capitalist economic system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusive power of the communist party</td>
<td>Elected political power supports private property rights and market-based institutions</td>
</tr>
<tr>
<td>Dominant state ownership of enterprises</td>
<td>Dominant private ownership of enterprises</td>
</tr>
<tr>
<td>Coordination of resources by the state bureaucracy</td>
<td>Market coordination of resources</td>
</tr>
<tr>
<td>Soft budget constraints</td>
<td>Hard budget constraints</td>
</tr>
<tr>
<td>Weak responsiveness to the price mechanism by economic agents</td>
<td>Strong responsiveness to the price mechanism by economic agents</td>
</tr>
<tr>
<td>Plan bargaining by the economic agents</td>
<td>No central planning in the economy</td>
</tr>
<tr>
<td>Focus on the quantity of output, but not quality or customer satisfaction</td>
<td>Focus on the quality and quantity of output, as well as customer satisfaction</td>
</tr>
<tr>
<td>Chronic shortages in the economy</td>
<td>No chronic shortages in the economy</td>
</tr>
<tr>
<td>Shortage of skilled labor</td>
<td>Abundance of skilled labor</td>
</tr>
<tr>
<td>Market driven by the sellers (supply)</td>
<td>Market driven by the buyers (demand)</td>
</tr>
<tr>
<td>Hidden unemployment in the economy</td>
<td>Structural and cyclical unemployment</td>
</tr>
<tr>
<td>Business cycle fluctuations not necessarily relevant for output and the employment level</td>
<td>Business cycle fluctuations affect output and the employment level</td>
</tr>
</tbody>
</table>

Source: own elaboration based on Kornai [2000, pp. 28–30].

The different institutional characteristics of transition economies and diverse forms of capitalism developed by these nations can be attributed to many factors. Firstly, different varieties of socialism evolved between 1945 and 1989 within the former socialist nations despite sharing many common systemic political and economic features imposed by the Soviet Union. Thus, the communist system legacy that shaped initial conditions for the systemic transformation in all these economies also varied within post-socialist countries. Secondly, the institutional development trajectory differed in each nation. It was highly influenced by historical traditions and the institutional endowment inherited by transition economies from their past national heritage [Maszczyk, Rapacki, 2012, p. 137]. Finally,
the last major factor associated with the selection of a particular transformation strategy involved the speed of reform (i.e. “shock therapy” versus a “gradualist approach”). This choice between strategies was highly influenced by existing political and institutional conditions, as well as the overall macroeconomic situation of each country prevailing at the beginning of the systemic transformation process. For instance, Poland experienced “deep macroeconomic disequilibria” while at the same time the former Czechoslovakia displayed a relatively “stable and balanced economic situation.” The different political, institutional and macroeconomic conditions present in 1989 within the post-socialist economies provide a plausible explanation for why some countries adopted the “shock therapy” approach (e.g. Poland), while other countries implemented a “more gradualist transformation policy” (e.g. the former Czechoslovakia). This second alternative depended much more on strategic coordination then on the market mechanism [Maszczyk, Rapacki, 2012, p. 138].

The Problems of Including Transition Countries within the Standard “Varieties of Capitalism” Classifications

The well-known typologies within the “comparative capitalisms” literature developed by Coates [2000, 2006], Hall and Soskice [2001], and Amable [2003] do not appear to be applicable to the analysis of the progress of transition countries since 1990, as those theoretical frameworks were used to evaluate the differences in the development levels of the mature and stable market economies. At the same time, transition countries continue to display specific characteristic features (see Table 1.) that are associated with the legacy of a “command economy”. These peculiar features distinguish post-socialist nations from developed capitalist economies, making the standard “varieties of capitalism” frameworks difficult to implement in practice when evaluating the progress made by specific countries. Thus, the classifications mentioned above have limited direct application to many transition, emerging, or developing countries from different geographical locations.

The first identified limitation concerns the selection of a suitable dependent variable used to examine and explain the comparative economic performance of each transition economy [Maszczyk, Rapacki, 2012, p. 140]. For instance, under the “varieties of capitalism” proposition presented by Hall and Soskice [2001, pp. 1–6], the chosen independent variable for analysis was the dynamic capability of a nation to achieve a leading position within the global economy in a specific branch of economic activity on the basis of technological progress. However, thus far, we cannot identify a single transition country that managed to accomplish such a high level of development [Maszczyk, Rapacki, 2012, p. 140]. Post-socialist nations earn foreign currency to cover their import expenditures by exporting less sophisticated products that are manufactured using imported technology. Some of these
countries also rely on other sources of foreign currency acquisition (e.g. remittances from migrant workers, direct capital inflows, etc.). Therefore, a better dependent variable for comparative purposes would be the adoption of a more general form of integration with the global economy, such as export competitiveness [Myant, Drahokoupil, 2011, p. 300].

The second highlighted limitation is associated with the selection of an appropriate independent variable. In advanced market countries, formal institutions and established rules of the game guide the behavior of economic agents. Thus, such institutions as “state capacity”; “the rule of law”; “a functioning system of corporate governance”; “a stable financial system”; “clarity in the ownership of enterprises”; and “a separation between the spheres of business and politics” are usually taken for granted [Myant, Drahokoupil, 2011, p. 301]. However, in transition economies, there is a significant gap between formal and informal institutions, as the latter play an important role of influencing the behavior of economic agents. This key aspect is not recognized within the standard “varieties of capitalism” typologies that investigated advanced market economies. As a result, in the case of transition countries, a proxy measure for this independent variable should be defined in a different manner than for developed capitalist nations, which have established and reliable institutions [Maszczyk, Rapacki, 2012, p. 140]. Moreover, formal and informal institutions influence various forms of international integration of the transition countries. However, institutions alone are insufficient independent variables in the analysis of the “varieties of capitalism” that emerged in post-socialist economies since 1990 since we can identify many other factors (e.g. “the structure of the inherited industrial bases”, “natural resource endowments”, “geography”, etc.) that also explain the diversity of their economic performance [Drahokoupil, Myant, 2015, pp. 155–160].

The third limitation refers to the fact that institutional preconditions determine the various forms of international integration of these countries with the world economy, as institutions can be regarded as a necessary, but they are not sufficient when classifying an economic system [Maszczyk, Rapacki, 2012, p. 140]. For instance, Myant and Drahokoupil [2011, pp. 301] mention “inherited economic structures,” “the scope for new business development,” as well as “the nature of welfare regimes” and their potential impact on prospective development, as important co-determinants of international competitiveness of transition economies. Moreover, the authors explain that these independent variables are rarely directly linked to different channels of integration with the world economy of post-socialist nations.

The last identified limitation relates to the fact that these approaches were developed under the assumption “of long-term continuity and the permanence of relationships” of formal institutions within market-based economies [Myant, Drahokoupil, 2011, p. 301]. However, the systemic transformation from central planning to a market economy, experienced by transition countries, involves “a high degree of discontinuity and volatility” which sharply contrasts with the conditions present within advanced market economies [Maszczyk, Rapacki, 2012, p. 140]. As a result, researchers are unable to identify those
institutional features in post-socialist nations that are permanent and likely to exhibit a long-lasting impact on economic systems. Moreover, scholars also find it difficult to determine which systemic characteristics of these countries should be regarded as transient in nature [Myant, Drahokoupil, 2011, p. 301].

**Emerging “Varieties of Capitalism” in Transition Countries: A Proposed Tentative Classification**

In 1990, following the collapse of state socialism, a market system was introduced in almost all post-socialist economies from the Central and Eastern Europe (CEECs), South East Europe (SEECS) and members of the Commonwealth of Independent States (CIS). The new system introduced private ownership of assets and the means of production and new profit incentives [Lane, 2007, pp. 33–34]. Almost all former socialist countries adopted some characteristics of a market economy to build “capitalist societies” in some form or another. However, the different experiences and starting points of these countries led to the diversity of their performance and economic progress. Thus, the peculiar features of transition countries that differ from mature and stable market economies are important for identifying the “varieties of capitalism”, which have emerged in these nations since 1990 [Myant, Drahokoupil, 2010, p. 7].

Recognizing the uniqueness and historically unprecedented nature of the systemic transformation process from central planning to a market economy requires an adjustment of the standard “varieties of capitalism” frameworks to include the peculiar features of post-socialist countries. The first step in developing a new, more suitable classification for evaluating these countries, should begin with identifying the different forms of integration with the world economy [Maszczyk, Rapacki, 2012, p. 141]. For this purpose, Myant and Drahokoupil [2011, pp. 62–79] determined six different channels of international integration based on such criteria as “the trade balance and the share of export of goods and services in GDP”, “changing export structures”, “financial flows”, “foreign direct investment”, and “remittances and aid”.

The first form was called “Export-oriented foreign direct investment (FDI) in complex sectors”. In this case, international integration occurs through the business activities of large multinational companies (MNCs) and their local subsidiaries established in transition economies. These enterprises export high-value products mainly to Western markets, manufactured using sophisticated technologies and various forms of innovation. Foreign direct investment by MNCs in post-socialist countries required a relatively well functioning government, developed business environment that guaranteed the safety of their operations, complex network of relationships with enterprises and local and central government agencies [Myant, Drahokoupil, 2011, pp. 303–304]. Most of these preconditions
for MNCs’ involvement in transition economies were broadly met by the CEECs and, to a large extent, by the SEECs [Maszczyk, Rapacki, 2012, pp. 141–142].

The second type was referred to as the “Export-oriented complex sectors without FDI”. It should be treated as an exception from the pattern discussed earlier. This form of international integration was experienced by some of the most economically developed transition countries (e.g. Czech Republic, Slovenia). Their export-oriented companies, which manufactured fairly modern products, managed to compete with some success in demanding Western European markets [Myant, Drahokoupil, 2011, pp. 304–305]. This type was also present on a limited scale in some post-socialist economies, such as Russia or Belarus, which are important manufacturers of armaments and commodity exporters. In turn, the latter countries exported vehicles produced by government-owned firms with major financial support from state-directed banks [Maszczyk, Rapacki, 2012, pp. 141–142]. These countries could only compete successfully in less competitive markets not dominated by established MNCs [Myant, Drahokoupil, 2011, pp. 304–305].

The third form was called “Simple manufacturing subcontracting to MNCs”. It depended on exports of processed or semi-processed products (e.g. garments, footwear or simple components) that required medium to low technology levels with low value added, and was dependent on subcontracting from MNCs. However, the entire product development stage was carried out in mature market economies [Myant, Drahokoupil, 2011, p. 305]. This category of international integration played an important role within the CEECs in the early 1990s and in the SEECs. It could also be observed in some lower-income transition economies (e.g. Ukraine) and countries from the Central Asia (e.g. Kyrgyzstan, a member of the CIS), though on a very small scale [Maszczyk, Rapacki, 2012, pp. 141–142]. This form of integration with the world economy required an adequate transportation and communication infrastructure, secure legal environment, and low labor costs. Consequently, this type of integration occurred only as a temporary phase in CEECs countries, and other countries soon began exporting relatively high quality products requiring more sophisticated technologies [Myant, Drahokoupil, 2011, p. 305].

The fourth type was referred to as “Commodity exports”. This form of international integration was important for CEECs in the early years of the transition. However, as transformation to a market-based economy advanced, its role diminished due to foreign direct investments by MNCs. These foreign-owned enterprises provided CEECs with more capital for export potential of more complex products [Myant, Drahokoupil, 2011, pp. 305–306]. However, this channel of integration with the world economy played a very important role in the oil-exporting countries (e.g. Russia, Kazakhstan, and Azerbaijan) and was also important for Ukraine, which is a known exporter of steel and chemicals [Maszczyk, Rapacki, 2012, p. 142]. In these countries, exports were carried out by aging local enterprises, which exploited outdated technology inherited from the socialist system. The problem of relying primarily on the commodity exports is that they provide highly volatile income streams involving frequent price changes during different business cycles.
This problem is usually not present in exports of high-quality manufactured products [Myant, Drahokoupil, 2011, pp. 305–306].

The fifth form was called “Dependence on remittances and aid” and was used by transition countries to compensate for substantial trade deficits as local enterprises failed to supply competitive goods for export [Myant, Drahokoupil, 2011, p. 306]. This channel of international integration was most prevalent within the lowest-income transition economies (e.g. Albania). The linkage with the world economy occurred through temporary or permanent emigration of citizens from CEECs, SEECs and the CIS group to developed Western European countries or Russia (in case of the members of the Commonwealth of Independent States), who then transferred their earnings back home [Maszczysz, Rapacki, 2012, p. 142]. The remittance-based capitalist economy is compatible with a very low level of development of internal institutions (e.g. government capacity, infrastructure, business environment, etc.). The transfer of significant amounts of foreign-currency earnings from abroad by the citizens of these nations provided a stimulus for their local economies by boosting domestic consumer demand. The dependence on remittances and foreign aid in these nations provides no basis for more complex forms of international integration with the world economy and is subject to changing demand for labor in developed market economies [Myant, Drahokoupil, 2011, p. 306].

Finally, the sixth type is related to “Dependence on financialized growth”. This channel of integration was a supplementary form of linkage between the transition countries and the world economy. International integration occurred through foreign borrowing and monetary inflows, which supported private-sector’s activity [Myant, Drahokoupil, 2011, pp. 307–310]. The extent of “financialized growth” as a channel of international integration present within these countries is measured by the financial account balance of payments surpluses (excluding contributions received from FDI). This pattern of integration was, at some stages of the systemic transformation process, important for the development of several middle- to higher-income countries (e.g. Hungary, Belarus, Ukraine, and Kazakhstan). It was also present in a number of low-income Central Asian nations (e.g. Armenia, Georgia, Tajikistan, and Kyrgyzstan) [Maszczysz, Rapacki, 2012, p. 142]. “Financialized growth”, as a form of integration with the world economy, was transient in its nature. This is because its impact on the post-socialist economies increased until the world financial crisis of 2007–2008, and then declined dramatically. [Myant, Drahokoupil, 2015, pp. 155–171].

The identification of different forms of integration with the world economy provides us with a good starting point for evaluating the progress of post-socialist nations since 1990. However, in the second step, we need to broaden the analysis by determining a set of internal factors, which better capture the unique features of transition countries [Maszczysz, Rapacki, 2012, p. 142]. For this purpose, Myant and Drahokoupil [2010] list five key internal factors that best describe the specific conditions of post-socialist nations.

The first factor is “the relations between politics and business”. This variable deals with the separation of political power (i.e. the state) from economic power (i.e. control
over enterprises). This factor also covers the extent to which the government can act as an impartial arbitrator to protect various business interests. In socialism, political and economic powers were merged under the state ownership of assets, as was the capital that financed them. During transition, private ownership cannot effectively ensure a separation of political from economic power as government can be influenced, or sometimes used, to serve the interests of particular business groups. This danger should be minimized by establishing democratic institutions, ensuring different representation of opinions, creating stable forms of interest, an independent media, and a well-informed, active public [Myant, Drahokoupil, 2010, p. 8].

The second factor is the “rule of law and the nature of property rights”. This variable, which depends heavily on the previous internal factor, was taken for granted in the Hall and Soskice [2001] “varieties of capitalism” framework. However, the “rule of law” is not the only instrument used to protect private property rights. Another viable alternative is the security provided by the political power (i.e. the state), which often results in the emergence of “clientelistic networks”. Comparative statistics regarding the rule of law, corruption, and the state capacity variables reveal a clear distinction between countries from the CIS group, most CEECs, as well as the SEECs. However, corruption at both the government and business levels still remains a serious problem in all transition economies [Myant, Drahokoupil, 2010, pp. 8–10].

The third factor is the “economic role of the state”. This variable is gauged by two measures, namely: “the share of public spending in GDP”, and “the scale of the budget deficit”. These indicators relate to “the capacity of the state to function”, “the extent of welfare spending”, and “the active role of the state in promoting economic development”. The CEECs and many SEECs largely avoided a breakdown in the state capacity institution, which was experienced within most nations from the CIS group. This development resulted in the disintegration of the rule of law, escalation of crime and corruption, and general chaos. Most CEECs and many SEECs also managed to maintain broadly balanced budgets. However, large differences exist in the scale of budget deficits between many transition countries within these two groups, reflecting their welfare spending levels. All transition economies provided public support for education at various levels, and most of these countries also fostered the R&D funding. However, the scale of financial assistance rendered by the state for the latter was far below the levels reported by advanced capitalist countries. Transition nations were neither very active in promoting the development of different forms of innovation nor efficacious supporters of emerging high-tech firms [Myant, Drahokoupil, 2010, pp. 10–11].

The fourth factor is the “structure of business”. Estimates by The European Bank for Reconstruction and Development (EBRD) of the extent of private ownership in transition countries reveals a general pattern where over 70% of GDP is generated from a broadly-defined private sector in almost all of them. More visible distinctions among transition economies are revealed when business structure is analyzed in terms of “the extent of foreign
ownership”, “the concentration of domestic ownership”, and “the scope for new business
development”. Within CEECs, high levels of foreign ownership in finance, the retail trade
and much of industry are present. Within the CIS group, lower levels of foreign ownership
exist, except in particular commodity-exporting countries (e.g. Kazakhstan, Azerbaijan).
For instance, a high concentration of domestic private ownership was observed in Russia,
where large-scale businesses remained in the hands of the so-called “oligarchs” who
accumulated their wealth over time by maintaining very close relationships with ruling
political elites. Self-employment figures are higher in the CEECs group, and noticeably
lower in many members of the CIS (e.g. Russia) [Myant, Drahokoupil, 2010, pp. 11–12].

Finally, the fifth factor relates to the presence of “finance systems”. The development
of these systems warrants “high levels of trust” achieved through “long-term experience”
and the existence of “complex legal and regulatory frameworks”. The indicator “credits as
a proportion of GDP” displays the extent of lending that is present in transition economies.
This figure was much lower in countries undergoing transformation than in advanced
capitalist countries. However, in most transition countries, credits were extended at levels
high enough to show the gradual development of financial markets. Though this measure
remained comparatively weak within several CIS group members. For instance, in Russia,
the banking system experienced a rather turbulent development throughout the transition
period, contributing to a rather poor business environment for establishing and growing
new firms [Myant, Drahokoupil, 2010, p. 13].

Moreover, other forms of raising capital for businesses in the CIS group (e.g. the sale
of shares on stock exchanges) were reported to be at consistently low levels. In case of
the “deposits as a proportion of GDP” indicator, only a few transition countries managed
to accumulate sufficient deposits to meet the credit needs of their economies (e.g. Cro-
atia, Czech Republic). The development of a substantial deposit base in these countries
required that households and private enterprises gained enough trust in a transforming
banking industry to establish the habit of saving money. This was a rather slow process,
especially during the early 1990s, when many CEECs, SEECs and CIS countries suffered
from “extreme economic instability and hyperinflation”. Moreover, some countries (e.g.
Estonia, Latvia, and Lithuania) had to rely heavily on external funding to develop their
economies. This form of international integration was referred to earlier as “financialized
growth” and was a rather dangerous phenomenon for the long-term economic stability
[Myant, Drahokoupil, 2010, p. 13].

In the third and final step, the six forms of international integration can be combined
with the five internal factors to arrive at a tentative classification of five ideal models (i.e.
“varieties of capitalism”) that emerged within transition countries since 1990 [Myant,
Drahokoupil, 2011, p. 310].

The first distinguished model was referred to as the “FDI-based (second-rank) market
economies”. It is best described by CEECs (e.g. the Czech Republic, Poland, and Slova-
kia). These transition countries exhibit such features as “democratic political systems”,}
“the integration into the EU” [i.e. the European Union], as well as “export structures increasingly built around [highly-processed] manufactured goods produced by foreign-owned MNCs” [Drahokoupil, Myant, 2015, pp. 155–171]. The CEECs managed to develop rather complex export structures. However, these countries have only played a secondary role in global production markets and networks and lack the sophisticated business infrastructure needed to develop a high-tech innovation capacity (e.g. access to venture and private equity capital; established large domestic enterprises in high-tech industries; strong R&D bases; etc.) [Maszczyk, Rapacki, 2012, pp. 142–143]. On the other hand, these countries have built a sound environment to foster the establishment and growth of domestic private enterprises. Moreover, the CEECs display a wide diversity of flexible labor market institutions (i.e. labor protection and welfare systems) that range from the more conservative “Continental European capitalism” model to the neo-liberal Anglo-Saxon “Market-based capitalism” variety, as identified by Amable [2003]. In conclusion, many of these nations have considerable potential for further development into mature and stable capitalist economies in the future, and are the most promising category, relative to the other distinguished “ideal models” of market-based systems, to have emerged from systemic transformation since 1990 [Drahokoupil, Myant, 2015, pp. 155–171].

The second variety was called “peripheral market economies”. This category can be found within SEECs (e.g. Bulgaria) and in some CEEC countries (e.g. Estonia, Latvia, and Lithuania). These countries have adopted rather stable democratic political systems and developed a basic legal, as well as institutional, environment for private business [Drahokoupil, Myant, 2015, pp. 155–171]. “Peripheral market economies” also provide a relatively low level of welfare payments to their citizens, exhibit large income disparities, and tend to experience a comparatively lower level of development. They therefore tend to largely depend on the “financialized growth” pattern of international integration including significant dependence on remittances. As a result, these countries are not adequately prepared to withstand external shocks during unfavorable business cycles [Maszczyk, Rapacki, 2012, p. 143].

Moreover, these countries rely on exports of unsophisticated and less-stable manufactured goods, as well as raw material exports. This form of international integration was also important in CEECs during the early 1990s. However, the systemic transformation process led to higher wage levels in their economies, making it very difficult for them to compete with emerging Asian countries in the production of simple manufactured goods (e.g. garments, footwear, etc.) [Drahokoupil, Myant, 2015, pp. 155–171]. The leading countries within this variety of capitalism (e.g. Estonia) may progress to the first category. To make this transition, they have to develop an export-oriented manufacturing capacity within more complex sectors of the economy. Moreover, other less-developed transition countries that are currently classified within other variety types (see Table 1.) may also join this group in the future. However, they need to undertake more radical political and economic reforms [Maszczyk, Rapacki, 2012, p. 143].
The third variety of capitalism can be described as an “oligarchic (clientelistic) capitalism” because it exhibits close links between business and political power. This category is represented by CIS members, particularly Russia, Ukraine, Azerbaijan and Kazakhstan [Drahokoupil, Myant, 2015, pp. 155–171]. These countries share relatively authoritarian political systems and higher occurrence of rent seeking resulting from close relationships between political power and strategic enterprise owners. Furthermore, they exhibit lower levels of state capacity in the form of social welfare, institutional, and regulatory frameworks. As a result, private business expansion and the innovative capability of firms is generally underdeveloped. In the “oligarchic (clientelistic) capitalism” model, commodity-exporting strategic enterprises can prosper in the absence of a stable legal and business environment so long as they receive sufficient support from political power elites. For instance, in Russia powerful business ownership groups (i.e. “the oligarchs”) established themselves during transformation, and significantly benefited from the privatization policies introduced by political power elites during the 1990s [Maszczyk, Rapacki, 2012, p. 143]. But in these countries, the ownership of private property is not protected by sound market-based institutions and cannot be enjoyed with the same level of security experienced in advanced capitalist economies. As a result, expropriation of private assets by political power elites is a constant threat. On the other hand, powerful oligarchs have considerable influence over politicians through election campaign financing, and controlling the mass media to promote favored candidates. Moreover, the wealth generated from the oil and gas exports can be “a force for economic and social inertia” that traps these nations within the existing “oligarchic (clientelistic) capitalism” structure. This market-based system restricts their ability to compete in international markets with non-commodity related goods and services. The likely progress of these countries requires radical political, economic, and social system changes to break down prevailing relationships between business interests and politics, which hinder new business development and innovation within the non-commodity exporting sectors of the economy [Drahokoupil, Myant, 2015, pp. 155–171].

The fourth model of capitalism can be found within the “order states”. This category applies to several transition countries that are CIS members experiencing limited progress in political, and economic reforms (e.g. Belarus, Uzbekistan). These nations have undergone systemic transformation since 1990 with regard to integration with the world economy; that is, utilization of price mechanisms, domestic price levels close to the world level, and the development of private undertakings. However, substantial state ownership and the ubiquitous involvement of the government in the economy still remains [Drahokoupil, Myant, 2015, pp. 155–171]. The prominent institutional features of the “order states” are: “authoritarian political systems”; “[a] dominant role of the state in [the] economic decision-making [processes]”; “[government] support for commodity, or manufactured exports as a [form of] international integration [inherited from the past]”; “[a] poor environment for private business [development]”; and “[a] high level of welfare provision [that reflects the continuity of the socialist system legacy]” [Maszczyk, Rapacki, 2012, p. 143].
High levels of public spending within these countries ensure the popular support required to prolong the political survival of authoritarian regimes. This peculiar feature distinguishes the “order states” from many other CIS economies, in which welfare payments were significantly reduced during the systemic transformation in the early 1990s. For example, Belarus significantly benefits from its close relationship with Russia, exporting processed petrochemical products to that market and exporting vehicles, produced by the local enterprises which were established, under the former central planning system of the Soviet Union. In Belarus, the government owns the strategic enterprises and directs the lending policies of the state-owned banking system. Thus, strategic firms in this country have the required funding and managerial stability that is often lacking in the privatized companies of the Baltic States. However, the Belorussian enterprises are able to compete internationally only in undemanding markets not dominated by well-established multinational corporations (MNCs). The progress of “order states” relative to other “varieties of capitalism” largely depends on the scope of radical reform undertaken by these countries. Moreover, this model may turn out to be transient in nature for the representative post-socialist economies [Drahokoupil, Myant, 2015, pp. 155–171].

Finally, the fifth category of a capitalist system is present in the “remittance and aid-based economies”. This applies to low-income peripheral SECC countries (e.g. Albania, Bosnia-Herzegovina) and many low-income CIS nations (e.g. Armenia, Kyrgyzstan, Moldova, Tajikistan, and Uzbekistan) [Drahokoupil, Myant, 2015, pp. 155–171]. The “remittance and aid-based economies” model is compatible with a very low-level of economic and political development of formal institutions. These nations are highly dependent on favorable labor market conditions in other countries (e.g. developed European Union nations or Russia) for the supply of foreign currency. Moreover, “remittance and aid-based economies” do not have the internal institutional preconditions (e.g. state capacity, structure of business, etc.) to ensure the presence of advanced forms of integration with the world economy [Maszczyk, Rapacki, 2012, p. 143]. The continual migration of many qualified workers in search for jobs to developed capitalist countries further limits the internal progress. The domestic business of these countries is restricted to small-scale trading because they lack a supportive economic and political environment and often face an unfavorable geographical location. Moreover, in many Central Asian nations (i.e. current CIS members), foreign currency remittances are spent on consumption and imports, and not on investment, which would bring more positive economic impact. The most likely medium-term future for these countries is as “peripheral market economies”. This model depends on developing institutional environment for business and infrastructure that attracts multinational corporations (MNCs) for subcontracting. The remote geographical location of many of these countries may further hinder their transition to other “varieties of capitalism” [Drahokoupil, Myant, 2015, pp. 155–171].

Table 2. provides a summary of the main features of the classification proposed by Myant, Drahokoupil [2011, 2015]. Specifically, it presents the characteristics of the five
identified models that emerged within the CEECs, SEECs and CIS’s. It also predicts future progress from one model to another (classified within each “ideal type”). The different capitalist models shown in Table 2. are arranged from the most (i.e. “FDI based-second rank-market economies”) to the least advanced (i.e. “Remittance and aid-based economies”).

**TABLE 2. Summary of the main features of the “varieties of capitalisms” classification proposed by Myant and Drahokoupil [2011, 2015]**

<table>
<thead>
<tr>
<th>Main features of capitalist systems</th>
<th>Ideal models (varieties) of the capitalist system distinguished within transition countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI based (second rank) market economies</td>
<td>Periphery (clientelistic) capitalism</td>
</tr>
<tr>
<td>Representative countries</td>
<td>Czech Republic, Poland</td>
</tr>
<tr>
<td>Main channel of integration with the world economy</td>
<td>Export-oriented FDI in complex sectors</td>
</tr>
<tr>
<td>State capacity</td>
<td>Stable business environment requirement. Separation of enterprises from direct political influence by state authorities.</td>
</tr>
<tr>
<td>State involvement in the economy</td>
<td>Develops substantial infrastructure for local economy and favorable conditions for FDI by MNCs.</td>
</tr>
</tbody>
</table>
### Main features of capitalist systems

<table>
<thead>
<tr>
<th>Financial system requirements</th>
<th>Ideal models (varieties) of the capitalist system distinguished within transition countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI based (second rank) market economies</td>
<td>Peripheral market economies</td>
</tr>
<tr>
<td>Complex financial system and developed capital markets are not critical preconditions for FDI by MNCs.</td>
<td>Independent sources of finance may be needed for local enterprises.</td>
</tr>
</tbody>
</table>

### Possible prospective direction for change

| Possible prospective direction for change | Some countries may advance to mature and stable market economies subject to substantial development of independent innovation capacity. | Prospects of advancement to FDI based (second rank) market economies if export-oriented manufacturing capacity in complex sectors of the economy is developed. | Progress to more developed capitalist models requires radical political and social system changes. Strong relationships between business and politics hamper the scope for new business development. | Transition to advanced varieties of capitalism depend on the extent of radical political and economic reforms undertaken with very uncertain consequences. | Possibility of development to a peripheral market economy subject to improvements in institutional conditions. Likely progress may be hindered by remote geographical location. |

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**Note:** The acronym FDI refers to “Foreign Direct Investment,” while the acronym MNCs means “Multinational corporations.”

**Sources:** own elaboration based on Myant and Drahokoupil [2010, pp. 7–31]; Myant and Drahokoupil [2011, pp. 299–312]; Maszczyk, Rapacki [2012, pp. 133–144]; Drahokoupil, Myant [2015, pp. 155–171].

### Conclusion and Recommendations

This paper described and evaluated three popular approaches to the “varieties of capitalism” stream of research. We argued that existing classifications are not suitable
to economic and political changes that have occurred within transition countries since 1990 as these frameworks focus on analyzing mature and stable capitalist economies. In turn, Drahokoupil and Myant [2011, 2015], adopting the “spirit” of the “comparative capitalisms” paradigm, proposed a comprehensive classification that combines six channels of international integration with five key institutions, which best describe the unique features of the post-socialist economies. These five ideal types of “varieties of capitalism” have emerged through transition from the CEECs, SEECs and CIS groups. Such typology provides more insights, and a broader understanding of the divergent levels of progress these countries have accomplished since 1990.

However, the classification advanced by Drahokoupil and Myant [2011, 2015] also suffers from several limitations. The first drawback is associated with the limited evaluation of the progress made by transition countries, which underwent systemic transformation from central planning to market-based economies. In addition, the current literature fails to address a more comprehensive typology that would include the diversity of capitalist systems in different geographical regions. However, this classification can serve as a useful starting point for future research to include other emerging, but not yet developed economies (e.g. China, India, Brazil, South Africa, Mexico, Indonesia, Turkey, etc.). For instance, including China with its unique institutional structure of the business environment, specific economy characteristics, non-formal institutions (e.g. “guanxi” personal, business or government networks), as well as its prevailing channel of international integration, could further expand our understanding of the diversity of today capitalist systems.

The second limitation of this framework stems from the authors’ failure to consider some emerging forms of international integration, such as foreign direct investments (FDI) from transition countries, especially after the global 2007–2008 financial crisis. The importance of this additional channel of integration with the world economy is steadily increasing for some transition countries like Russia (e.g. FDI of Lukoil Overseas Oil Company in Kazakhstan, Saudi Arabia, and Uzbekistan), as well as Poland (e.g. FDI of KGHM International Ltd. in Canada, Chile, and the USA). Therefore, further research on the impact of this development on transition economies in the context of the “comparative capitalisms” theoretical frameworks is needed.

Finally, the third drawback of literature classification stems from its failure to consider additional factors, beyond formal and informal institutions, as well as different forms of international integration that best describe the diversity of capitalist systems emerging in the post-socialist countries since 1990. For instance, in some countries factors such as national culture (e.g. Russia); religion (e.g. Turkmenistan, Uzbekistan); geographical location (e.g. Armenia, Moldova); social capital (e.g. Russia); education and skills formation (e.g. Czech Republic, Poland); and the use of information and telecommunication (ICT) technology (e.g. Poland, Russia), could also be important in developing “varieties of capitalism” classifications.
Therefore future research in this area should expand the range of variables to better capture the complex and unprecedented nature of systemic transformations being undertaken by transition economies. Prospective studies could also take into account the impact of supra-national organizations (e.g. the European Commission; the World Trade Organization, etc.) on the behavior of the economic agents in transition countries, and the influence these institutions may have on the development of classifications of post-socialist economies.

In conclusion, the classification proposed by Drahokoupil and Myant [2011, 2015] of five “ideal models” of the capitalist system, prevalent within the transition countries, should not be viewed as “final”. Instead, dynamic models that capture economies in which established institutions and channels of international integration are evolving should be considered. These changes may lead to the emergence of new institutional patterns within transition economies. As a result, future transition countries may move from one variety of capitalism to another type, which may require a modification of the classification of market-based systems existing in post-socialist nations. For instance, some “ideal models” could disappear altogether from this typology, while other categories may emerge within the “comparative capitalisms”. Furthermore, other comprehensive classifications may be developed that include a broader range of variables and countries.

Finally, this paper has focused on the “varieties of capitalism” literature concentrating on analyzing the differences between economies and their development by using either one country or country groups as a unit of analysis. In future research it may also be worthwhile to examine the diversity of capitalist systems, which may be potentially distinguished within different geographical, or even administrative regions of a particular country (e.g. Russia, China, Brazil, etc.). Such research findings can then be used for comparative purposes to provide new insights regarding evolving capitalism.

Notes

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2 “Quanxi” relationships (i.e. networks) are a form of social capital that is widely present within the Chinese society. It is culturally determined, non-formal and intangible in nature. These types of relationships are used predominantly by men in their personal, business or government-related connections, as well as networks. They may be used to overcome many business barriers such as the access to external financing [Scott et al., 2010, pp. 52–56].
3 The information on FDI of the Lukoil Overseas Oil Company was obtained from the firm’s official website at: http://lukoil-overseas.com/projects/, (accessed: November 27, 2015). In turn, the information
on FDI of KGHM International Ltd. was taken from the company’s official website at: http://kghm.com/pl/o-nas/kghm-na-swicie, (accessed: November 27, 2015).

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A Range of Peaks

Book Review


The International Journal of Economics and Management has so far had no book review section. The reasons for this past omission are complex: some might argue that we economists do not write books worth reviewing (product supply side – unlikely); that we, especially the younger generation, do not read (entire) books these days (product demand side – likely); that journals are a more natural outlet for an exchange of views on current thinking than books, which are a slow, inefficient way in reaching intended audience (distribution side – very likely); or that reviews have a low score or outright zero point average in assessing academic output that facilitates academic reputation and promotion (competitive supply side – most likely).

If, however, the intended audience of book reviews includes other aspiring or established economists (and not promotion committees) then the importance of books reviews increases dramatically. Because book reviews meet the need to participate in economics as a conversation in which we exchange ideas in a pertinent remarks, views, and value-laden evaluations of our globally spaced profession in a less formal setting.

We shall take to task a volume published by the Cambridge University Press entitled “The Economics of Economists. Institutional Setting, Individual Incentives, and Future Prospects”, edited by Alessandro Lanteri and Jack Vromen and composed of thirteen separate papers related to the activities of practicing economists in the West, especially in their institutional – collective and individual – dimensions. The authors include methodologically
inclined academic practitioners: Arjo Klamer, Alan Kirman, Bruno Frey, David Colander, Deirdre McCloskey, and Wade Hands, to name just a few. This list suggests that the issues are approached from multiple social scientific perspectives.

Part one, “The Institutional Setting of Academic Economics”, includes chapters on the culture of academic economics by Arjo Klamer, the transnationalization of the economics profession by Marion Fourcade, academic rankings by Margit Osterloh and Bruno Frey, and the network of editorial boards in economic journals by Alberto Baccini and Lucio Barabesi.

In part two, “The Individual Incentives of Professional Economists” David Colander presents a paper on the competition of European economics with US economics, Wendy Stock and John Siegfried consider career patterns of economics PhDs, and Wade Hands analyzes scientific norms and the values of economists as exemplified in priority fights in economics.

In part three, “Challenges and Solutions”, Deirdre McCloskey attempts to answer why economics is on the wrong track, while Robert Frank answers that we try to teach our students too much. In the same section Jack Vromen warns about the perils of narrative teaching in economics, Donna Ginther and Shulamit Kahn present a study of women’s academic careers in the social sciences and Alessandro Lanteri and Salvatore Rizzello discuss economists defecting in the prisoner’s dilemma games. The final paper of the book contains a well publicized manifesto, “The financial crisis and the systemic failure of academic economics”, by David Colander and his seven co-authors.

This list of papers demonstrates both the strength and weakness of the book. On one hand, it conveys the most important feature, i.e. the reflexivity of economics, self-awareness and the will to investigate one’s own profession that are all too rare among economists. The model of technical specialist/social engineer [Mankiw, 2006] is the dominant one. We should welcome, therefore, a forum for reflection on the institutional prerequisites of our work and incentives in research, dissemination and teaching. We are faced with a variety of approaches and find through our daily experience that the curricula of economics often neglect economic and political history, and the history of economic thought and are often virtually emptied of social philosophical content and methodological thinking.

The book has its weaknesses, however, in failing to offer a cohesive framework: some authors engage in cultural criticism, some write on the sociology of (economic) science, others present methodological exercises or perform statistical data analysis or comment on game-theoretical experiments. In addition, no substantially new material is presented as several chapters have been widely published before elsewhere. While renewed publication is a testimony of their worth, a continuation or extension of the thinking involved would be more welcome. A brief bibliographical search shows that most of these authors have written on the topic before, usually at some point during the years 2006–2011. This particular selection of their output is, therefore, not well justified.
Readers of this volume will have their own preferences as to the significance or impact of particular papers, but those by Marion Fourcade and Deirdre McCloskey do stand out. Fourcade’s “The construction of a global profession: the transnationalization of economics” together with her recent paper, “The superiority of economics” [Fourcade, Ollion, Algan, 2015], demonstrate the rise to global power of the economics profession. Mainstream economists are the only social scientists who oppose interdisciplinarity: almost 60% of economists disagree with the statement that “in general, interdisciplinary knowledge is better than knowledge obtained by a single discipline” while, on average, ca 20% of other social scientists do so. Clearly, they are persuaded by their own “fully scientific” methodological and theoretical achievements.

Notably, one of the authors published in this collection of essays, David Colander, [1991] noticed 25 years ago that garbage men were more important than economists because if the latter were to go on strike nobody would have noticed and it would have had no practical effect. His opinion, based on the observation that “economists are not involved in the functioning of the economy” [p. 19] was to be interpreted as meaning that economists had abandoned facts and institutional knowledge about the economy and instead had concentrated on (a sometimes bizarre) technique for its own sake to the detriment of understanding economics, and had largely failed as teachers and public intellectuals.

Despite the unjustified hubris and systemic failure of academic economics (see chapter 13), mainstream economists continue to dominate academic social science, national government and international policy making. In fact, the fear of such mainstream economists dominating policy thinking was clearly expressed during the global financial crisis as illustrated by, for example, INET Rob Johnson’s interview with John Kay. Many commentators think that the financial crisis was to a significant degree of our own making. Thus, the diagnosis of crisis is not only pertinent to academic – but also to policy determining – economics (cf. the Greek débâcle).

Considering the impact of economics research of Deirdre McCloskey, whose papers and books are often praised and quoted, is a good example to consider as her distinct but essentially mainstream liberal pronouncements are rarely considered in practice. If a discourse, so distant from heterodox economics/methodology, is (politely) forgotten, one really cannot hope for a truly open pluralist discussion of the profession of economics. Economics is ultimately what economists do and we seldom question our self-complacency.

Another paper worth considering is by David Colander. The title metaphor of twin or more peaks alludes to Colander’s 1996 [Kupers, Colander, 2014, p. 3] poetic description of (mainstream) macroeconomic economists climbing up a mountain, only to discover, when they broke through the clouds, that a neighboring mountain would have taken them higher.

This 20-year old parabola has not lost any of its poetic charm and relevance. What is more, and what was surely entirely unintended by its author, the feeling of climbing a lower mountain is fully “justified” on the meta-level of reflection upon the state of economics.
In other words, climbing other visible mountains in the range of the sociology of economics or the economics of economics would be more satisfactory and productive. As a bitter adage of the Cambridge Society for Economic Pluralism reminds us “All schools of economic thought are equal, but some are more equal than others”.

Yet while “The Economics of Economists. Institutional Setting, Individual Incentives, and Future Prospects” is deficient in a number of mentioned respects, it remains relevant. In Poland the self-reflection on current theoretical and methodological practice in economics is still rare, indicating that we might be behind the curve. Remembering the words of Jacques Furet “With all the fuss and noise, not a single new idea has come out of Eastern Europe in 1989”, a book containing papers focusing on the state of Polish economics and economic thinking would be welcome. Such work could make us more aware of the traps in which our colleagues in more institutionally advanced economies have found themselves.

Note

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