Regular Article

The Development of the Outsourced Facility Service Industry in Europe

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INTRODUCTION

The economic relevance of the FM industry is still very unclear. A well-documented, pan-European, comprehensive overview of the FS sector is necessary for transparency in the European FM market and for creating awareness of the FS industry in European politics. (Jensen 2010, EuroFM 2011). There are estimations for the size of the FM market on the national level but a European comparison is missing. Therefore, the research question is:

How large is the industry around building operation in the EU and how did it evolve between 2008 and 2014 in comparison to business economy?

The aim of this research is to close that gap by using a new approach and to go a step further by analyzing the development of the FS industry. This article shows the development of the FS sector compared to other industries and the whole economy between 2008 and 2014. This shows the impact of the economic crisis that started in 2007 on the FS sector and if the FS reacted simultaneously to other industries and the whole economy. Furthermore, the development in the 4 largest industries in Europe is also shown and the differences between countries are analyzed.

There are different reasons why the economic relevance of the FM industry is still unclear. According to Thomzik et al. there are two main causes: First, FS contain many different services and there are different opinions on which services really belong to FS. Second, no sufficient data base was found until now. (Thomzik et al. 2010)

FS are defined as "support provision to the primary activities of an organization, delivered by an internal or external provider" (British Standards 2007). FS are a support business, which is not separately presented in the statistical classification of economic activities in the European Community (NACE Rev.2) (European Commission/Eurostat 2008). The statistical classification of economic activities of 2002 still listed FM in the description of the activities as a part of "Management of real estate on a fee and contract basis" (European Commission/Eurostat 2002). However, in Germany's version of this NACE structure this position didn't even include the important Facility Services "cleaning" and "maintenance" in contrast to the European structure. (Statistisches Bundesamt 2003). This demonstrates the different views on what Facility Services actually are and shows that the understanding of FS in 2002 and 2003 really doesn't reflect today's definition.

In 2002 a European Norm for FM was created to make cross-border benchmarking possible. In this norm FM was defined and as the basis for the benchmarking-norm further norms about FM-agreements, quality, taxonomy and measurements were developed. The technical Committee CEN/TC 348 "Facility Management" also published the EN 15221-4:2011 that lists which services and activities can be considered FS. They are bundled in Facility products. This way FS can be trans-nationally compared (Jensen 2010, Österreichisches Normungsinstitut 2012).

To achieve a pan-European, comprehensive overview of the FS sector there have already been many attempts to estimate the size of the FM industry (Jensen 2010, EuroFM 2011). Until now there are only estimations on the national level. This articles offers a solution for a European-wide comparison of the FS sector by using a new approach and even analyzing the development of the FS industry.

As a measurement value added at factor cost is selected. A comparison of turnover would not make so much sense, as turnover includes the inputs of other enterprises and this could lead to double counting. This is avoided if inputs by other enterprises are subtracted from turnover and so the performance of the enterprise can be measured. If also subsidies are added and indirect taxes are subtracted the result is value added at factor cost (Statistik Austria 2016). Eurostat defines value added at factor cost as "gross income from operating activities after adjusting for operating subsidies and indirect taxes". "Alternatively, it can be calculated from the gross operating surplus by adding personnel costs." (European Commission/Eurostat last modified 2013) This means that gross value added at factor cost is also an important indicator for wages and salaries.

This paper provides results for the four biggest national economies of Europe (measured by GDP) and the EU from 2008 till 2014 as long as the data base is sufficient. The study includes the outsourced services for all types of buildings and infrastructure (e.g. business buildings, private housing).

LITERATURE REVIEW

On a national level a number of market data studies have been conducted.

In Denmark estimations for the whole Danish market have been published. For the study phone interviews have been conducted among the demand and the supply side of FM. The whole Danish market was estimated at the size of 4.9 billion Euro. The results have to be handled with care since there are certain restrictions, e.g. only companies with more than 50 employees have been interviewed. Furthermore, the study also showed that in different studies there have been great differences in the methods of estimating market sizes and in the actual estimations. (Jensen 2010)

In the Netherlands Facility Management Nederland (FMN) and Twynstra estimated the size of the FM market to be 77.2 billion Euro in 2013 for management consultancy. (FMN & Twynstra 2010)

In the Nordic countries interviews with FS suppliers and clients were conducted in 2004. Then the total square meters of building areas excluding private housing were used for the calculation of the potential FM market. For Sweden, Denmark, Finland, Iceland and Norway the estimation was 53 billion Euro. (Jensen 2010)

According to a study from the United Kingdom, the FM market in the UK ranges between 4.5 and 187 billion pounds depending on the report. The differences in the reports are due to different perspectives of FM: Different activities are considered as FM, either the whole market or only the outsourced market or only the field of integrated FM is included. Therefore, the question is raised if we are really intelligent enough to depict the whole FM market. (Moss 2008) In Germany in 2010 the size of the FM market was calculated on the basis of the gross fixed assets of relevant resident and non-resident buildings. The result was that the FM industry is about 5.03% of the gross domestic product. (Thomzik et al. 2010)

The European Facility Management Network (EuroFM) presents even more studies about the size of the FM market in different European countries and describes the problem of comparing data of different countries and providing a common framework. Sven Teichman offered a European approach in 2009. He estimated the size of the internal and the outsourced FM market of the five biggest national economies in Europe and calculated the percentage of GDP. By using this percentage, the defined market types, the degrees of outsourcing and the growth rates of external services for these market types and the top five countries the size of the FM market in European countries was estimated (EuroFM 2011). In the follow-up report the EuroFM describes the attempt to find turnover of the FM industry in all European countries. Unfortunately, data was missing in some countries. A second approach was the usage of the total building area in square meters and the FM costs (EUR/m^2) for the calculation. As a pilot project this approach was put into practice in the Netherlands and Belgium. The results were different from the results in the first report but the EuroFM considered this method as useful. For a pan-European comparison a lot of data would need to be collected. (EuroFM 2012)

METHOD

In a first step, the relevant services for FS were identified to assess the size of the FS industry: The list of FS activities from the EN 15221-4 were used for this identification, in order to provide a widely accepted, pan-European picture of the FS industry. Those activities from the EN 15221-4 were compared to the statistical classification of economic activities in the European Community (NACE Rev.2) (European Commission/Eurostat 2008). Then the relevant industries for the usage and operation of buildings were selected from NACE. The relevant industries were assigned to two different groups:

- Typical Facility Services for the operation of business and residential buildings
- General Facility Services and other relevant industries

Typical Facility Services according to EN 15221-4 include services such as cleaning, maintenance, catering, janitorial services, security services, landscape service activities, and other very typical services. General Facility Services and other relevant industries consist of relevant industries for building and infrastructure operation which cannot be assigned clearly such as combined office administrative service activities or waste management. Those two groups (typical and general FS and other relevant industries) are added up for the category "Facility Services in total".

Not included in the calculation are intermediate input services in connection with buildings which are provided for FS, such as any manufacturing service. Intermediate inputs are goods and services "used as inputs into the production process of an establishment that are produced elsewhere in the economy or are imported" (OECD last modified 2005). All other industries defined by the European Commission such as construction, manufacturing, wholesale and retail trade, etc., also do not include input services. So excluding input services is necessary to compare FS with other industries. However, it must be noted that certain products or services which are mainly produced for FS such as the manufacturing of cleaning or polishing preparations or paint and varnishes are missing now to enable comparability.

The second step consisted of an analysis on the availability of data sources and the selection of the most suitable and reliable data. To ensure comparability for European countries the Annual detailed enterprise statistics for industry, services, trade and construction were selected. They are published online by the European Commission in structural business statistics (European Commission/Eurostat 2017). Structural business statistics present structure, behavior and performance of economic activities on the most detailed level of the statistical classification. It covers the NACE sectors B-N and S95, the European Commission uses the term business economy for those sectors (European Commission/Eurostat last modified 2015). Agriculture and personal services are not part of it. Those statistics include a huge amount of data and ratios

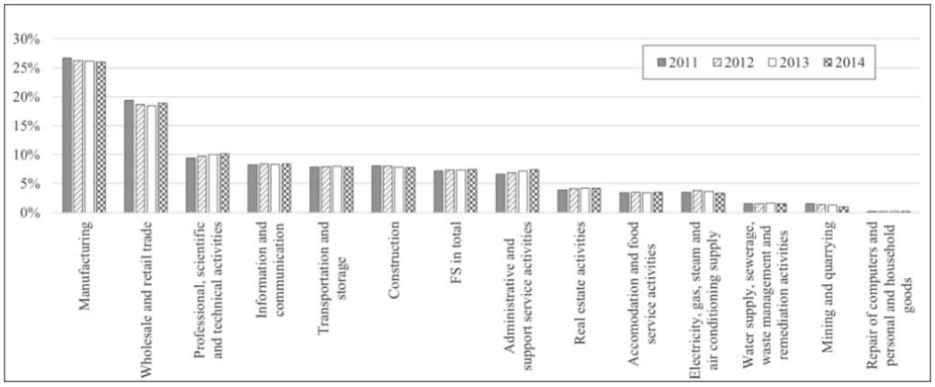

FIGURE 1.—EU (28 countries), value added at factor cost of all industries as a percentage of total value added at factor cost NACE B-N, S95 excl. K, own calculation on the base of annual detailed enterprise statistics (European Commission/Eurostat last modified 2017)

such as turnover, production value, value added at factor cost, employees, investment rate etc. The National Statistical Institutions collect the data from enterprises (European Commision/Eurostat 2015). The data represent the market producers of the industries B-N and S95 (Statistik Austria 2016). The financial sector (K) is only recorded from 2013 onwards and even in 2013 and 2014 there is data (partially) missing in certain countries. So the financial sector is excluded because it would provoke a dip in time series and would negatively influence the comparability between the countries.

Value added at factor cost was selected as a measure. Value added at factor cost of the FS industry and the industries defined by the European Commission are presented in percent of total value added of the sectors B-N, S95 excl. the financial sector K. This makes a comparison between different industries and countries easier. The four largest economies of the European Union measured by GDP are selected. They are Germany, United Kingdom, France and Italy (Statista 2016).

DISCUSSION OF DATA AVAILABILITY AND QUALITY

In order to receive reliable results, only countries are included in the analysis which have less than four missing values in the relevant data sets of value added. For performing plausibility checks other data from Eurostat was additionally used, mainly the number of employees, because the relation between employees and value added is a good indicator for data validation. So value added at factor cost per employee is calculated and minimum, maximum, average and median of the single countries are examined. The industries behave very consistently over the examined timeframe (for both value added and employees). So the checks were performed for the EU for all available years and for the other countries only for 2013. Outliers and their causes were investigated carefully. The EU and the countries Germany, United Kingdom, France and Italy offer a solid database for estimating the size of the FS industry. The plausibility checks showed that all data could be used for the calculation, only the financial sector has to be omitted.

Value added per employee showed slight variations across countries and different industries, but the data seemed very reasonable. Extreme outliers could only be detected in the industries mining and quarrying in the UK and central banking in Germany, Italy and France, therefore the absolute numbers for value added and employees were examined. A look at the absolute numbers shows that neither central banking nor mining and quarrying has too extreme absolute values for value added or employment. So the relation was examined more deeply by using additionally personnel costs and the gross operating surplus from the annual detailed enterprise statistics. This analysis showed that for mining and quarrying the personnel costs only count for 24% of value added in the UK, the rest is the gross operating surplus. In the other countries the gross operating surplus for mining and quarrying lies between 38% and 48% of value added. As mining and quarrying are carried out large scale in the UK this is reasonable (Carbon Trust 2016). Central banking shows similarities to this: In Germany, Italy and France the gross operating surplus is between 81% and 86% of value added. So the high value added per employee is due to the gross operating surplus.

In the sectors central banking, other monetary intermediation and insurances data is also missing in many countries and for the EU. As it is very important to have the same point of reference for a comparison over time and for different countries, the financial sector is excluded.

RESULTS

The first graphic shows value added at factor cost of all industries and the FS sector in the whole EU from 2011 to 2014. The time series is restricted to this time frame because data for the EU is only provided from 2011. Value added at factor cost for the whole business economy (B-N, S95, excl. K) in 2014 is 6,588,630 million Euro. In the EU in 2011 two subcategories for FS are missing, one subcategory is missing in 2012 and 2013. The graphic shows that manufacturing is the most important industry, followed by

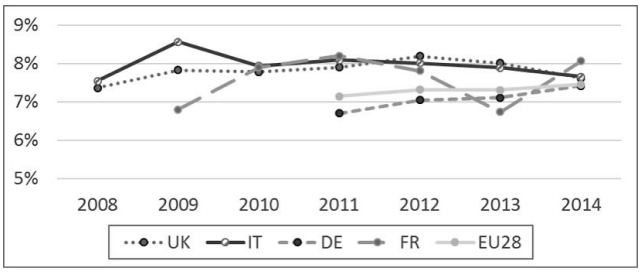

FIGURE 2.—Value added at factor cost of the FS sector in total as a percentage of total value added at factor cost of NACE B-N, S95, excl. K, own calculation on the base of annual detailed enterprise statistics (European Commission/Eurostat last modified 2017)

wholesale and retail trade and professional and scientific and technical activities. However, the graphic shows that in the EU FS are more than 7% of total business economy in terms of value added and therefore a very important sector in all years.

Figure 2 shows the FS industry as a percentage of the non-financial business economy B-N, S95, excl. K from 2008 till 2014. This graphic shows the development of the FS sector compared to the whole economy and gives information if the FS sector behaves as the rest of economy in case of economic fluctuations. Due to missing values the time series is not complete for certain countries as can be seen in Fig. 2. Considering missing values in FS subcategories is also very important for the interpretation. The dips in the time series in France are due to missing values and should not be over-interpreted. However, the other countries can be examined very well. In Germany a slight increase of the percentage of the FS sector is visible, which is an indicator that FS is a growing industry. In the UK the percentage increased a little until 2012 and then decreased slightly again. In Italy the share of the FS sector also decreased a little since 2011, very interesting is the peak in 2009. This peak is explained by taking a look at business economy in total and FS in total by absolute numbers (Fig. 3 and 4). The increases and decreases seem to be little, but given the large numbers involved, a dip of half a percent is material, as in reality they are large.

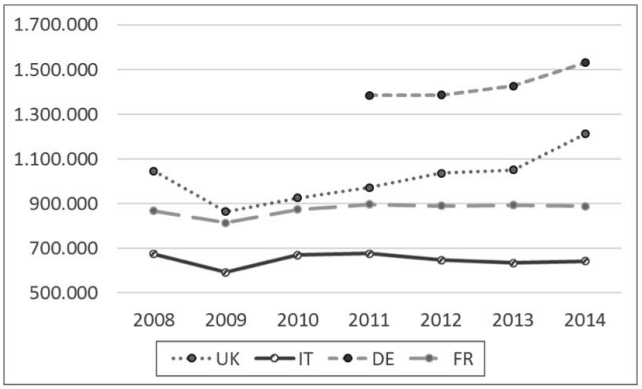

FIGURE 3.—Value added at factor cost (in million €), non-financial business economy (NACE B-N, S95, excl. K), own calculation on the base of annual detailed enterprise statistics (European Commission/Eurostat last modified 2017)

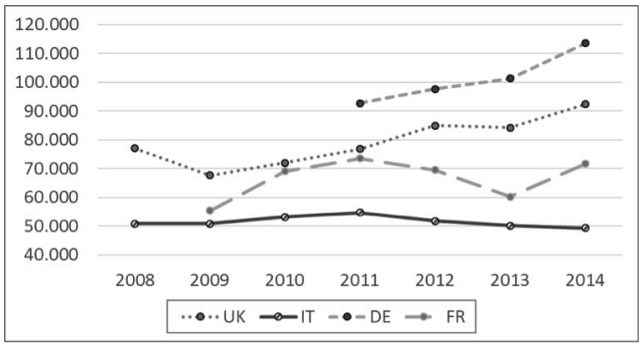

FIGURE 4.—Value added at factor cost (in million €), FS in total, own calculation on the base of annual detailed enterprise statistics (European Commission/Eurostat last modified 2017)

Figure 3 shows business economy B-N, S95 excl. K and Figure 4 shows FS in total by absolute numbers. Inflation was not considered. Business economy as a whole shows the economic crisis in 2009 very well. From 2008 to 2009, the UK suffered from a decrease of 17%, Italy had a decrease of 12%. In the UK the FS sector also decreased by 12%, in Italy only by 0.1%. This shows that in the UK the FS sector reacted very quickly to the economic crisis, not in Italy. In Italy the FS industry is not really affected by the crisis in 2009, the industries that were hit badly in absolute and relative numbers were manufacturing, construction and professional, scientific and technical activities. Furthermore, Figure 3 shows that economy in Germany and in the UK is increasing constantly, while economy in Italy is decreasing. This is the same for the FS sector (Figure 4). So regarding slow economic changes, the FS industry behaves as the whole business economy in the analyzed countries, also Italy.

CONCLUSION

The outsourced FS industry is a very important industry sector in Europe as it accounts for more than 7 percent of value added of non-financial business economy and is one of the largest industries. The time series shows that the FS industry reacted differently to the economic crisis in different countries. While the FS industry in the UK was hit by the crisis, same as the rest of business economy, in Italy the FS sector was not affected by the crisis. Regarding slow economic developments the FS sector behaves very similarly to the rest of the business economy.

Furthermore, it must be noted that services around buildings and infrastructure cannot be off-shored. This study only includes the outsourced services, internally produced services are excluded. This makes the FS industry even more important. Knowledge of the size (hence importance) of the FS market is necessary for creating awareness amongst policy makers in Europe.

The data was taken from official statistics from the EU and the data was checked for plausibility and outliers. The checks showed that all data could be used for the study.

There is still further research necessary in this field. First of all, it would be interesting to also include the intermediate input services to examine the impact of the FS industry on other industries compared to other sectors. Second, it would be interesting to evaluate the structure of employment within the FS sector and to compare the different areas of FS. Calculating more ratios in this area and analyzing and comparing them on a European level over many years could show interesting changes. This could be especially exiting in connection with ongoing changes like the automation of buildings, industry 4.0 and the foreseen increasing use of robots in FS.

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