
Comparison of German and Czech Public Procurement System and Economic Impacts¹

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Abstract:

Purpose: The paper determines the similarities and divergences in the public procurement system in Germany and the Czech Republic. The authors assessed the contribution of the public procurement system in each country's GDP, identified similarities in the procurement process and how they affect the overall outcome. Divergences in the two countries procurement process and how they affect the outcome were also identified.

Design/Methodology/Approach: The research was designed by using secondary research method as it has a wide scope that would be a challenge to achieve using primary research method. Secondary research methods were utilized to generate data which is analyzed by quantitative techniques.

Findings: The most notable similarities include the use of e-procurement and the different types of public procurement contracts to enhance transparency and efficiency. Apart from that, there are some divergences where Germany seems to be a little bit more efficient compared to the Czech procurement system. Some of the divergences include higher corruption levels in the Czech Republic system than in Germany and also higher efficiency in terms of processing tender in German system than in the Czech Republic.

Practical Implications: The study compares the public procurement systems in Germany and the Czech Republic and underlines potentials and disadvantages of both systems.

Originality/Value: The research delivers a legal-economic comparison of German and Czech public procurement systems, including influence and effects made by European Law.

Keywords: Procurement system, legal-economic comparison, efficiency, e-procurement.

JEL Codes: E63, H57, K23.

Paper type: Research article.

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1. Introduction

According to OECD statistics, public spending in most industrialized countries accounts for approximately 15 to 20 percent of GDP while in the developing and emerging economies, governments spending is 25 to 30 percent of their GDP (Budak and Rajh, 2014). In Europe, public procurement in most countries accounts for approximately 14 percent of GDP covering a wide range of products and services starting from small items, such as stationary to large government contracts as the constructs of infrastructure (Grandia and Meehan, 2017).

One of the traditional goals of the public procurement process is to build an economy by providing the necessary procedures for the acquisition of public goods and services to ensure funds are utilized for the benefit of state while ensuring economic growth (Keulemans and Van de Walle, 2017). Essentially, the philosophy of economic growth through public procurement system is that an efficient system plays a major role in cost reduction ensuring the products and services procured are of best quality and beneficial to economy.

The purpose of this paper is to conduct a comparison of the economic impact of public procurement systems between Germany and the Czech Republic with the aim of identifying if any procurement system is better and what are the reasons why it is better. Both countries belong to the European Union, which means they have a lot of similarities in terms of their policies and public funds spending.

However, being separate nations with different government administrations, it is highly likely that their systems have significant divergences based on local policies and strategies for ensuring individual economic growth. Some of the items that will be analyzed in the paper include efficiency in public procurement system and percent of total public spending on the total GDP. Before analyzing the individual countries, the paper will conduct a review of each country's public procurement process. This will provide a lot of insight into the various differences and similarities in the procurement systems.

1.1 Overview of Public Procurement System in Germany

The public procurement system in Germany is comprised of approximately 30,000 contracting authorities who range from government agencies to universities and pension insurance institutions. These contracting authorities perform more than 2.4 million contractual procedures per year whose annual volume according to the Federal Government of Germany estimates to an amount of 280-360 billion euros annually. These volumes account for between 10-15% of the country's GDP which is a close estimation of most of the countries in the European Union (Solbach, 2018). Since the country is a federal state made up of various local governments, the structure of the public procurement system is decentralized with each level having its contracting authority. However, the lower levels of government are expected to

be in full cooperation with the national government to ensure efficiency in the procurement process. The Federal government handles only 12% of procurements while the regional and municipal/local levels handle 30% and 70% respectively (Solbach, 2018). Germany's controlling policy on government procurement is that tender offers with most economically efficient terms receive first priority in the procurement process (Solbach, 2018).

1.2 Overview of Public Procurement System in the Czech Republic

The Czech Republic has a system of government encompassing one state government and various district administrations. The procurement function in the country is completely decentralized and every district bears the full responsibility of procuring its services and products from suppliers. Moreover, they have the powers to process their individual procurement without any coordination from the central government. The government still, however, maintains an oversight authority on the various procurement divisions across the board. The procurement system runs on a bill developed and passed by the Czech Republic. The law seeks to ensure that there are order and efficiency in the procurement process. According to the country's report, public procurement is a significant contributor to economic growth and plays an important role in building the economy. The country's public procurement accounts for 14% of GDP with an amount of 21.4 million euros being spent on procurement every year (European Union, 2014).

Table 1. Overview about Public Procurement Key Parameters

Overview	Germany	Czech Republic
Total Procurement	401,730,000,000 EUR	21,480,000,000 EUR
Procurement % of GDP	15%	14%
2013 GDP	2,809,480,000,000 EUR	156,932,600,000 EUR
Contracting Authorities	30,000	1,989
Number of Days Decision	104.2	57.9

2. Material and Methods

The objective of this paper is to conduct a comparison of the economic impact of the public procurement system in both Germany and the Czech Republic. The specific goal is to describe the approach that has been used throughout the paper and in addressing the research question to achieve the aims and objectives. The article explains the rationale behind every criterion used in data collection and analysis in fulfilling the research objective. The research was conducted on the following criteria:

- To assess the contribution of the public procurement system in each country's GDP.
- To identify any similarities in the procurement process and how they affect the overall outcome.

- To identify any divergences in the two countries procurement process and how they affect the outcome.
- To assess efficiency in the procurement process to identify similarities or divergences in time wasted.
- To assess public perception or confidence in public procurement systems in the two countries.

The research entails to compare the procurement systems between two countries. Based on individual analyses in each country the findings are then compared to identify any similarities and divergences which are recorded. The main focus in conducting the analysis is anything related with cost and efficiency in the public procurement systems.

This research was conducted using secondary research method as it has a wide scope that would be a challenge to achieve a primary research method. This method involves the use of information from other sources of previous studies or data from census to help in fulfilling the research objective (Johnston, 2017). It is more efficient than the primary research method in case the scope of the research is too big that it is a challenge to collect raw data and the researcher can assess materials from various databases. The main advantage of this method is that it is cheaper than the primary method and less time consuming since the information as the researcher can access data from other studies without having to visit the field which sometimes can be hectic and might take a lot of time to cover.

Besides, information from secondary sources is usually themed which means it is easier for the researcher to easily identify the area that contains the data they want easily unlike in primary research where coding has to be done by the researchers themselves requiring a lot of expertise and knowledge. Other than saving time, secondary research is also advantageous as it helps in accessing a lot of data from one source, hence, it is easy to conduct a comparison without having to employ a lot of logistics. In other words, it is a convenient method of carrying out comparative studies which is what this research is all about.

Similarly, this research relied heavily on a secondary method where information and data collection was done using various sources available in search databases. The reason for using the method is because data collection on the economic impact of the public procurement system in the two countries would require a lot of field visits which are highly costly since they are two different countries with independent systems. Also, the fact that the research involves an analysis of a complicated process, which is public procurement system, it would be a challenge to access all information pertaining the procurement and the information obtained might be too large and vague making it hectic for the researchers to narrow down and get what they want. The language barrier is also another problem as primary research would require interaction with the officials from the systems in the two countries which speak different languages hence the researchers will have to be conversant with both

of them. Secondary research method makes it easier as the materials accessed from the search databases are translated into the desired language.

2.1 Research Approach

Depending on the purpose of research, there are two approaches that can be taken in fulfilling the objective and they include qualitative and quantitative research approaches. For this study, the most appropriate research approach identified is quantitative as it specifically deals with numbers and this research requires comparing facts and figures in procurement systems of the two countries to identify any similarities or divergences. There various advantages to this approach which makes it appropriate over qualitative method.

First, it deals with facts and figures hence eliminate the problem of emotions in data analysis. Besides, it is easier to conduct multiple datasets to see if they are tally and eliminate any suspicious information which could be varying significantly from the rest of the sources. Also, the researcher can automate data analysis in case there is huge data to be analyzed making it faster than a qualitative research approach.

In this study, a quantitative approach was identified to be more appropriate due to a number of reasons. First, the objective of this study is to conduct a comparison of the economic impact of the two countries which means the data collected will mainly be in form of figures such as time taken to complete a procurement process or volumes of procurements completed in each country per year among others. It is from these figures that the research will discuss the findings making the approach more appropriate for the study. One of the main challenges of this approach to this study is that it does not address behaviors and it will be difficult to understand how people's attitude on the public procurement systems for their respective country affects economic outcomes.

As indicated above, this study will use secondary research methods in collecting data as it is considered more convenient in terms of time and cost. Due to limited resources concerning public procurement systems in both countries, a huge amount of data collected in this research was accessed from country reports. The material or sources used in the research were mainly accessed from internet databases but only published and reliable sources were considered. Also, in spite of the two countries, both in the European Union, only information about procurement system in the specific country was considered and any information that was generally about the EU nations was disregarded.

2.2 Selected Criteria Used

The information used in the resulting recording was accessed by searching through various databases where words such as public procurement system in Germany/Czech, the economic impact of public procurement in Germany/Czech and

country reports for Germany and the Czech Republic were used to search for available information. The information that was considered had to be either a published report or academic journals as these were considered to be more reliable as opposed to other publications such as blogs and social media posts. Among the first criteria for inclusion were any source that provided comprehensive data about procurement in both countries not more than five years old as any source more than five years old was considered to be outdated and does not present the true picture.

Also, references in which the source was important to avoid people's personal opinion and deal only with verifiable information. Any report or resource from European Union was given a priority as it keeps tracks and reports of each country in the region and any information contained in these reports is credible and verifiable.

2.2.1 Evidence of Validity and Trustworthiness

Establishing trustworthiness and validity of a research is crucial as it provides the basis for replicability of the research by future researchers who would be interested in the similar topic or anyone who would like to expand one of the objectives in another study (Cope, 2014). Unlike in qualitative research where trustworthiness is based on researchers' judgment on the quality of information used (Leung, 2015), quantitative research requires the researcher to ensure that the figures used are based on facts and can be confirmed through reports and other source documents. In the case of this study, evidence of trustworthiness is established through a number of factors which include referencing of sources where the figures used were accessed from as well as confirming reliability and credibility of the sources.

2.2.2 Evidence of Reliability

The methods used for data collection are crucial in assessing the reliability of the research where a different researcher can use similar methods of data collection to arrive at the same results (Bolarinwa, 2015). In most cases, reliability is assessed by replicating a research using the same study population (Amankwaa, 2016). In this research, the study was done using countries not as a study group but the systems in the two countries form the research subjects. However, the study was carried out using secondary research methods. This research is based on facts about public procurement in the two countries, hence, it was crucial to ensure that any source where the data were collected was correctly referenced.

2.2.3 Evidence of Dependability

Dependability is another criterion that is used to establish consistency and reliability of the results to confirm trustworthiness of the research methods as well as the outcomes (Munn *et al.*, 2014). Using the dependability criterion, any auditor who is conversant or an expert in research can identify any irregularities or lack of them where confirming whether the information from the findings can be replicated in future studies (Connelly, 2016). In establishing dependability, this research outlines

the study methods used as well as the study approach including the reason why the methods were used as opposed to other study methods.

2.2.4 Evidence of Credibility

Credibility is important as it ensures that the information in the study can be relied upon and replicated by other researchers (MacCoun, 2018). Similar to the referencing section, credibility in this research was established by ensuring that the data collected is from reliable sources which include reports and academic journals. The reports are important as they provide the audience with an opportunity to confirm any figures from the sources to assure them that the study was based on facts and not predictions.

Also in ensuring correctness of the figures used, the comparison between different reports and sources were done and any information that varied from more than three other sources was not used in this study as it was considered unreliable or erroneous. Also, in ensuring credibility, the study used sources that are not more than five years old as any information older than five years was considered outdated and might not represent the true picture of public procurement systems in the two countries. The world is changing and each day new strategies to increase efficiency are being implemented hence it is important to ensure that the information used is as current as possible.

2.2.5 Evidence of Transferability

Transferability of a research is important as it provides the basis for further studies or provides other researchers with information crucial for identifying research gaps that need to be addressed (Noble and Smith, 2015). In addressing this issue, any formula used in arriving at the results is adequately explained to help the audience to understand how the results and conclusions were arrived. Also, the methodology used is explained in this paper to ensure that any interested party will have an idea of how the results were reached and can use similar methods to reach the similar conclusions.

2.2.6 Evidence of Confirmability

Confirmability is one of the crucial criteria of establishing credibility, especially in qualitative research approach (Tong and Dew, 2014). Though this study is conducted using a quantitative approach, confirmability is considered to be useful as the paper is based on secondary research method which means there is need to confirm the information provided to ensure that they are correct and they are not based on assumptions (Egerton *et al.*, 2017). Consequently, in establishing credibility in different sources addressing public procurement system in German and the Czech Republic were analyzed and information that was consistent in more than one study was included in this research. In addition, all the sources where the information was accessed from are a reference to provide the user with proper evidence as they can search the references from various databases and confirm their existence.

2.3 Ethical Issues

In most cases, ethical issues are considered to be most crucial in primary research data collection method especially where respondents are human beings since they have to give consent before being included in the research. However, ethical issues are also crucial in secondary research as there are some aspects of research that need to be considered which includes avoiding the plagiarizing of other people's work (Taverne, 2018). Specifically, ethical considerations ensure that the research followed the laid down guidelines of ethics and privacy in carrying out the study (Vayena *et al.*, 2016). In ensuring that there was no plagiarism in this research, any information that is not the original idea of the researcher is correctly referenced using in-text citations to recognize the efforts of the primary data collector and publisher. Also, there was no copy-pasting of information and most of all, any source that is used for this research was reviewed to ensure there are no restrictions on the replication of ideas.

2.4 Data Analysis

This is the process where the researcher gathers and organizes data collected into meaningful information that will help them to deliver findings and conclude on the results (Peersman, 2014). The analysis of any research is crucial as the researcher records the data collecting to help them in discussing information in the finding and make an interpretation that is relevant to the study. In this research, data collection and recording of the results were based on various themes that were considered crucial in determining the economic impact of public procurement system for the two countries in question. The themes used in the study recording the results include:

- the total procurements done in each country in a year;
- the number of days taken to make decisions of contracts;
- the percentage of corruption in the system;
- the number of contracting authorities in the country.

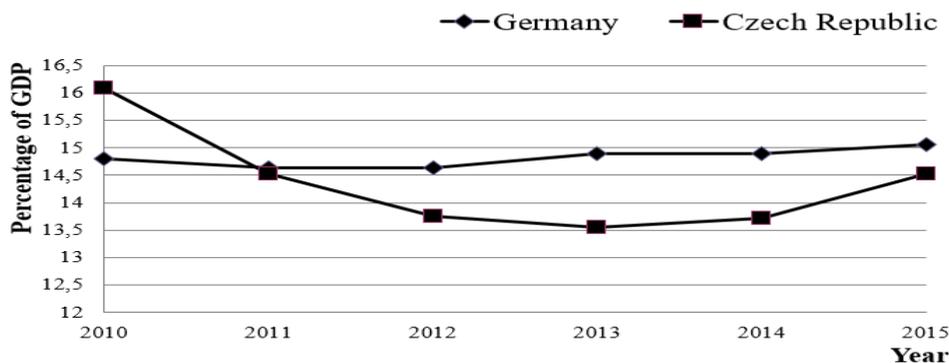
3. Results

The results presented below are based on reports from EU as both countries belong to the Union which monitors the performance of its member countries and published the respective reports. The information is based on a report that was published in 2014 from data collected in the previous year. However, in the case of percentage procurement of the total GDP information from OECD is incorporated as it contains figures for both 2014 and 2015 in addition to the ones for 2013. As mentioned in the methodology part, data collected were recorded according to themes which are identified below.

3.1 Percentage of Public procurement to GDP

According to European Union reports Germany's total procurement for the year 2013 amounted to 401.7 billion euros which was approximately 15% of the country's GDP. Of the total tenders handled by the public procurement system, 8% were from a national level while 43% were from the local and regional level (Solbach, 2018). In addition, 20% were from bodies governed by public law while 29% were from other tenderers (European Union, 2014). Tenders in Germany were divided into works 44%, services 29%, supplies 27% and framework agreement 13% (Solbach, 2018). In the case of the Czech Republic, the total procurements for the year 2013 according to a European Union report amounted to 21.48 billion euros which was 14% of GDP. Of the total tenders awarded 25% were at the national level, 25% at the regional level while 24% were for body governed by public law and 26% were for others (European Union, 2014). The contract type in the country was divided into 33% services, 17% works, 50% supplies and 8% framework agreement (European Union, 2014). Over the years, there has been an increase in the number of resources employed by the two countries out of their GDP's. For instance, in the year 2015, Czech Republic raised it to a total of 15% of GDP whereas Germany increased it to 15.1%. This is clearly displayed in Figure 1 which shows an upward trend in both countries.

Figure 1. Trends in Public Procurement as Percentage of GDP



3.2 Decision Time

In terms of efficiency in making decisions, Germany proved to be more efficient as it took an average of 57.9 days to make a decision about a tender and award a contract. A total of 20,734 contracts were awarded by the contracting authorities. The number of contracts awarded in 2014 is lower than the number of contract notices issued or published which was 24,960 (European Union, 2014). On the other hand, the Czech took longer time than in Germany to make decisions as it took an average of 104.2 days to give feedback about a tender or issue a contract award. A total of 5,951 contracts were awarded in by the contracting authorities. The number

of contracts awarded is high against the number of contract notices issued which was 5,376 (European Union, 2014). According to the calculation below, Germany had a much higher efficiency compared to Czech and therefore Germany's procurement system is much better in terms of this factor. The formula for efficiency is given as:

$$e = \frac{Q}{t}$$

e = Efficiency
Q = Number of tenders
t = Time taken

$$\text{Germany's Efficiency} = \frac{20,734}{57.9} = 358.1$$

$$\text{Czech's Efficiency} = \frac{5,951}{104.2} = 57.11$$

3.3 Percentage of Corruption in the System

The figures under this theme are a perception based on an assessment by the European Union and other transparency bodies. In Germany public procurement process, transparency requirements are fully met in the issuance of tenders or contracts and e-notifications are mandatory as well as e-submission. The corruption in the system at the national level is perceived to be 37% while at the regional level is 49%. In the case of the Czech Republic, transparency is fully met as well and e-notification is mandatory. However, e-submission is partially mandatory (European Union, 2014). Also, in Germany's procurement process, EU rules are fully met while in the Czech Republic they are partially met. Corruption in the system at the national level is perceived to be 77% and 67% at the regional or local level (European Union, 2014).

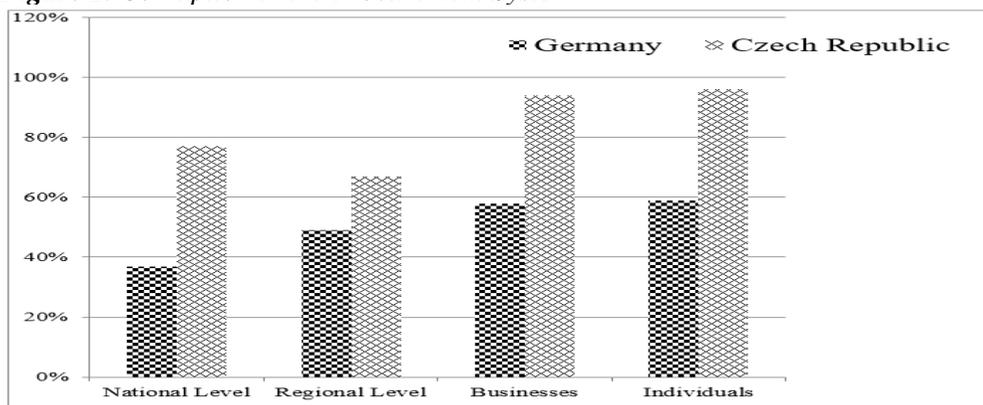
The Czech Republic records significantly higher corruption levels in all sectors of the procurement system. As shown below, at the regional level, Germany records 50% while Britain records 68%. These results get replicated in the ways businesses and individuals act in the procurement sector. This proves a high level of inefficiency in the manner in which the Czech government manages corruption in the procurement system. Germany, on the other hand, proves to be very efficient in handling issues of corruption and hence the low levels of corruption in the procurement system there.

3.4 Number of Contracting Authorities

Germany has a total of more than 30,000 contracting authorities which are spread across all sectors and levels of the decentralized federal government (Solbach, 2018). Though each level or institution is responsible for procurement procedures in their specific region with minimum interference for the national government, there is a central body that ensures the correct procedures are adhered to and transparency is guaranteed. On the other hand, the Czech Republic has a total of 1,989 contracting authorities which are also decentralized and spread at every level of the economy (European Union, 2014). The country, however, has no central body at the national

level which oversees the overall functions and effectiveness of the public procurement system. The small number of contracting authorities in the Czech Republic may be a major cause of the slow approvals in the procurement system in the country.

Figure 2. Corruption in the Procurement System



4. Discussion

4.1 Similarities

(1) From the results, both countries' public procurement system contributes significantly to the economic development of the country. Though the figures for Germany might seem high in terms of monetary contribution of public procurement, the percentage between the two countries is almost the same. The difference in the amount spent on procurement can be interpreted as a result of the difference in the size of the economy where Germany has a bigger budget than the Czech Republic.

(2) Other similarities are that both countries have decentralized the public procurement system. The various divisions at the lower levels are responsible for processing and offering tenders to the various applicants. The tenders vary from supplies and work to services and framework agreement. The tenders in both countries exist to improve service delivery to the public and hence create an enabling environment for economic growth. Despite the Czech Republic having a decentralized procurement system, it still operates on a legal framework established at the national level. Additionally, the various decentralized administrations operate on goals and agendas developed by the central government which is similar to what occurs in Germany.

(3) The other similarity is that the procurement systems in both countries are aimed at ensuring national development. The main agenda of public procurement systems

is better service delivery to the public. In both countries, public procurement systems serve to deliver the needs of the population.

4.2 Divergences

(1) Though both countries' public procurement systems are decentralized, the governing of the two institutions occurs on very dynamic and different models. While Germany's system has a central governing body, Czech Republic's has no central governing body. Consequently, there is a divergence in the efficiency of delivery of decisions whereas it takes 57.9 days to make a decision in Germany, it takes 104.2 in the Czech Republic. This is a huge difference and it shows that the central governing body in Germany's procurement is efficient in ensuring contracts are not delayed and they are processed as fast as possible to contribute to economic growth. The lack of an oversight body over the various procurement sectors in Czech is a major contributing factor to the slow process. The lack of a governing body may lead to a rise in the number of conflicts across various districts and it, therefore, takes a lot of time to solve these conflicts.

(2) Despite reports indicating that there is perceived corruption in both systems, the problem is much higher in the Czech Republic's procurement system. Secondary data from the research shows the extent of corruption at the national level in the Czech Republic is estimated to be 77% while at the regional level is 67% compared to Germany's 37% and 49% at the national and regional levels respectively. Corruption is usually dangerous and a barrier to economic growth as resources that are meant for development and delivery of services usually end up looted and in the pockets of the chosen few (Ionescu, 2014). Though the level of corruption is still high in the German system, the country seems to be tackling it much better than the Czech Republic. This could be the reason why public procurement in Germany contributes a higher percentage to GDP than in the Czech Republic. The level of corruption among other factors could be the main reason why procurement as a percentage of GDP has declined sharply in the Czech Republic while it has been rising in Germany. Also, corruption can affect efficiency in the delivery of decisions and it could be the reason why the Czech Republic takes more days to deliberate about contract awards than Germany (Randrianarisoa *et al.*, 2015). Efficiency, in this case, is considered to be the average number of days taken in processing tenders. Germany generally handles much more tender applications than those of the Czech Republic. This is so due to a number of systems and procedures that it has put in place to ensure so such as employing more authorities and stamping out corruption from the system.

(3) Lastly, the other divergence noticed is in the form of meeting the requirements for e-procurement adoption. Fully adopting e-procurement is important as it minimizes the chances of corruption in the system that is made easier through manual handling of procurement process (Neupane *et al.*, 2014; Ferreira *et al.*, 2018). In the case of Czech Republic, though e-notification is mandatory, e-

submission is partial which means some of the procurements and submission of tenders are handled manually. This partial e-submission is a loophole for corruption. On the other hand, in the case of Germany, both e-notification and e-submission are mandatory which is a reason for lower levels of corruption in the system.

5. Conclusion

In summary, both Germany and the Czech Republic are countries within the EU and most of their activities are according to the guiding principles of the Union. However, this paper focuses on the individual similarities and divergences of their public procurement systems. The research uses secondary research method since it is challenging to collect primary data from the two systems in terms of time and cost. Besides, secondary research has been credited as the most appropriate method of carrying out comparative analysis and this paper aims to make a comparison between two countries. The paper also uses quantitative analysis as it is easier to identify using statistical data the economic impact of each procurement system in a country. The results of the paper are that some of the similarities in the system are that they contribute almost similar percentage of GDP and the system is used to award all contracts aimed at increasing economic growth in their respective countries. Some of the divergences include higher corruption levels in Czech Republic than in Germany and also higher efficiency in terms of processing tender in German system than in the Czech Republic. Generally, the paper concludes that the procurement system in Germany is more efficient compared to that of the Czech Republic and this is a machination of proper systems and policies in the former. These policies include, electronic tender processing and overall oversight of the system. The Czech Republic should seek to learn more from the German procurement system.

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