

The Economic Crisis and its Impact on Capacities Utilization in the Czech and Slovak Construction Enterprises – Empirical Study

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Abstract

The construction industry is an important component that contributes to the gross domestic product of every country. In economic statistics, capacity utilization is normally surveyed for goods-producing industries at plant level. The paper analyses the impact of the economic crisis on the capacities utilization of construction equipment in Slovak and Czech enterprises. Paper compares two very similar economics and current state of construction. Interesting is also view of the evolution on the contracted contract in this countries. This paper is a direct confrontation of capacity utilization in construction enterprises of both countries. The main object of the research was to determine effect of economic crisis on capacity utilization in the Czech and Slovak construction enterprises. At the same time another object of the study is comparison of the current situation in the construction of both countries.

Keywords: economic crisis; capacities utilization; Czech and Slovak construction enterprises

Introduction

The construction industry is an important component that contributes to the gross domestic product of every country. State investments in construction activities constitute one of the biggest items on the expenditure side.

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In the Slovakia and the Czech Republic there are several large construction companies with foreign capital and the number of small and medium-sized enterprises, which together create many jobs. Share of construction job creation is also very important. The construction industry is also probably the most sensitive to economic cycles and recovering from the recession. This is time demanding, as in other sectors. The economic crisis has had an impact on every sector. In construction, is interesting to observe the impact of the economic crisis on the capacities utilization construction equipment. Investment in construction projects thus influences the overall situation in the economy, GDP, employment, living standards of the population. Investment should be spent efficiently. It is therefore imperative need to optimize all processes and activities related to the management of construction projects.

Investment in construction projects thus influences the overall situation in the economy, GDP, employment, living standards of the population. Given the large number of participants who participate in the building project, the setting of these activities and flows is quite a challenging process. Management of construction projects is an amount of work that affects a large number of factors. One of them is the capacity utilization of construction enterprises.

Literature Review

Capacity utilization is the extent to which an enterprise or a nation actually uses its installed productive capacity. It is the relationship between actual output that 'is' actually produced with the installed equipment, and the potential output which 'could' be produced with it, if capacity was fully used (Berndt and Morrison, 1981). Implicitly, the capacity utilization rate is also an indicator of how efficiently the factors of production are being used. Much statistical and anecdotal evidence shows that many industries in the developed capitalist economies suffer from chronic excess capacity. Critics of market capitalism, therefore, argue the system is not as efficient as it may seem, since at least 1/5 more output could be produced and sold, if buying power was better distributed. However, a level of utilization somewhat below the maximum typically prevails, regardless of economic conditions.

In economic statistics, capacity utilization is normally surveyed for goods-producing industries at plant level. The results are presented as an average percentage rate by industry and economy-wide, where 100% denotes full capacity (Crotty, 2002).

This rate is also sometimes called the "operating rate". If the operating rate is high, this is called "undercapacity", while if the operating rate is low, a situation of "excess capacity" or "surplus capacity" exists. The observed rates are often turned into indices. Capacity utilization is much more difficult to measure for service industries (Shin, 2009). Capacity utilization is potential output. This represents the maximum amount of output that can be produced in the short-run with the existent stock of capital. Thus, a standard definition of capacity utilization is the (weighted) average of the ratios between the actual output of firms to the maximum that could be produced per unit of time, with existing plant and equipment (Johanson, 1968).

Capacity utilization in the construction industry can be defined from different point of view. On the one hand, utilization of capacity is understood as occupancy of plant and machinery (Cias and Hyben, 1996). On the other hand, capacity utilization is understood as the occupancy of all resources (machinery and construction equipment, materials, human resources) (Kozlovská and Hyben, 2005). On the capacity utilization of construction is influenced by several factors. According to many studies, one factor is the economic phase in which is construction industry and the economy of country (Mesároš and Mesároš, 2008). Economic cycles are alternated. History remembers of larger or smaller crises. Almost every economic crisis influenced a number of areas, particularly construction (Lisý, 2007).

Research Methodology

The main object of the research was to determine effect of economic crisis on capacity utilization in the Czech and Slovak construction enterprises. At the same time another object of the study is comparison of the current situation in the construction of both countries. Comparison especially in capacity utilization, but also comparison of contracted contract during the period. Reference period is the last seven years. It is from 2008. This includes a short period before the recession, when construction recorded the best results. Subsequently, the period of crisis and recovery.

This study is developed based on data obtained from 100 carried personal and telephone interviews with key representatives of selected Slovak and Czech construction enterprises. Within the study were contacted construction companies of different sizes operating in Slovakia (100 enterprises).

Similarly, construction enterprises operating in the Republic Czechs were also contacted (100 enterprises). Participated in the survey enterprises of building construction, but also civil engineering. Enterprises were contacted every year during the period. The studies mapped the construction market of both the countries surveyed. The data is taken from a study by the CEEC. Analysis, and the results of this study are processed on the basis of the data mentioned.

Results

Beginning of the economic crisis is difficult to accurately identify. Economic theory says that the economic crisis occurs when a country's GDP falls twice consecutively in the period. The first signs appeared in 2008 (autumn 2008). Then began reporting problems largest investment banks. With time, these signals are getting stronger. Several global banks needed help (Lehman Brothers, JP Morgan, and so on). This heralded the problems in other sectors. As this was the economic crisis (also known as mortgage) connectivity to other sectors were just a time bomb for the problems. In 2008, the construction market worldwide has reached its top. Already in 2009, the crisis has resulted in reducing the amount of contracts and thus the need to invest in new projects. The same also affected the Slovak and Czech construction market. Less investment means less work, less contracted contract and thus the less capacity utilization. Evolution of capacity utilization in the Slovak construction enterprises can be seen in Figure 1.

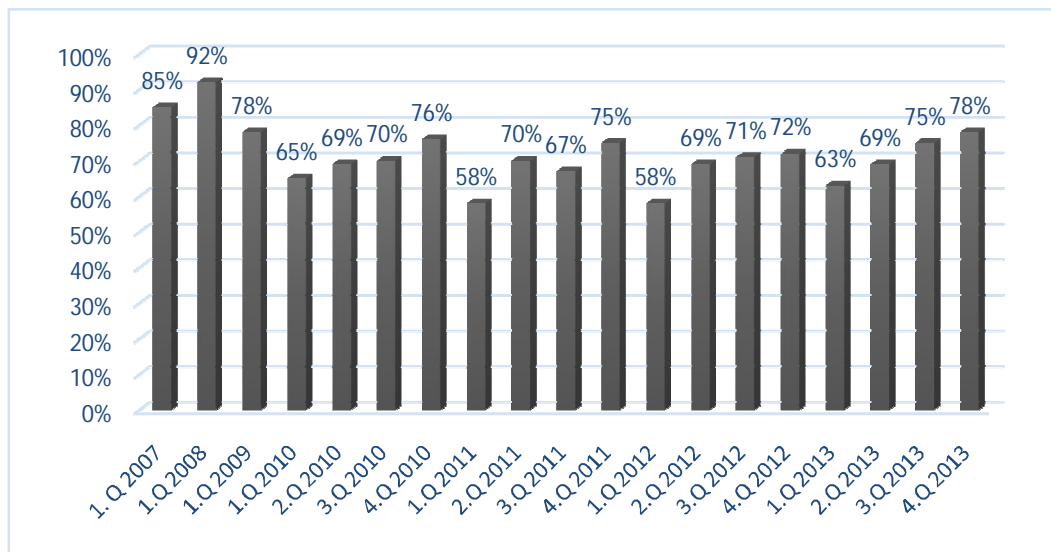


Figure 1 Capacity utilization in the Slovak construction enterprises in %

The figure shows the period 2007 - 2013. First three years in the period represent values only a year. Recent years represent a detailed quarterly report. Capacity utilization in the Slovak construction enterprises reached the top in 2008. The economic crisis was reflected in 2009. In 2009, capacity utilization in Slovak construction companies decreased from 92% to 78%. In the same period in 2010 it was only 68%. Quarterly evolution shows the effect of the seasons on the capacity utilization. First quarter of each year represents the lowest level of capacity utilization. This situation is logical. In the first quarter is adverse weather conditions.

Most of the work cannot be performed. Therefore, capacities utilization is at a lower level. Another developments indicate stabilization in the environment. Even more recently positive signs of improvement. Capacity utilization in the Slovak construction enterprises still does not reach value of what it was before the crisis. The results of the current survey indicate that the average capacity utilization of construction companies compared with the last survey increased slightly and currently is around 78% (September 75% in June, 69%). Although year on year there was a slight increase in capacity utilization (72% in November 2012). Overall, however, still a low capacity, which is unsustainable in the long run. It is very clear that the economic crisis has negatively affected the capacity utilization in Slovak construction enterprises.

The increase in of capacity utilization was observed in all the segments with the exception of large companies that are still given the highest occupancy. More in the following table.

Table 1 Capacity utilization of Slovak construction enterprises from the perspective of individual segment (year on year increase)

	3. Q of 2012	3.Q of 2013
Large enterprises	81 %	80 %
Small and medium sized enterprises	74 %	77 %
Structural engineering	76 %	79 %
Civil engineering	73 %	74 %

Impact of economic crisis is also visible in monitoring of capacity utilization in the Czech construction enterprises (Figure 2). This was reflected in 2009 when capacities utilization decreased from 89% to 83%. Decrease in the reporting period was not as significant as in Slovak construction enterprises.

Capacity utilization is not extremely low and the Czech construction market operates stable. The results of the current research shows that the average capacity utilization of construction companies have managed to maintain the level of the previous quarter (83%), and compared to the same period last year, their capacity utilization even managed to increase by five percentage points. For the next quarter are expected to decline in capacity utilization, which has traditionally related to the winter season, when there is a muted series of works (data about 1.Q of 2014 is not available now).

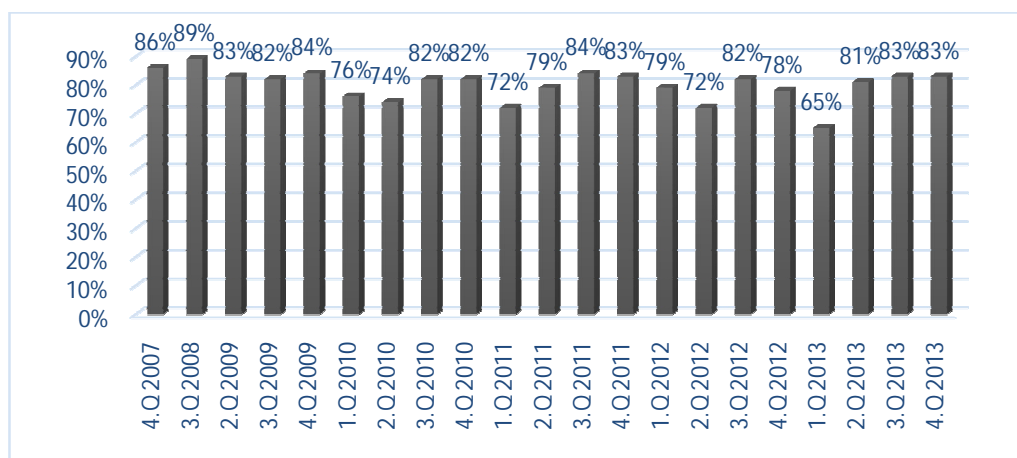


Figure 2 Capacity utilization in the Czech construction enterprises in %

A very slight increase in capacity utilization was observed in the segment of small and medium-sized businesses, structural construction and civil engineering. Consistently high capacity utilization of its capacities confirm the company from civil engineering (88%) (Table 2).

Table 2 Capacity utilization of Czech construction enterprises from the perspective of individual segment (year on year increase)

	3. Q of 2012	3.Q of 2013
Large enterprises	86 %	86 %
Small and medium sized enterprises	75 %	82 %
Structural engineering	77 %	81 %
Civil engineering	82 %	88 %

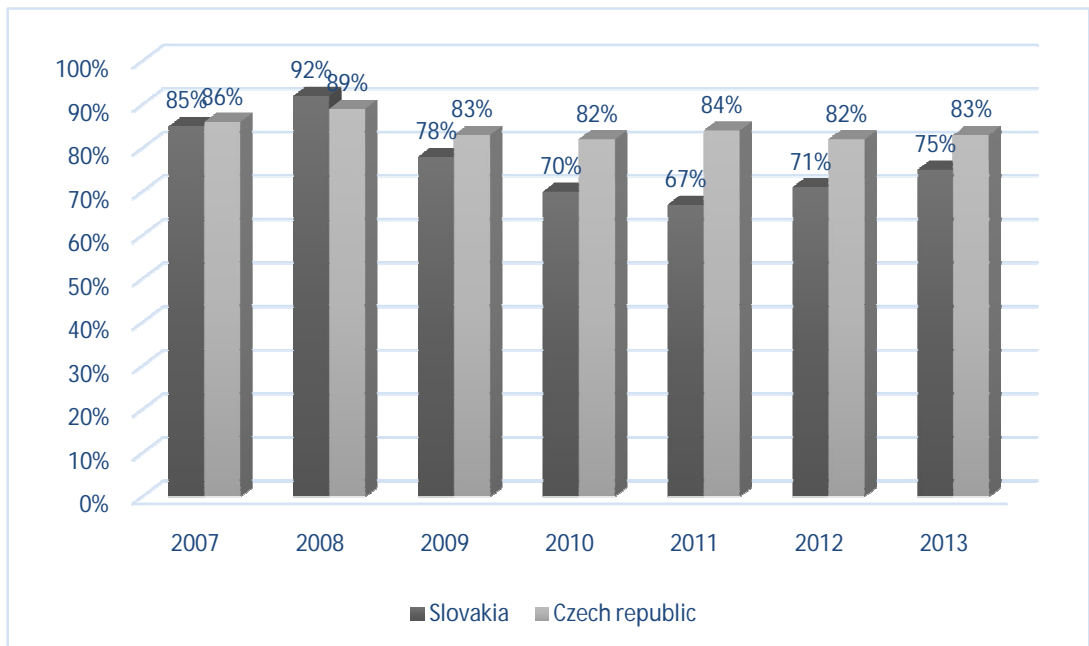


Figure 3 Confrontation of capacity utilization in Slovak and Czech construction enterprises (in %)

Direct confrontation of capacity utilization Slovak and Czech construction companies shows stable situation on the Czech market. Slovak companies have seen higher capacity utilization only in 2009.

Other years were more favourable for Czech companies. Furthermore, the average annual capacity utilization of the Czech construction companies during the period does not fall below 80%. Slovak construction companies have bigger fluctuations in of capacity utilization. It is evident that the financial crisis has affected on the capacity utilization in enterprises of both countries. However, the greater impact it has left the construction enterprises in Slovakia.

Impact of economic crisis on capacity utilization are closely linked to time contracted contract. Situation in Slovak construction enterprises is as follows. Average number of months on contracted contract is 5.4 months. Regarding contracted contracts are still guaranteed best big construction companies and compared with September, there have been only a very slight drop from 7.9 to 7.8 months. Small and medium enterprises contracts have contracted on average 4.7 months (4.8 months in September, in June, 4.1 months).

From the perspective of building orientation are better companies from civil engineering segment, which is the volume of work is constantly improving. On average, the contract contracted to 7.0 months (6.8 months in September, in June, 4.9 months). Companies from structural engineering are doing slightly worse when they contracted the work to an average of 4.9 months (5.0 months in September, in June, 4.4 months).

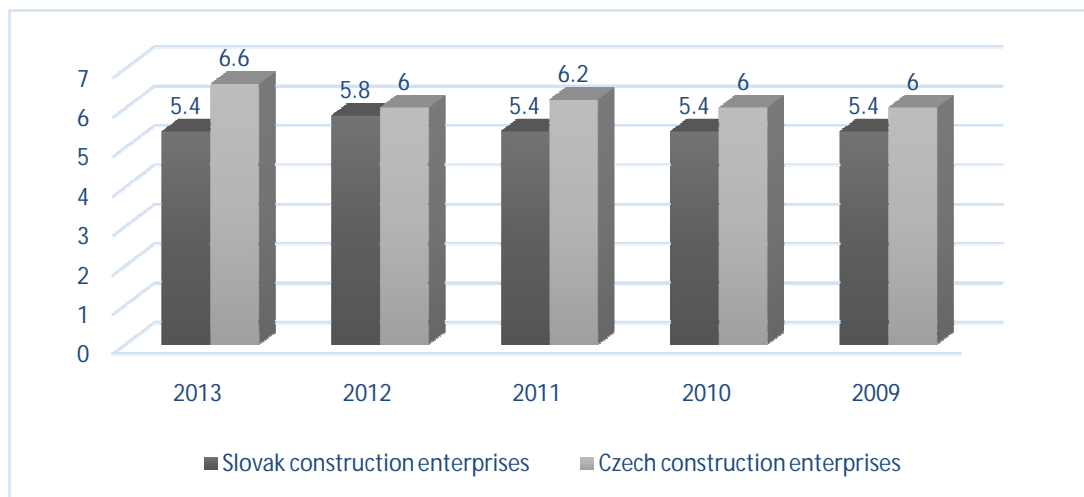


Figure 4 Time contracted contract in Slovak and Czech construction enterprises (in month)

Time contracted contract in Czech construction companies is longer. This is another advantage for construction companies in the Czech Republic. This only confirms the stable environment and stable market.

Conclusion

State investments in construction activities constitute one of the biggest items on the expenditure side. The construction industry is also probably the most sensitive to economic cycles and recovering from the recession. This is time demanding, as in other sectors. The economic crisis has had an impact on every sector. In construction, is interesting to observe the impact of the economic crisis on the capacities utilization construction equipment. Economic crisis have effect on capacity utilization of construction enterprises in Slovakia and Czech Republic.

Capacity utilization of Czech construction enterprises is bigger than capacity utilization of Slovak construction enterprises. Construction market in Czech Republic is stable. In the Czech companies are still capacities utilization is above 80%. Currently, businesses occupancy increases slowly. Despite the fact still does not reach pre-crisis value.

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