

The formation of innovation-based Bangladesh economy should be considered as a mechanism of joint cooperation between the public, private and non-governmental organizations and business entities, which involves the creation, storage and dissemination of new knowledge and technologies on the basis of the relevant regulatory support and within the state-implemented policy. The national system of innovation development of Bangladesh should provide a type of interaction between science, industry and society, where innovations would serve as the basis for the progress of the economic system and society, and the needs for development of innovative economy would acquire the status of an accelerator of improvement and deepening of scientific activity.

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THE ROLE OF THE BUILDING INDUSTRY IN THE ECONOMY OF THE SLOVAK REPUBLIC

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Abstract

The building industry in the Slovak Republic and countries of the European Union represents one of the most important production sectors, which significantly contributes to the economic growth. The industry is in the leading position in the direct and indirect creation of work places. The building industry is also a main implementer of constructions and buildings, which are an important part of investments or more precisely the creation of the gross fixed capital in the whole economy. At the same time, it very quickly and sensitively reacts to a change of behaviour of investors, which makes it rather vulnerable with multiplications effects and impacts on other sectors as well as on the employment, often in regions with a high rate of unemployment. The building industry has wide ties at the input side in its implementation phase, since it receives products and services from almost all sectors, and also at the output side as a supplier of work and built structures for the whole production and non-production sphere and further users. The objective of the article is to evaluate the position of the building industry in the economy of the Slovak Republic by its share in the gross domestic product and in the national economy.

Keywords: construction, economy, employment

JEL Classification: E23, E30, F43, L74

Introduction

The Slovak building industry has undergone an extensive restructuring in recent 27 years, during which it was able to adapt to modern market conditions. The disintegration of the centrally planned economy and later the establishment of the independent Slovak Republic led to the effect that in the initial phases of transformation and independency there occurred a significant decline in the volume of building production. The gradual recovery of the building industry occurred in the years 1995 to 1997. The boom in the building industry began after the year 2000, when it experienced a significant growth of investment activities. Due to the necessary construction of new apartments, the building industry experienced a significant development and the building production became the most important indicator of the economic development (Vidová, 2015, s. 60).

The accession of Slovakia to the European Union caused the building industry to gain a significant advantage, which was mainly in the form of foreign investment and the participation in the European construction market, but it also had to grapple with a strong competitive environment. Even under the pressure of the global economy and the pressure of the European integration, there was not created a single European housing policy (Lux, M., Kostecký, T. (eds.), 2011, p. 84). The Slovak building industry is today considered as one of the key sectors of the Slovak economy, despite the fact that it has experienced a turbulent period in recent years, which has been reflected mainly by a decline in private investment. Despite the positive macroeconomic indicators of the Slovak economy, we must state that the development of the building industry in 2014 continued in the negative trend associated with the global financial and economic crisis, which was reflected in the Slovak building industry especially in 2009.

The building production in 2014 in current prices reached the total volume of 4.489 billion €, and compared to 2013 it decreased by -2.9% (in constant prices 2010 – 4.315 billion €, decrease by -4.2%) (ÚEOS – Komercia, a.s., 2015, p. 23).

The building industry is an important indicator of the cyclical development of the whole economy, it is closely tied to variations and movements in the economy. The building industry has an important role as a multiplier of work places, creator of the living and working environment and a sensitive barometer of the current economic situation of the state.

In 2014, the share of the building industry in gross domestic product was 7.5% (Table 2) in current prices with the employment rate in the building industry of 7.1% (Table 6) of the total number of employed in the economy of the Slovak Republic.

1. THE BUILDING INDUSTRY AS A SIGNIFICANT COMPONENT OF THE MACROECONOMIC SITUATION IN THE SLOVAK REPUBLIC

The building industry can be defined as a set of all building enterprises in the national economy and it is considered as one of the key sectors of the economy of any developed economy.

The housing problem includes not only social, economic or technical matters, but in effect it has a significant impact on the success of the economic policy of the state and the satisfaction of citizens. (Sýkora, R., 2000, p. 35.)

In 2014, the annual growth of the Slovak economy intensified slightly to 2.2% from 2.0% in 2013 (Table 1). This trend continued during the year 2015, when once again the level of GDP in current prices increased by 3.3% to 78.071 billion €. In the 1st quarter of 2016, the annual economic growth slowed down to 3.4% in comparison to the end of last year, caused by a significant slowdown in the investment activity due to impact spending of EU funds.

From the perspective of production sectors, the annual increase in 2014 was related to the growth of value added in industry by 2.7%, in trade, transportation and storage by 3.8%, in information and communication by 1.9%. On the contrary, the volume of value added generated in agriculture, forestry and fishing fell by -5.5%, in construction by -0.5%, in professional, scientific and technical activities, administrative services by -1.9% and in recreation by -1.7%.

The volume of value added was mainly formed by industry at the level of 24.7%, trade, transportation and storage, accommodation and catering services at the level of 22.4%. The building industry participated in the volume of value added by 8.3% and real estate activities represented 7.1%.

The annual growth in gross domestic product in 2014 was affected by its expenditure components. The final consumption of household increased by 2.1% to 41.867 billion €. The highest items in the total final consumption of households were expenses of population for housing and for the purchase of food and beverages.

Table 1 – Gross domestic product of the Slovak Republic

Indicator		2010	2011	2012	2013	2014
Gross domestic product – current prices	bill. €	67,204	70,160	72,185	73,593	75,215
	index	105,3	104,4	102,9	102,0	102,2
Gross domestic product – constant prices 2010	bill. €	67,204	69,021	70,127	71,126	72,840
	index	104,8	102,7	101,6	101,4	102,4

Note: Methodology ESA 2010, according to the quarterly national accounts

Source: Ministry of Transport, Construction and Regional Development of the Slovak Republic

The economy of the Slovak Republic is based on a high proportion of industry, which represented 22.5% of GDP in current prices in 2014. The building industry accounted for 7.5% and recorded an annual decrease of -0.3 of percentage points compared to 2013. The share of the building industry in gross domestic product declined since 2008 from 9.6% to 7.5% in 2014, as indicated in Table 2.

Table 2 – Share of chosen sectors in gross domestic product in % (current prices)

Sector	2010	2011	2012	2013	2014
Agriculture, fishing	2,6	3,1	3,3	3,7	3,4
Sectors total	24,1	24,3	24,1	22,6	22,5
Building industry	8,2	8,0	8,2	7,8	7,5
Trade, transport, storage	19,9	19,6	19,6	20,1	20,4
Information and communication	4,1	4,0	4,3	4,2	4,2
Financial and insurance activities	3,3	3,4	3,3	3,3	3,6
Real estate activities	6,1	6,3	6,4	6,5	6,5
Other activities	22,8	22,0	22,3	23,1	22,9
Net taxes of products	8,9	9,4	8,4	8,8	9,0
GDP total	100,0	100,0	100,0	100,0	100,0

Source: Ministry of Transport, Construction and Regional Development of the Slovak Republic

Despite the above stated negative trends, the building industry remains an important sector in the structure of the Slovak economy and its multiplier effect increases this importance. The following Table 3 shows the evolution of basic indicators of the structure of building production by type of constructions.

Table 3 – Structure of the building production according to types of construction in %

Indicator	2010	2011	2012	2013	2014
Building production in the country, including:	97,4	96,3	94,8	94,7	94,9
Residential buildings	23,5	21,0	22,2	23,6	23,3
Non-residential buildings	44,6	45,2	47,0	43,1	43,1
Engineering constructions	28,6	28,7	24,5	26,9	27,2
Other works	0,6	1,4	1,1	1,1	1,3
Building production abroad	2,6	3,7	5,2	5,3	5,1
Total	100,0	100,0	100,0	100,0	100,0

Note: Other activities = Professional, scientific and technical activities; Public administration and defence, compulsory social security; Education, health care and social assistance; Arts, entertainment and recreation, other activities. Net taxes of products = Value added tax, excise duty (updated), import tax, minus subsidies.

Source: Ministry of Transport, Construction and Regional Development of the Slovak Republic

In the structure of the building production there significantly prevail so-called non-residential buildings such as business premises, warehouses, schools, hospitals, office buildings and so on. The main part of engineering constructions is represented by the transport infrastructure - road infrastructure. Despite the growth trajectory in recent years, the volume of construction output in 2014 did not reach the proportion from the year 2006, which amounted to 29.0%, although these strategic investments are closely linked to the regional development. The third important segment is the construction of apartments. The share of housing construction recorded a slight decrease in 2014, which was mainly caused by the consumer purchasing power and high interest rates for mortgage loans. In 2015, we expect the recovery of residential buildings, which will be caused by legislative changes in favour of citizens and by the favourable situation in the area of interest rates on loans for housing.

Inflation is one of the major problems which complicates the economic performance. It is shown as an increase of the overall price level; thus it leads to a decrease in the purchasing power of the monetary unit. It inherently disrupts the balance in the economy (Ivanička, K. Zubkov, M., Špirková, D., 2003, p. 32). The consumer prices in 2014 recorded a slight slowdown since they declined over the year by 0.1% (Table 4). The largest price decrease was recorded in the traffic with a price drop of -1.5%, followed by the prices of postal and telecommunication services by an average of -1.1%. Prices of housing, water, electricity, gas and other fuels declined by -0.6%. Primarily external factors through regulated prices of energy, fuel and food prices contribute to the continuing fall of prices. Prices of materials and products used in construction fell by -2.7%. By contrast, prices of construction works in 2014 compared to 2013 increased by 1.3%. In 2015, the inflation rate was 1%. The positive development of fundamentals of the ongoing wage growth and the reduction of unemployment is still not reflected through demand pressures in faster growth of prices of market services (NBS, Rychly komentár 15. February 2016, p. 1).

Table 4 – Inflation rate and annual growth of prices of industrial producer prices and construction work (in %; previous year = 100)

Type of prices	2010	2011	2012	2013	2014
The rate of inflation - consumer prices	1,0	3,9	3,6	1,4	-0,1
Industrial producers together*	-2,8	2,7	3,9	-0,1	-3,6
Construction work*	1,0	1,2	0,6	0,7	1,3
Materials and products consumed in the building industry*	-3,3	1,8	1,5	-0,8	-2,7

Note: *based on 2010

Source: Ministry of Transport, Construction and Regional Development of the Slovak Republic

The employment is in every economy closely related to the dynamics and performance of the economy, its competitiveness (Rievajová, E., Klimko, R., 2015, p. 19). The building industry is a sector that brings positive results in addressing the problems of low employment. The advantage of the industry is the low skill requirements for certain professions in the building industry, which can also absorb the unskilled job seekers. The negative feature of the sector could be its sensitivity to the demand for construction products, which is heavily influenced by the business cycle and expectations of society (Hudcovský, M., 2013, p. 24). The current state of the labour market in Slovakia is characterized by its high imbalance between labour supply and labour demand. The labour market is essentially the main interest in all policies, with an objective of high employment, it means to ensure a high level of domestic production and consumption and its equitable distribution among the population as a whole. These contributing factors are shown through the GDP, in household consumption as well as in the formation and structure of fixed capital and the amount and structure of consumption of the public sector (Rievajová, E. Klimko, R., 2015, p. 40). The situation in the Slovak labour market has recently recorded positive changes. There is a growing number of workers and a reduced number of unemployed. The problem of the long-term unemployment remains, and the country fails to reduce the overall registered level of unemployment, which by LFS, reached in the year 2014 the rate of 13.2% and in the year 2015 decreased to 11.5%, representing 314.3 thousand of unemployed (Table 5). The positive trends in the labour market have been recorded also through the transfer of surplus labour force to work abroad. A number of workers abroad in 2014 amounted to 134.0 thousand people. From the regional perspective, the workers chose mainly the Czech Republic (39.4 thousand) and Austria (38.1 thousand). The work in the building industry (36.9 thousand) and industrial activities (33.1 thousand) was prevailing among people migrating for work.

Table 5 – Main characteristics of employment in the Slovak Republic according to the LFS

Indicator	2010	2011	2012	2013	2014	2015
Average number of employees (thousand)	2 317,5	2 351,4	2 329,0	2 329,3	2 363,0	2 424,0
Number of unemployed (average number, thousand)	389,0	367,9	377,5	386,0	358,7	314,3
Unemployment rate (%)	14,4	13,5	14,0	14,2	13,2	11,5

Source: Ministry of Transport, Construction and Regional Development of the Slovak Republic

The largest increase in employment was recorded in 2014 in accommodation and food services (+ 8.4%) and in information and communication by 8.2%. In industry, employment increased by 1.6%, in wholesale and retail trade and repairs by 1.3% and in the public administration by

1.4%. On the other hand, it declined the most in construction by -1.1% (by 1.8 thousand people) (Table 6). The decline in employment was reported in transportation and storage by -0.5% and in financial and insurance activities by -0.2% (ÚEOS - Komerčia, a. s., 2015, p. 18). Also in the near future we can expect more positive dynamics of employment, but after the expiry of the stimuli from the EU funds, it is possible to expect moderation of the employment growth.

The development of employment is different in individual production sectors. The building industry contributed to the overall employment in the economy in the year 2008 to 2014 by 7.1% to 8.5%. In 2014, the most significant employment growth was recorded in accommodation and food services (by 8.4%).

Table 6 – The development of employment in selected sectors of the national economy of the Slovak Republic

Sector	Average number of employed - in thousands of natural persons								
	2012			2013			2014		
	a	b	c	a	b	c	a	b	c
NE SR total	2191,3	-0,1	100,0	2176,1	-0,7	100,0	2204,6	1,3	100,0
Industry	495,2	-0,9	22,6	491,5	-0,8	22,6	499,4	1,6	22,7
Building industry	165,3	-4,5	7,5	158,6	-4,0	7,3	156,8	-1,1	7,1
Trade	422,2	-1,0	19,3	408,8	-3,2	18,8	417,7	2,2	18,9
Transport	140,0	-1,6	6,4	143,4	2,4	6,6	142,6	-0,5	6,5

Legend: a – in thousands of natural persons; b - year change in %; c - the share of employment in the national economy of the SR

Source: Ministry of Transport, Construction and Regional Development of the Slovak Republic

In 2014, the employment decreased in all categories of building enterprises with more than 20 employees, except for enterprises employing 20-49 employees, where the employment increased by 9.2% (labour productivity fell by -3.0%). In enterprises with 50-249 employees there was the decrease in employment by -1.8%, and the growth of labour productivity of 11.8%. Employment decreased in enterprises employing 250-499 employees by -31.9% (labour productivity in building production decreased by -12.7%). In enterprises with 500 or more employees, employment fell by -16.9%, labour productivity increased in that category of enterprises by 25.1%. (ÚEOS - Komerčia, a. s., 2015, p. 42)

The average monthly nominal wage of an employee in the economy of the Slovak Republic in 2015 reached 883.0 €, which means that it increased on average by 3% compared to 2014. The highest average nominal monthly wage had employees in the information and communication field (1,751 €). The lowest wage was in the sectors of accommodation and food services (533 €) and in the building industry (632 €). The pro-growth factors in the wage development are in particular the acceleration in labour productivity and the persistent lack of adequate staff, resulting from the growing demand for labour (NBS, Rýchly komentár, February 12, 2016, p. 2).

The amount of monthly incomes is a limiting factor in the Slovak society affecting the construction industry through the construction of flats and houses. In case of big differences between incomes and prices of real estate, there arises a problem in assuring a property, or more precisely, their reconstruction. The costs of households for housing increased, as well as their indebtedness, thereby reducing the possibility of investing in better quality housing, since households have no option for generating of savings (Vidová, J., 2015, p. 46).

Average incomes of the Slovak population are low compared to housing prices, while the Slovaks pay significantly higher proportion of own incomes to secure their basic needs than it is advanced industrial countries in the world. With the current incomes of population, it is a difficult problem for many young families to obtain an apartment (Ivanička, K., Zúbková, M., Špirková, D., 2003, p. 14).

Housing conditions will naturally improve when there is an economic growth, which in turn improves the income situation of employees.

2. NEGATIVES REFLECTED IN THE BUILDING INDUSTRY AND THREATENING THE ECONOMY

The building industry has a high level of grey economy, which is shown in non-compliance with the Slovak law. In particular, it includes the purchases of building works without any accounting documents, which makes the Slovak Republic to lose the income from value added tax, income tax as well as contributions to the health and social funds. The customer of such building work voluntarily loses any future claims because there is no evidence of the legal basis for these works.

The last estimate, which was made by the Statistical Office of the Slovak Republic, based on a survey of hidden economy, indicates that in 2007 the total annual expenditure on the services of building workers without receiving a receipt was approximately 354.1 million €. Overall, it is estimated that the Slovak citizens spend annually about 250-350 million € for construction works, reconstructions of flats and houses without receiving an accounting document. It is also estimated that about 15 to 25 thousand workers of the building industry form the black economy. (ÚEOS – Komerčia, a.s., 2015, p. 31)

A high degree of grey economy can be documented also in inconsistency between the statistics of building production and statistics of gross fixed capital formation (Table 7). However, we cannot automatically infer the grey economy, as it may also be a discrepancy due to the level of self-realization among the residents themselves.

Table 7 – Comparison of the development of building investments to the development of building production in the Slovak Republic

Indicator	Unit of measure	2010	2011	2012	2013	2014
Building part of gross fixed capital formation, current prices	bill. €	6,639	7,070	6,504	6,432	6,735
Construction production total, current prices	bill. €	5,649	5,543	4,987	4,639	4,489
The share of building production from construction investments together	%	85,1	78,4	76,7	72,1	66,7

Source: Ministry of Transport, Construction and Regional Development of the Slovak Republic

Another phenomenon that threatens the building industry can include illegal buildings and aggressive investors. Several buildings are constructed without the necessary papers with the fact that in the final phase of construction they will be added, regardless of how it will impact the other participants of the construction costs. Profit maximization is getting to the first place, without relevant consequences for example for life, transport connections, etc.

Conclusion

The building industry has shown a monthly increase of production for 12 months in a row and the dynamics of the annual growth accelerated. The building industry in Slovakia has recorded the fastest annual growth in construction minimally since the year 2001. This phenomenon is caused mainly by the public infrastructure spending and recovery in the segment of building. The public funds go mainly to reconstruction and repairs, in a lesser extent to new construction. We must point out, however, that private investments are absent, which is shown in the lack of orders, and then fall in employment in the building industry. Despite the current positive phenomenon shown in the building industry, it is necessary to realize that the stabilization of the Slovak building sector across its width is inevitable, which influences other sectors by its multiplication effect and thus affects the operation of the whole country.

Acknowledgements

The paper is the solution of the research project VEGA 1/0002/16 Socio-economic aspects of housing policy in the context of migration workforce.

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