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LIST OF CONTRIBUTING AUTHORS:

Serbia: Ivan Mihajlović, Isidora Milošević, Anđelka Stojanović, Danijela Voza, Marija Savić, Aleksandra Fedajev, Nenad Milijić, Milica Veličković, Milovan Vuković, Ivan Jovanović, Snežana Urošević, Nada Štrbac, Sanela Arsić, Ivica Nikolić, Andrea Dobrosavljević, Nenad Nikolić (University of Belgrade, Technical Faculty in Bor, Engineering Management Department (EMD); Nevena Milikić (The Mining and Metallurgy Institute Bor); Vesna Spasojević Brkić, Zorica Veljković, (University of Belgrade, Faculty of Mechanical Engineering, Industrial Engineering Department,); Aleksandar Brkić (University of Belgrade, Faculty of Mechanical Engineering, Innovation Center); Tamara Rajić, Ivan Nikolić (Economics Institute a.d. Belgrade); Jelena Velimirović, Lazar Velimirović, Petar Vranić (Mathematical Institute SASA, Belgrade); Aleksandar Janjić (University of Nis,Faculty of Electronic Engineering)

Hungary: Melinda Majláth, Regina Zsuzsánna Reicher

(Keleti Faculty of Business and Management, Obuda University, Hungary); Kata Rebeka Szűcs (Doctoral School on Safety and Security Sciences, Obuda University, Hungary)

Slovak Republic: Lenka Labudová, Denisa Jánošová (Faculty of Mass Media Communication, University of Ss. Cyril and Methodius, Slovakia);

Czech Republic: Gentjan Çera, Jaroslav Belás (Tomas Bata University in Zlín, Faculty of Management and Economics, Department of Business Administration); Denisa Hrušecká (Tomas Bata University in Zlín, Faculty of Management and Economics, Department of Industrial Engineering and Information Systems);

Poland: RenataStasiak-Betlejewska, Joanna Rosak-Szyrocka, Justyna Żywiołek, Adam Idzikowski, Justyna Stawicka (Czestochowa University of Technology, Faculty of Management, Poland)

Bulgaria: Svilen Kunev, Diana Antonova, Irina Kostadinova
(University of Ruse, Bulgaria, Faculty of Business and Management)

Albania: Zhaklina Dhamo, Vasilika Kume, (University of Tirana,
Faculty of Economy, Tirana, Albania)

Content

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STRUCTURAL AND PERFORMANCE ANALYSIS OF SERBIAN SME SECTOR AT AN AGGREGATE AND INDIVIDUAL LEVEL

Ivan Nikolić, Tamara Rajić,
Economics Institute a.d. Belgrade
KraljaMilana 16, 11000 Belgrade, Serbia

Abstract

In terms of structure, SME sector is regarded as a backbone of almost every economy. As such, it has drawn much academics' and practitioners' attention. The objective of this paper is threefold – first, to present recent research interest from the perspective of the main determinants of SMEs' business performance, with particular attention to developed European economies; second, to analyse structure and performance of Serbian SME sector at an aggregate level, in comparison with EU-28, Visegrad group of countries and Germany as an economy with outstanding performance of the sector and third, to analyse the determinants of economic performance of SMEs operating in Serbia, taking into consideration variables which are deemed important from the perspective of practitioners. Findings of this study indicate underperformance of Serbian SME sector in terms of productivity and value added. Whereas SMEs' market orientation, innovation and entrepreneurial orientation have occupied recent reseach interest in developed European economies, the application of hierarchical multiple regression indicated the adjustment of raw materials inventory and expected sales at domestic market as key determinants of managers' expectations of SMEs'economic performance in the short run. Implications of the study are discussed and directions for future research are provided.

Keywords: SMEs, Serbia, EU, Visegrad group, business performance

1. INTRODUCTION

Small and medium-sized enterprises play a significant role in a number of economies around the world. In OECD area, SMEs account for more than 99% of all enterprises, 60% of total employment, and generate roughly 50% of value added. Their contribution to employment and value-added is especially relevant in service industries, where they account for about 65% of workforce and value-added, whereas their role in manufacturing is less significant, due to large investment requirements which pose barriers to entry.Among service industries, SMEs' contribution to employment and value added is particularly relevant in wholesale and retail trade, accommodation and food, real estate and professional, scientific and technical activities, whereas less pronounced is the role of SMEs in service industries which require significant R&Dinvestments. Their contribution to value added is less than 50% in ICT services, such as publishing andtelecommunications, which require significant fixed costs. SME sectorisalso regarded as important creator of new employment, income and a factor which contributes to the diffusion of knowledge, social inclusion and social well-being. At the level of EU non-financial business economy, SMEs account for more than 99% of enterprises, employ around 66% of workforce and contribute around 56% to value added.

Due to their relevance for national economies, SMEs have been gaining rising attention of academics and practitioners alike. However, SMEs share the destiny of the economy in which they operate. Whereas recent concerns of academics in developed economies have revolved around the impact of innovativeness, entrepreneurial and market orientation on SMEs' business performance, practitioners in less developed economies are concerned about the adjustment of raw materials inventory, price of finished goods, expected sales at domestic market and future price of raw materials as factors which

may affect an enterprise's business performance. Whereas performance of SMEs has been extensively analysed in developed economies, far less empirical examinations exist on SME sector in developing economies. This research aims to bridge this gap in extant literature on SMEs. Therefore, the objective of this study is threefold. First, to provide an overview of recent studies on the determinants of SMEs' business performance, with particular attention to studies performed in developed European economies. Second, to analyse SME sector on an aggregate level, from the perspective of structure of the sector and its contribution to value added and compare it with EU and Visegrad group of countries, which emerged as having more productive SME sector,with greater contribution to value added and which as such may act as a benchmarkfor Serbian SME sector. Third, taking into consideration the perspective of managers of SMEs, this study provides an insight into the main determinants which from their viewpoint affect economic performance of SMEs operating in Serbia, in the short run.

By responding to these objectives, this study aims to add to the growing body of knowledge on SMEs' performance. The remainder of the paper is organized as follows: first, review of recent studies in the context of SMEs in Europe and main determinants of their performance is presented. The following part presents an analysis of Serbian SME sector according to several chosen parameters and its comparison with EU-28 and Visegrad group. Third section deals with the analysis of the main determinants of Serbian SMEs' economic performance, from the perspective of managers, which is followed by the main conclusions of this research and direction for future studies.

2. THE DETERMINANTS OF SMEs' BUSINESS PERFORMANCE

Due to their contribution to total employment and GDP, SMEs are regarded as the dominant factors in business environment in a number of countries. Factors which spur financial performance of SMEs or

prevent their thriving have been the subject of numerous studies conducted throughout Europe.

Success and failure of SMEs are particularly influenced by entry barriers, technological requirements, competitive situation of a market and the power of buyers and suppliers. Access to resources has been identified as the main precursor of SMEs' success and failure, i.e. access to capital, quality of accounting, planning, marketing and the ability to hire professional advisors. Unlike larger companies, which can achieve economies of scale and have bargaining power with suppliers and distributors, have recognized brands which allow them to set prices above those of competing companies (Raju et al., 2011), small enterprises face many impediments, called the liability of smallness and suffer from the liability of newness, due to which their mortality rates are often higher. SMEs lack knowledge and have limited access to finance. The lack of finance is an impediment to the growth of SME sector in many countries. Due to limited credit history SMEs have limited access to debt financing. This especially pertains to start-ups, whose business model is based on intangibles. It is often very difficult for new businesses to provide financial means in a form other than debt financing, due to the lack of business and credit history. The access of SMEs to bank loans vary across OECD countries, from more than 50% of SME bank financing in terms of GDP share in Switzerland and Japan to less than 5% in the US in 2014, reflecting the contribution of SMEs to value added and the availability of other sources of financing, as well. After global financial crisis SMEs across countries are faced with more demanding terms of bank financing, such as higher interest rates, shorter maturity period and higher demands for collateral(OECD, 2017b). After global financial crisis banks in many OECD countries have reduced their lending activities and in these circumstances private equity, private debt and collective investment vehicles have become particularly useful in providing finance to SMEs.However, the development of these financial instruments and private capital market differ across countries. While capital market financing is well developed in the

United Kingdom, and also fairly well developed in Germany, France, Sweden and the Netherlands, it is underdeveloped in the countries of Eastern, South and Central Europe. Capital market instruments are especially relevant for riskier business ventures, fast-growing enterprises and start-ups (OECD, 2018).

Whereas the development of appropriate skills and knowledge is a necessity in order to be competitive in a knowledge-based economy, it is more difficult for SMEs to attract highly skilled workforce, than it is for large enterprises, and SMEs' training efforts per employee are weaker than those of larger enterprises (OECD, 2017b). According to Mayr et al. (2017), the main factors of SMEs' failure can be classified into three groups, environmental condition, firm-specific resources and characteristics and entrepreneurs' and managers' personality and traits. Studying sustainable reorganization of Austrian SMEs, aforementioned authors advocated for the creation of a market position based on unique benefits which would be difficult for competitors to copy and as such would impose barriers to entry for potential entrants. According to these authors, change plays a key role in successful reorganization. Therefore, enterprises' resources and characteristics should be adapted to meet customers' and environmental needs. As SMEs commonly lack resources and capabilities, networking has been recognized as a means of acquiring much needed management, marketing and finance expertise and as a source of social and business contacts, which in a number of ways can facilitate SMEs' access to various stakeholders. Contrary to a number of previous studies, this research resulted in a negative influence of firm's age on sustainable turnaround, which the authors explained as the presence of older entrepreneurs who are reluctant to change and adapt, in spite of their considerable experience and numerous business and social contacts, and named the phenomenon as the liability of obsolescence.

Studying the survival probability of privately owned small and medium sized companies in Slovakia in a period from 1997 till 2012,

including transition and post-accession of Slovakia to European Union, Wilson et al. (2016) identified 793 exits of SMEs caused by market failure and provided evidence of positive impact of foreign ownerships on the reduction of failure probability.

Lai et al. (2017) on a sample of UK-based SMEs provide support for the idea that the adoption of formalized practices in managing human resources, recruiting, selecting, developing, rewarding, motivating employees, positively affects SMEs' financial performance and labor productivity and the findings revealed the viability of positive impact on both samples of enterprises, small and medium-sized, although the positive effect is greater in small enterprises. The authors further argue that in enterprises characterized by high employee satisfaction positive effect of human resource management practices on financial results weakens as formalization increases and conclude that the development of highly structured and highly formalized human resource management system seems unnecessary in terms of already existing highly satisfied workforce, where employee satisfaction has been achieved as a result of high informality and flexibility.

Literature provides evidence of a significant positive effect of the development of dynamic capabilities, the ability to explore new markets and the ability to explore new technologies, on financial performance of SMEs. On a sample of UK-based SMEs,Ko and Liu (2017) provide evidence of the direct positive impact of investments in marketing and R&D on financial performance of enterprises. The authors further argue that the embracement of environmentally responsible business practices only apparently limits strategic choices of SMEs. The option for SMEs faced with social pressures and expectations is to reconfigure their resources and capabilities, which would broaden their strategic choices, i.e. the development of marketing and R&D competencies may have positive financial

consequences, such as the increase of profit margin, return on assets and return on equity.

Strategic collaboration has also been regarded as a means of enhancing SMEs' performance. In the early stage of SMEs' development, a weak collaboration with a reputable partner can enhance SME's credibility. In order to overcome resource scarcity, which is a typical position of a small or medium-sized enterprise in the early stage of development, these enterprises rely on strategic networks, and thereupon gain access to resources, such as capital and market knowledge, and gain access to new markets. Network resources are regarded as strategic resources when they are valuable, difficult to acquire or imitate. Innovations by SMEs depend on knowledge spillovers and knowledge networks that they can access. As SMEs generally lack resources, their innovations are mainly developed in collaboration with customers, competitors, suppliers, distributors, research centers and universities. As access to knowledge networks can provide a variety of opportunities for the exchange of knowledge and the improvement of skills, it is of particular relevance for SMEs to identify appropriate knowledge networks on a national or global level. The percentage of SMEs which collaborated with public research institution or a university in the development of innovation, according to the study of OECD varies across countries, from around 20% in Czech Republic to less than 5% in Italy (OECD,2017). On a sample of rapidly internationalized Finnish SMEs Partanen et al. (2018) provide evidence of significant impact of strategic network resources, i.e. resources an enterprise gains from its most important business relations and which have an influence on an enterprise's customer base, volume of sales, reputation, efficiency and effectiveness, on network identity, attractiveness of an enterprise to other firms and customers, and its positive influence on SMEs' performance, measured in terms of ROI, customer satisfaction and an outlook for an enterprise's long-term survival, and objective

performance indicators, such as firm's return on capital employed and profit growth. Networking has been also recognized as an important factor for SMEs to survive bankruptcy and achieve sustainable turnaround and long-term competitiveness, together with repositioning, which is based on unique service bundle, innovation and change (Mayr et al., 2017).

Substantial research attention has been paid to the construct of entrepreneurial orientation, comprising innovativeness, proactiveness and risk-taking, and its impact on business performance of enterprises. Kraus et al. (2012) reported significant positive effect of entrepreneurial orientation on business performance on a sample of Dutch SMEs, whereas business performance was measured in terms of sales growth rate, employee growth, gross margin, profitability and cash flow. The authors assert positive impact of entrepreneurial orientation on business performance even in the period of economic crisis and turbulent market environment which accompanies such crisis. Evidence in support of the impact of entrepreneurial orientation on firm's growth, as a measure of its performance, was also supported on a sample of Spanish SMEs in Moreno and Castila's (2008) study. According to these authors, the relationship is positive, however, not direct, but mediated through the impact of strategic behavior of an enterprise. Significant effect of entrepreneurial orientation on firm performance has also been supported by Saeed et al. (2014). Their meta-analytic research including 177 SMEs from 41 countries indicates stronger effect of entrepreneurial orientation on firm performance in cultures which are characterized by low uncertainty avoidance, lower power distance, in developing countries and those characterized by high political stability. Recent studies have also highlighted significant positive effect of entrepreneurial orientation on SMEs' international performance. On a sample of German manufacturing SMEs involved in international trade Swoboda and Olejnik (2016) provide evidence of significant positive influence of entrepreneurship orientation on enterprises' international performance,

measured in terms of sales growth, ROI and profit.Thanos et al.'s (2017) postal study on a sample of 208 internationally oriented Greek SMEs provide evidence of significant and positive effect of international entrepreneurial orientation, i.e. opportunity-seeking behavior of an enterprise characterized by innovativeness, proactiveness and risk-taking, on international performance. Performance was measured in terms of the level of sales, return on investment, market share, profitability, satisfaction with the objectives set, in comparison with the results of their direct competitors on the foreign market. However, positive effects of international orientation on performance are diminished by the combination of international hostility, i.e. highly competitive market with lack of opportunities to exploit, and high levels of politization, i.e. actions of individuals or coalitions of individuals within an enterprise which are motivated by their own personal needs instead of an organization's goals. According to these authors, in order to gain maximum benefits from foreign markets international SMEs should direct their attention to international entrepreneurial orientation, which is feasible for these enterprises as they have flexible structures and faster decision-making process, in comparison with large multinational enterprises.

Innovation has also been recognized as one of key drivers of companies' competitiveness and business performance, especially among SMEs. According to Love and Roper (2015), SMEs which are characterized by innovative practices are more likely to export successfully and generate growth from the export than non-innovative enterprises. On a sample of Spanish SMEs Exposito and Sanchis-Llopis (2018) provide evidence of significant impact of product and organizational innovations on financial performance measures, such as sales increase and cost reduction, whereas operational performance, measured in terms of the increase in productive capacity and the improvement of product/service quality, is influenced by all types of innovations, i.e. product, process and organizational innovations. On a representative sample of UK-based SMEs Foreman-Peck (2013) provides evidence of positive effect of innovations on enterprises'

turnover growth. Positive impact of both product and process innovations on enterprises' productivity has also been reported on a sample of Italian SMEs (Hall et al., 2009).

Over recent years significant research attention has been devoted to the construct of market orientation and its relevance for achieving superior business performance. Two streams of research on market orientation and its effects have emerged since the 1990s - first, based on Narver and Slater's (1990) conceptualization of market orientation as an organizational culture, based upon customer orientation, competitor orientation and interfunctional coordination, which more effectively and efficiently creates superior value for customers and second, based on Kohli and Jaworski's (1990) notion of market orientation as organizational behavior which is focused on the generation of information, dissemination of information and responsiveness to information. The adoption of market orientation has a positive effect company's ability to satisfy current needs and wants of customers, anticipate their future needs and has been regarded as a means of achieving sustainable competitive advantage (Pena et al., 2012). Wang et al.'s (2012) study in the context of hotel industry indicates significant influence of market orientation on hotel performance, measured in terms of managers' perceptions of market share, sales, ROI growth and reduction of selling costs. This study also provided evidence of significant impact of market orientation on customer satisfaction, loyalty and retention, whose positive effects on companies' performance have been well documented in previous research, including the context of SMEs (Rajic& Dado, 2013; Rajic et al., 2013; Rajic et al., 2016; Rajic et al., 2017). On a sample of SMEsLengler et al. (2016) provided evidence which suggests that at very high levels of customer orientation, i.e. better understanding of customers and their needs and demands, SMEs perform positively in terms of export performance, whereas companies which adopt mid-range customer orientation practices may be outperformed on foreign markets.According to Raju et al. (2011) positive relationship between market orientation and business performance of SMEs holds across a

variety of settings and measurement methods of both market orientation and business performance.

3. PERFORMANCE OF SERBIAN SMEs ON AN AGGREGATE LEVEL

According to results of annual financial statements for enterprises in the territory of the Republic of Serbiait can be noted that in 2016 the calculation of macroeconomic aggregates coveredmicro, small and mediumsized enterprises (SMEs sector) - in other words, enterpriseswith less than 250 persons employed- referred to 89.932 enterprises (99,5% of total) andemployed 633,9 thousandpersons (59,5% of total).

Enterprises in this sector made 59,4% of the total turnover and equalled 48,4% of gross value added. Andapparently as can be observed in Table 1 these indicators are not significantly different compared to the EU average or the countries belonging to the Visegrad Group.

SMEs are taken to be among the major forces of the economicdevelopment. They spur on private initiative and entrepreneurship capacities, they are flexible and canquickly adjust to the market changes, also they generate employment, induce more versatile economicactivities, have beneficial effect to exports and trade, and simultaneously they stand for the main agent ofcompetitive economy development (SORS, 2017).

By contrast, what is important to emphasize,SMEsenterprises share the destiny of the whole Serbian economy. No matter how we sort them in relation to their peerstheirresults have been underperformed.

Table 1. Share of SMEs in total number of enterprises, persons employed and value added in 2016

	Enterprises - number	Persons employed	Value added
Non-financial business sector			
EU-28	99,81	66,61	56,33
Germany	99,52	63,45	54,68
Visegrad group	99,83	68,55	52,96
Serbia	*99,46*	*59,54*	*48,43*
Industry, total			
EU-28	99,23	55,92	40,48
Germany	97,74	45,69	38,59
Visegrad group	99,33	53,37	35,76
Serbia	*98,65*	*50,15*	*33,41*
Manufacturing			
EU-28	99,24	57,61	41,44
Germany	97,82	45,67	31,60
Visegrad group	99,34	55,05	38,50
Serbia	*98,75*	*54,93*	*41,65*
Construction			
EU-28	99,95	88,26	80,74
Germany	99,93	93,32	89,10
Visegrad group	99,96	91,42	83,06
Serbia	*99,57*	*78,60*	*73,66*
Services, total			
EU-28	99,86	67,51	61,65
Germany	99,65	67,26	62,05
Visegrad group	99,90	73,83	65,18
Serbia	*99,69*	*64,19*	*59,68*
Wholesale and retail trade			
EU-28	99,88	69,66	65,49
Germany	99,67	67,63	65,67
Visegrad group	99,91	77,57	70,45
Serbia	*99,76*	*72,57*	*70,88*
Information and communication			
EU-28	99,78	60,42	42,95
Germany	99,54	62,22	45,27

Visegrad group	99,87	65,67	41,85
Serbia	*99,46*	*56,95*	*36,01*

Source: EUROSTAT and SORS database; authors' calculations;
Notes: VISEGRAD group contains: Czech Republic, Hungary, Poland and Slovakia

First of all, despite the fact that SMEs sectoroften referred to as thebackbone of the economy, providing jobs and growth opportunitiesby cross-referencing data with the observed countries, we found that the Serbian SMEs sector is overloaded with employment. It certainly stabs productivity.Namely,the number of persons employed per enterprise in the Serbian SMEs(as a part of *total non-financial business*)in 2006 was7,0. In the EU-28 and the Visegrad Group the ratio was half lower, 3.4 and 3.1, respectively. Similar proportions exist in the manufacturing industry. In Serbia the number of employees per enterprise was 11.0, and in the EU-28 and the Visegrad Group were 8.3 and 5.8, respectively.

The problem of low productivity, and therefore low competitiveness,of Serbian SMEs (with the conclusions being the same when we compare the total economy) downright floats when we compare level of value added per employed person -in the broadest sense atotal factor productivity indicator.

Every person employed in the Serbian SMEsenterprises in 2016 providedEUR 11.448 (EUR 14.073 in all enterprises of *total non-financial business sector*). Concurrently, the average person employed in the Visegrad group of countries was 52% more productive. In EU-28 the difference was 3,4 times, while comparison with German is even more apparent - the difference reaches 4,3 times.

The relative difference is more significant inthe industry than in the services while the smallest discrepancy is recorded in the construction sector. Comparing with Serbian peers every employed person in SMEs sector in the Visegrad group in 2016 was more productive in

Manufacturing by 73,4%, in *Construction* industry by 24,0%, in total *Services* sector by 49,6%, and within in *Wholesale and retail trade* by 44,5%, i.e. in *ICT* sector by 42,6%.

In a four-year period 2012-2016 contribution of Serbian SMEs to value added growth doesn't differ crucially from the observedcountries.

Approximately one half of the gross value added growth comes from SMEs in the total *non-financial business sector*. Significant deviation we notice only in *Manufacturing* and *Constrtruction* industry. As we have already mentioned, the growth of the European *manufacturing* industry, particularlyin Germany, dominantly rests on large enterprises.

OECD work on productivity confirms these findings. The productivity gap between large firms and smaller SMEs has widened since the global crisis. While for small and medium-sized enterprises there has been a reversal in this trend during the recovery, the larger gap has become persistent for micro-firms, especially in manufacturing, where production tends to be more capital-intensive. Thereby, in many emerging and developing economies, the productivity gap between large firms and SMEs – and the resulting income gaps - are especially large, due in particular to a disproportionate concentration of employment in micro and small firms, often informal ones, with relatively little employment in medium-sized firms (Cusmano et al., 2018).

Completely opposite,due to the devastated serious large capacitiesthe dynamics of the manufacturing industry in Serbia relies on the small and medium enterprises. Consequently, industrial dynamics is weak. The problem of insufficient large capacities is particularly evident in*Construction*, where large enterprises negatively contribute to value added growth.

Note that negative contribution of -137,0in Construction in the Visegrad Group was the result of a total value addedreduction by EUR 214,2 mil while value added of SME's surged EUR 239,5 mil.

Table 2.SMEs in terms of value added, 2016

	Value added per employed person, in EUR		Contribution of SME's to value added growth during 2016/2012 (%)
	SME's	Large enterprises	
Non-financial business sector			
EU-28	42.714	66.047	49,0
Germany	49.162	70.737	61,6
Visegrad group	17.382	33.644	55,3
Serbia	*11.448*	*17.935*	*48,4*
Industry, total			
EU-28	49.116	91.634	27,3
Germany	68.430	91.603	17,3
Visegrad group	20.065	41.252	31,2
Serbia	*10.791*	*21.638*	*30,4*
Manufacturing			
EU-28	45.140	86.698	25,5
Germany	53.573	97.460	20,8
Visegrad group	18.712	36.620	29,0
Serbia	*10.611*	*18.116*	*42,4*
Construction			
EU-28	38.927	69.799	69,0
Germany	42.627	72.836	90,9
Visegrad group	13.384	29.083	-137,0
Serbia	*12.361*	*16.240*	*183,5*
Services, total			
EU-28	38.207	46.233	55,8
Germany	46.933	51.270	79,2
Visegrad group	16.139	23.412	74,1
Serbia	11.693	14.162	59,5
Wholesale and retail trade			
EU-28	38.207	46.233	56,4
Germany	46.933	51.270	72,4
Visegrad group	16.139	23.412	60,9

Serbia	*11.170*	*12.140*	*66,9*
Information and communication			
EU-28	62.661	127.056	58,4
Germany	68.717	136.804	65,1
Visegrad group	24.272	64.519	103,2
Serbia	*17.022*	*40.031*	*95,2*

Source: EUROSTAT and SORS database; author's calculations;
Notes: VISEGRAD group contains: Czech Republic, Hungary, Poland and Slovakia

An even more detailed observation is possible from the data given in Table 3 since enterprises are segregated by size.

There is no dilemma that the value added per employee increases with the size of the company. Hence, the largest companies have the highest added value per employed person. On the other hand, in all observed industries, by all parameters,Serbia is ranked behind the EU, Germany and the Visegrad group.Across countries, there is in general a persistent productivity gap between SMEs andlarge firms. To the extent that large firms can exploit increasing returns to scale,productivity typically increases with firm size, although some variability across sectorsand countries is observed. In particular, in the services sector, medium-sized firmsoutperform large firms in some countries, exhibiting competitive advantages in niche,high-brand or high intellectual property content activities, as well as the intensive use of affordable ICT (OECD, 2017a).

Interestingly, similar proportions are maintained and when analysing privatized companies sorted by size. It can be said the period over the past decade was marked by highly visible andrapid change of ownership structure that was enabled by the 2001 Privatization Law.Productivity of companies privatized by the public tender method, i.e. large companies, wasalmost two times higher than of those privatized through the auction sale (SMEs enterprises). There is no preferred regularity in the movement of labourcosts here, which

can be explained by the fact that these companies were privatized without aclear vision as regards their future (Nikolić, 2011; Nikolić, 2014).

Table 3.Value added per employed person, in EUR, 2016

	SME's				Large enterprises	TOTAL
	0-9	10-19	20-49	50-249		
Non-financial business sector						
Czechia	15.970	19.645	23.170	28.678	35.168	25.651
Hungary	11.358	17.563	19.635	23.601	32.371	21.174
Poland	9.640	20.186	22.944	25.872	32.925	21.507
Slovakia	12.542	21.889	24.880	25.907	36.588	23.088
*Serbia**	*6.640*		*13.014*	*14.696*	*17.935*	*14.073*
Industry, total						
Czechia	16.764	18.061	21.197	29.503	41.858	31.844
Hungary	11.134	16.764	18.042	23.010	42.832	30.563
Poland	9.927	17.666	19.617	23.678	40.427	28.857
Slovakia	10.771	18.953	23.088	25.573	41.773	30.092
*Serbia**	*5.331*		*10.014*	*13.246*	*21.638*	*16.198*
Manufacturing						
Czechia	13.095	17.523	20.449	26.387	38.523	28.963
Hungary	9.832	14.590	17.183	22.802	41.987	29.473
Poland	9.945	16.125	18.978	22.509	33.823	24.849
Slovakia	9.959	16.414	20.158	24.816	37.186	26.940
*Serbia**	*5.225*		*9.717*	*13.410*	*18.116*	*13.993*
Construction						
Czechia	11.572	15.191	18.858	24.867	31.211	16.256
Hungary	9.056	13.248	14.769	20.792	18.709	12.342
Poland	9.162	16.832	19.304	26.082	29.151	15.011
Slovakia	8.147	20.609	21.444	22.700	30.592	12.666
*Serbia**	*8.399*		*11.910*	*15.649*	*16.240*	*13.192*
Services, total						
Czechia	12.841	23.721	28.591	34.110	24.573	21.244
Hungary	9.705	17.580	23.226	29.904	19.788	16.521
Poland	8.509	21.524	24.729	28.675	23.936	16.987
Slovakia	11.617	23.254	30.940	27.689	21.820	17.933
*Serbia**	*6.789*		*14.892*	*16.194*	*14.162*	*12.577*
Wholesale and retail trade						
Czechia	12.841	23.721	28.591	34.110	24.573	21.244
Hungary	9.705	17.580	23.226	29.904	19.788	16.521

Poland	8.509	21.524	24.729	28.675	23.936	16.987
Slovakia	11.617	23.254	30.940	27.689	21.820	17.933
*Serbia**	*6.443*		*15.161*	*15.355*	*12.140*	*11.436*
Information and communication						
Czechia	20.810	30.592	36.295	46.743	75.715	47.603
Hungary	11.049	27.310	27.564	47.550	58.474	32.576
Poland	13.247	28.674	33.302	40.632	61.772	36.164
Slovakia	15.783	24.933	40.843	49.189	67.441	40.418
*Serbia**	*8.485*		*18.376*	*25.623*	*40.031*	*26.926*

Source: EUROSTAT and SORS database; authors' calculations;
Notes: Unlike others SMEs in Republic of Serbia are, by number of employees, classified in tree groups: micro (0-9), small (10-49) and medium (50-249).

Structural changes in Serbia which occurred during transition have not resulted with sufficient growth that could provide sustainable improvement as compared to either other transitional countries or EU average (Nikolić&Zubović, 2013). Up to 2014 there were no significant changes in industry branches that contribute the most to PPP generation like the high-tech industry. In this period, as compared to other countries the share of the real sector stagnated, which has led to slower convergence towards the EU average. It was a turning point. Since then industrial growth has been more sustainable, led dominantly by exports, and foreign investments. Furthermore, the result is even more important because it was achieved during a time of implementation of severe fiscal consolidation measures that had an unfavourable impact on domestic demand.

However, the structural problem of Serbia remains a low technological level of production that is not generating growth, or is manifested in a divergent trend of the physical volume and gross valueadded. It should be emphasized that Serbia holds the world record in relative export growth during the last several years! Again, our industry and exports rely on low-technology, i.e. low-accumulation areas of production. They generate a surplus (good for

the balance of payments), but they do not contribute to economic growth! Hence it should be noted that subsidies for opening jobs, an important lever for attracting foreign investors during the past four years, do not belong among determinants of the growth of investments that will create a competitive economy – they may even be counter-productive in that regard.

The share of areas belonging to medium-high and high technology is only 26% of the manufacturing industry. Furthermore, this technologically more developed segment of production created only 765 euros per capita in 2016. At the same time this type of production in Bulgaria was worth 26% more, in Romania 2,2 times more, in Slovenia 5,2 times more, and in Germany a whole 10,3 times more (Nikolić&Zoroja, 2018).

The key sources of accelerated growth of the GDP that we desire in the mid-term must clearly be more productive activities. Despite serious positive steps in its economy, Serbia remains in a state of structural and technological imbalance, preventing the creation of sustainable economic dynamics. In this regard, an important component of economic policy must be an active structural-investment policy as a mechanism for securing the modernization of the production structure. Economic development in the long-term will be a function of the complexity and efficiency of its production structure. These processes are tied to technological changes and the introduction of innovation, significant investment into education, and the research and development sector.

If, on the other hand, we analyse quality, it is interesting to note certain data regarding changes to the technological structure of manufacturing. Namely, abstracting all methodological problems regarding the division of manufacturing areas according to achieved technological level, during recent years we note a tendency of slight relative structural changes of manufacturing in favour of areas with higher technological content.Regarding the period 2010-2017, the

share of medium-high technology areas of *Manufacturing* in generating value added for this sector has doubled, from 11% to 22% (Nikolić&Zoroja, 2018).

Considering the importance of the previous observations, below we give a detailed overview of the technological structure of the *Manufacturing* industry by size-based enterprises.

Table 4.Technological intensity of manufacturing, % share in value added in 2016

MICRO enterprises, 0-9 employees

	High-tech	**Medium-high**	**Medium-low**	**Low tech**
Germany	4,2	14,5	44,9	36,4
Czechia	2,9	14,6	45,5	36,9
Hungary	5,1	14,3	41,7	38,8
Poland	3,3	10,5	49,0	37,2
Slovakia	3,0	9,3	55,9	31,8
Visegrad group	*3,4*	*12,0*	*48,0*	*36,7*
Serbia	*8,3*	*14,3*	*35,4*	*42,0*

SMALL enterprises, 10-49 employees

	High-tech	**Medium-high**	**Medium-low**	**Low tech**
Germany	5,7	22,4	42,1	29,8
Czechia	3,8	23,3	45,1	27,8
Hungary	2,9	18,1	44,7	34,3
Poland	2,3	16,3	41,9	39,5
Slovakia	2,9	17,2	53,2	26,7
Visegrad group	*2,9*	*18,6*	*44,2*	*34,3*
Serbia	*8,2*	*20,2*	*26,5*	*45,1*

MEDIUM enterprises, 50-249 employees

	High-tech	**Medium-high**	**Medium-low**	**Low tech**
Germany	7,1	33,9	33,7	25,2
Czechia	4,2	29,5	39,6	26,8
Hungary	5,5	26,9	35,8	31,8
Poland	2,8	20,5	40,1	36,6
Slovakia	3,3	33,9	39,7	23,1
Visegrad group	*3,6*	*25,0*	*39,4*	*32,0*

Serbia	*3,7*	*19,6*	*29,0*	*47,6*
SMEs, total				
	High-tech	**Medium-high**	**Medium-low**	**Low tech**
Germany	6,4	28,6	37,4	27,6
Czechia	3,8	25,4	41,8	28,9
Hungary	4,2	20,4	45,1	30,3
Poland	3,0	17,9	41,8	37,3
Slovakia	4,1	28,4	42,7	24,8
Visegrad group	*3,5*	*21,3*	*42,4*	*32,8*
Serbia	*5,5*	*19,3*	*28,9*	*46,3*
LARGE enterprises, 250 persons employed or more				
	High-tech	**Medium-high**	**Medium-low**	**Low ech**
Germany	9,8	60,5	17,7	12,0
Czechia	5,7	55,6	25,8	13,0
Hungary	18,7	52,1	15,0	14,2
Poland	4,4	32,2	32,5	31,0
Slovakia	4,8	51,9	30,0	13,4
Visegrad group	*7,2*	*43,8*	*27,4*	*21,6*
Serbia	*4,1*	*23,7*	*31,0*	*41,2*

Source: ibidem

It is easy to see from Table 4 or from a more concise view from Figure 1 that the technological intensity is also in a positive correlation with the size of the company.The growth engine of the *Manufacturing* industry in Germany is based on large enterpriseswhich are the creators of the highest technologies. These enterprisesgenerate a competitive advantage. This is the essential difference between the performance of Germany *manufacturing* sector and others, especially Serbia.

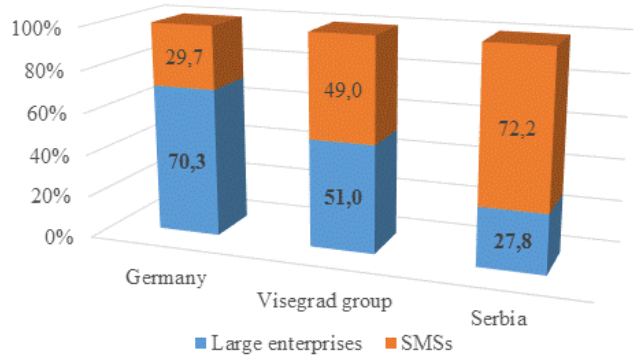

Figure 1. High & Medium-high tech (HMT) industries[1], % share in value added in 2016 *Source*: authors' calculationsfrom EUROSTAT and SORS database

Large enterprises that innovate and scale up are the driving forcebehind growth, ensuring the coordination, upgrading andparticipation in supply chains of smaller suppliers from SMEs. At the same time, many SMEs do not extend their reach beyond small local markets.These firms, which produce limited innovation, and whose owners do not have stronggrowth aspirations, often remain small throughout their life cycle(Cusmano et al., 2018).

The designers of Serbian industrial and development policy must therefore give primacy primarily to: the *automobile industry, pharmaceutics, mechanical engineering and electrical equipment manufacture*. Unfortunately, Serbia could only compensate this gap within a reasonable future timeframe by attracting foreign strategic companies in these fields. Therefore any activities that will result in this are allowed and desirable.

[1]The medium and high-tech industry is defined using OECD classification as the following by International Standard Industrial Classification of All Economic Activities (OECD, 2011)

Facts indicate that only with the expansion of large enterprises in high-tech and medium-high tech areas will open up the space for the SMEs sector. Within SMEs enterprises can only deliver the expected contribution.

At the very end, it is interesting to cross the data of enterprises classified by number of employees from the business register with a record of foreign trade.

Observing the total export of the Republic of Serbia that amounted to EUR 13,4 billions in 2016, according to size of enterprises by number of employees, it is the fact that large enterprises (with 250 employees and over), realized 56,9% of total export of the country. This relates to particularly large systems that employ a great number of people and that "bear" the exports. Group of medium enterprises, with the share of 21,5% in total export value are on the second place, followed by small enterprises and the share of 10,8%. The last group refers to micro enterprises (0-9 employees) that participated in total export of Serbia with 8,7% (SORS, 2016).

On the other hand,24,1thousand enterprises (26,7% of all enterprises in business register) participated in import (EUR 17,1 billions in 2016). Most of the import jobs are done by micro enterprises with share of 56,6%. The enterprises with 10-49 employees presented 21,2% of all importers, followed by medium enterprises and the share of 7,0%. The last group presents the enterprises with 250 employees and over that participated with the share of 2,1% in total number of importers. However, if we look at import value according to size of enterprises by number of employees, it becomes obvious that the largest enterprises with 250 employees and over participated with 40,4% in total import of the country. The group of micro enterprises participated with a relatively small share of12,4%.

The largest part of Serbian SMEs export rests on products of a lower phase of finalization and less value added (raw materials and labour-

resource intensive products), which is characteristic of less developed countries. In order to improve export competitiveness, it is necessary to change the export structure in favour of price and qualitatively more competitive products of a higher degree of manufacturing (finalization), which is possible only by investing in modern technologies that lead to supply growth, reduction of production costs, more efficient use of production factors, product and growth of export revenues.

4. THE DETERMINANTS OF EXPECTED ECONOMIC PERFORMANCE OF SERBIAN SMEs BASED ON INDIVIDUAL-LEVEL DATA

4.1. Methodology

This part of the study aims to examine the influential factors of managerial expectations of economic position of SMEs operating in Serbian economy. The analysis refers to short-term expectations of managers.

Database used in this research is a part of a larger study, entitled Conjunctural barometer, which has been conducted on a monthly basis by the Serbian Chamber of Commerce, using systematic random sampling and by means of structured questionnaire. Conjunctural barometer has been conducted on samples of large and small and medium-sized enterprises, taken from the population of enterprises which submitted their annual financial statements referring to the year prior to the one in which data collection is performed.Enterprises included in the study belong to one of the following three sectors: mining, processing industry and electricity, gas and steam supply. Data used in this particular study refer to December 2018 and are obtained from the subsample of SMEs, as only these enterprises have been the focus of this research. Out of a total sample of 152 enterprises included in the study in December 2018, 52 cases (34.2%) referring to large enterprises were excluded from the study.

Conjunctural barometer questionnaire consists of four parts. The first part is related to the evaluation of current economic position of an enterprise. Questions related to the evaluation of production activity of an enterprise, general level of capacity utilization, assessment of raw materials and in-process inventory in comparison with current production needs, finished goods inventory and their assessment in comparison with regular level of stocks, number of employees in the previous month. The second part included questions related to the expectations of economic position of an enterprise in the following three months, expected sales at domestic and foreign market, in case of export activity of an enterprise, expectations ofcurrent capacity utilization in relation to expected sales, expectations of finished goods and raw materials price and expectations of employee number in the following three months. Third part included questions related to the main limitations of production, the level of receivables and debts and risk assessment. The fourth part included questions related to the size, predominant production and ownership.

Hierarchical multiple regression has been applied to examine significant determinants of managers'expectations of an enterprise's economic performance in the short run, above and beyond the influence of managers' evaluation of current economic position of an enterprise.

4.2. Results and Discussion

The application of hierarchical regression, whereas the assessments of the current economic position were entered as the first block of variables, and expectations were entered subsequently, indicated statistical significance of both models, as presented in Table 5 and Table 6. Variables related to the assessment of current economic situation explained 18.3% of variance of the dependent variable, expectations of economic performance of an enterprise in the following three months. The entrance of variables related to the short-term expectations of sales at domestic and foreign market, expectations related to the production capacity in comparison with

expected sales and expectations related to the price of goods and raw materials added 38.6% to the explained variance of expectations of economic performance of an enterprise. The value of Durbin-Watson statistic indicates that there is no auto-correlation in multiple regression data. Variance inflation factor (VIF) and tolerance values, presented in Table 7, indicate that correlations among independent variables are not excessive, as resulting VIF values are lower than the upper bound of 10 and Tolerance values are higher than the lower bound of 0.10. Tolerance is a direct measure of multicollinearity and it represents the amount of variability in an independent variable which is not explained by other independent variables in the model, whereas VIF is an inverse value of tolerance (Hair et al., 2010). The presence of multicollinearity would decrease the ability of independent variables to predict dependent variable and assess the relevance of independent variables in predicting the dependent variable.

Raw materials inventory and expected sales at domestic market emerged as statistically significant positive determinants of expected economic performance of an enterprise, as presented in Table 7. These results indicate that a standard deviation change in raw materials inventory towards the regular level needed for current production yields 0.264 standard deviations increase in managers' expectations of short-term economic performance of enterprises. Similarly, one standard deviation increase in sales at domestic market would increase managers' expectations of economic performance of enterprises for 0.647 standard deviations.

Table 5. Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.428[a]	.183	.132	.47363	.183	3.635	4	65	.010	
2	.754[b]	.569	.496	.36092	.386	8.823	6	59	.000	1.601

a. Predictors: (Constant), x4rec2, x2rec, x1rec, x3rec

b. Predictors: (Constant), x4rec2, x2rec, x1rec, x3rec, x11rec, x16, x10, x8brecn, x9rec, x8arecn

c. Dependent Variable: x7rec

Source: authors' calculations

Table 6.ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.261	4	.815	3.635	.010[a]
	Residual	14.581	65	.224		
	Total	17.843	69			
2	Regression	10.157	10	1.016	7.797	.000[b]
	Residual	7.686	59	.130		
	Total	17.843	69			

a. Predictors: (Constant), x4rec2, x2rec, x1rec, x3rec

b. Predictors: (Constant), x4rec2, x2rec, x1rec, x3rec, x11rec, x16, x10, x8brecn, x9rec, x8arecn

c. Dependent Variable: x7rec

Source: authors' calculations

Table 7. Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	1.270	.483		2.630	.011		
Current economic position	.201	.137	.191	1.473	.146	.749	1.336
Production activity	.126	.113	.133	1.113	.270	.887	1.128
Capacity utilization	-.331	.178	-.293	-1.858	.068	.507	1.973
Raw materials inventory	.598	.204	.415	2.931	.005	.629	1.591
2 (Constant)	.897	.773		1.161	.250		
Current economic position	-.127	.124	-.120	-1.026	.309	.529	1.890
Production activity	-.028	.093	-.029	-.301	.764	.766	1.306
Capacity utilization	.117	.165	.104	.713	.479	.345	2.898
Raw materials inventory	.380	.177	.264	2.147	.036	.484	2.066
Sales at domestic market	.634	.132	.647	4.813	.000	.404	2.474
Sales at foreign market	.129	.106	.148	1.220	.227	.496	2.018
Capacity in comparison to expected sales	-.197	.202	-.109	-.976	.333	.581	1.721
Expected price of raw materials	-.014	.102	-.013	-.134	.894	.790	1.266
Expected price of goods	-.186	.135	-.127	-1.377	.174	.861	1.161
Expected business risk	-.076	.206	-.036	-.369	.714	.782	1.280

a. Dependent Variable: x7rec
Source: authors' calculations

According to this analysis, expectations related to the sales at domestic market and the adjustments between raw materials inventory and needs of production determine managers' perceptions of economic performance of an enterprise. These findings may indicate that the enterprises included in this study are primarily oriented towards domestic market. Contrary to large enterprises, it is difficult for SMEs to achieve economies of scale and related operational efficiency. Therefore, SMEs' managers are advised to increase sales volume by being more effective and efficient than competing companies in satisfying needs and requirement of chosen niche markets.

As for managerial concerns regarding the adjustment of inventory levels, this finding is in compliance with previous literature on SMEs' performance, which indicates that SMEs lack specialized knowledge, expertise and highly skilled human resources, such as those needed for inventory management. Raw materials inventory is perceived as a "necessary evil" (Vrat, 2014), i.e. resource which is needed, but is blocked in an unproductive form of assets. However, it is necessary to have raw materials inventory in order to respond when it is needed, as the unavailability of raw materials will cause delays in production and delivery of goods and may have negative consequences in terms of penalties for missing deadlines, loss of good business reputation and long-term loss of customers. However, keeping raw materials inventory is not free of charge, due to opportunity costs of keeping stocks, such as a loss of interest rate an enterprise would have earned if the amount of mony invested in inventory had been invested elsewhere, costs of storage facility for inventory, administrative costs related to the maintenance of inventory or risk costs caused by the obsolescence of raw materials, perishability, damage, disappearance of inventory, etc. Managers should also be aware of costs of reordering inventory, caused by administrative work, which are usually fixed. Therefore, keeping inventory is a challenging issue in materials management. Raw materials inventory is needed to respond to uncertainty of supply, caused by variability of lead time, demand variability, seasonal sales, etc. Raw materials inventory is also

maintained to respond to some situational circumstances, such as inflationary pressures, variability in the production of raw materials or simply to use quantity discounts. In order to make appropriate decisions in terms of how much of raw materials to buy and when to order, SMEs' managers are advised to make an appropriate choice of inventory models, which are based upon inventory policy. Review of literature indicates three inventory policies which are generally applied (Vrat, 2014). One implies continuous monitoring of inventory and placing an order when the status of inventory falls to reorder point, which is the level which is necessary for the continuity of production during the lead time. This policy has drawn the most attention of practitioners and it is the oldest scientific approach to inventory management. The following one requires periodic review of the level of inventory in predetermined fixed time interval. Within this policy, a new order is placed in the quantity of the difference between maximum level of inventory and available inventory at the time of control. A disadvantage of this policy is that it does not take into consideration the level of raw materials to respond to future demands and it also implies a new order no matter how high is the level of inventory at the time of review. The third policy implies periodical examinations of inventory level, taking into consideration maximum level of inventory, minimum level and actual status. If the status falls below the minimum level, a new order is placed, or postponed until the following control period, if the actual level of inventory is higher than the minimum level.

5. CONCLUSIONS

The aim of this study was threefold: first, to review recent research interests in the context of SME sector, from the perspective of the influential factors of business performance, with special attention devoted to European economies; second, to provide a comparative analysis of Serbian SME sectorat an aggregate level and third, to analyze the determinants of economic performance of Serbian SMEs

from the perspective of managers, taking into consideration the short run.

Findings of the review of literature indicate the liability of smallness, the liability of newness and the liability of obsolescence as the detrimental factors to business performance of SMEs operating in Europe. Market orientation, innovativeness and entrepreneurial orientation have gained prominent attention among positive determinants of SMEs' business performance.

SMEs share the destiny of the whole Serbian economy. No matter how we sort them in relation to their peers their results have been underperformed.First of all, their productivity is poor. The sector is overloaded with employment. The number of persons employed per enterprise in the Serbian SMEs in 2006 was 7,0. In the EU-28 and the Visegrad Group the ratio was half lower, 3.4 and 3.1, respectively. It is even more unfavourable to compare level of value added per employed person. The average person employed in the Visegrad group of countries was 52% more productive - in EU-28 the difference was 3,4 times, in Germany is even more apparent, difference was 4,3 times. The relative difference is more significant in the industry than in the services while the smallest discrepancy is recorded in the construction sector.It is a fact that the growth of the European manufacturing industry, peculiarly Germany, dominantly rests on large enterprises. Completely opposite, due to the devastated serious large capacities the dynamics of the manufacturing in Serbia relies on the small and medium enterprises. The problem of insufficient large capacities is particularly evident in Construction, were large enterprises negatively contribute to value added growth. The structural problem of Serbia remains a low technological level of production that is not generating growth, or is manifested in a divergent trend of the physical volume and gross value added. It should be emphasized that Serbia holds the world record in relative export growth during the last several years! Again, our industry and exports rely on low-technology, i.e. low-accumulation areas of production. They generate a surplus

(good for the balance of payments), but they do not contribute to economic growth!In that sense we found that the technological intensity is in a positive correlation with the size of the company. The growth engine of the Manufacturing industry in Germany is based on large enterprises which are the creators of the highest technologies. These enterprises generate a competitive advantage. This is the essential difference between the performance of Germany manufacturing sector and others, especially Serbia. Facts indicate that only with the expansion of large enterprises in high-tech and medium-high tech areas will open up the space for the SME sector. In these circumstances SMEs can deliver the expected contribution and can become among the major forces of the economic development.

Findings of this research also indicate the adjustment of raw materials inventory and expected sales at domestic market as key determinants of economic performance of SMEs operating in Serbia, from the perspective of managers and taking into consideration the short run. However, one should be cautious in generalizing the findings of this study. The main drawbacks of this research, taking into consideration individual-level data, are the size and scope of the sample. The study has been performed on a sample of Serbian SMEs operating in the sectors of mining, processing industry and electricity, gas and steam supply, whereas service industries which are the leaders in terms of the participation of SMEs in total number of enterprises, have not been included in this study. Therefore, future studies should be performed on a more representative sample of enterprises, taking into consideration their distribution across sectors and contribution to value added.

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