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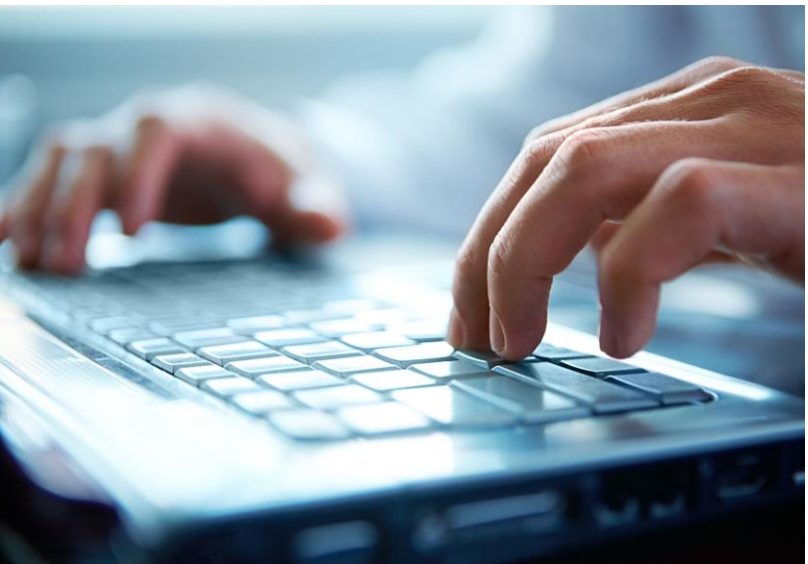
SERBIA'S REAL SECTOR PERFORMANCE:

Exhibited competitiveness by Size, Industry and Regions



SERBIA'S REAL SECTOR PERFORMANCE:

Exhibited competitiveness by Size, Industry and Regions

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FOREWORD

Introduction to the CEVES REPORT – A USAID Research Asset for Improving SME and Competitiveness Policy in Serbia, developed under the SLDP Project

USAID's Sustainable Local Development Project (SLDP) is proud to sponsor the following Report by the Center for Advanced Economic Studies (CEVES) on Serbian SME competitiveness. The origin of this Report flowed from a basic economic policy-making question: Can we measure the potential of Serbia's various SME sectors to competitively expand their share of world markets? An affirmative answer to this question would allow us to discern which sectors are dynamic, which sectors are stalled or waning, and how government and donor assistance could be targeted among the different sectors to increase overall economic performance and world market penetration by Serbian firms. This is an important issue because it addresses the key concern of whether Serbia's private sector firms have the capacity to grow and help absorb the crushing unemployment present throughout the nation.

Few dispute that economic policy decisions are more solid when they are based on quantitative analysis rather than on generally accepted supposition. We proceed from the principle that sound economic policy stems from sound analytical information. The ability of Serbian SMEs to perform in competitive markets is fundamental to the growth of the nation's economy. Rigorous quantitative analysis about the nature of today's private sector SME performance is a valuable tool for estimating how SMEs are equipped to perform in the future. We have therefore commissioned this Report from CEVES, which has done an outstanding job of demonstrating where Serbian SME performance now stands for a number of sectors, and what that status means for the potential of private sector competitive performance in years to come.

The CEVES Report deserves careful reading for full comprehension, and of course, an introduction such as this is not able to establish the full lines of inquiry and thought that the Report merits. Much data has been collected and assimilated within the parameters of the Report's design, and we are certain that economists and policy-makers will eagerly scrutinize their contents. For general purposes, however, three points should be understood about the CEVES Report:

a. The CEVES Report is constituted by a set of quantitative data that has been measured and can be re-measured periodically;
b. Because of its quantitative underpinnings, the Report offers clear

lines and boundaries that readers can consider and accept, modify or reject; and

c. Though the Report contains inevitable rankings and conclusions about the competitiveness of various SME sectors, that material is less important than the description the Report offers of an entire range of sectors that, depending on the policy priorities of government, can be assisted through a variety of different and appropriate developmental interventions.

A brief orientation to the Report's methodology follows:

The Report examines several key economic vectors and how they intersect, and thus pin points the competitive strength of a number of industry sectors operating in today's Serbian economy. The Report commences with an analysis of those Serbian sectors that export tradable goods. It evaluates the performance of those sectors over time; are they trending upwards and increasing their export markets, or are they stagnant or retrenching? Do they export a diversified portfolio of goods or are they bound by a narrow product range that indicates possible susceptibility to market changes? Do they export to strong, multiple markets that will likely grow in the future or to fewer and less robust markets? When quantitative data is applied to questions and considerations such as these, conclusions can be reached as to the export competitiveness of the sectors under consideration.

The CEVES Report then moves to a different vector analysis, which is constituted by an examination of overall industry performance in certain sectors. Basically, the Report analyses what an industry's performance portends for the growth potential of firms in that industry. By looking at both the growth of an industry as a whole and the revenue performance of individual firms making up the industry sector, the Report can make predictions about the potential of that industry sector to make significant and sustainable contributions to the economy as a whole. A number of analytical elements are juxtaposed to determine overall industry performance, and those calculations will interest economists looking for methodological accuracy, but the bottom line is that industries that are growing overall because of multiple firms earning above-average, steadily increasing revenues indicative of high productivity, are the industries most likely to continue their upward growth trends. In contrast, industries that are growing overall on the backs of leading firms that are consistently decreasing profits and productivity are industries whose future may be less sanguine without purposive, firm-level productivity interventions. The beauty of this Report is that its insistence on examining industry performance as a combination of aggregated numbers about the industry and data about how and in what configurations individual firms in the industry are performing, is that we can begin to understand whether an array of industries in Serbia enjoy meaningful potentials for growth, including the growth of the individual firms occupying the particular industry.

The next economic vector the CEVES Report tackles is a cross-interpolation of

industries in Serbia with respect to their export competitiveness and their overall industry performance. By integrating the results of its analyses of export competitiveness and industry performance, the CEVES Report is able to show us the industries in Serbia that hold the most promise for sustainable growth based on competitiveness level. There is one further step to the CEVES Report, which cannot be ignored. Because a key premise of the Report is that Serbia must look to the dynamism and creativity of its SMEs to ensure even and sustainable growth, the Report performs a concentration analysis of the most promising industries. The reason for this is fundamental--SMEs are more likely to encounter fewer barriers to entry into a market that is highly competitive, rather than one dominated by one or a few firms. Said another way, the more concentrated an industry, the less competitive it is, and SME's accordingly have fewer opportunities to break new ground and compete successfully against dominant and controlling firms. That is not the end of the game for economic growth, however, as concentrated industries, if they grow, can provide good opportunity for supply chain growth by SMEs in related industries. The Report helps us to make these more nuanced observations about how industries and firms might interact, even in the presence of varying concentration and competitiveness levels in the market. Such knowledge gives us a sharper focus when we set competitiveness policy and decide how to help enhance the overall competitiveness and growth of the nation's firms.

As a donor project, SLDP is hopeful that the CEVES Report will be accepted as a valuable and indispensable tool for economic policy-making in the nation. It bears the attention of serious people who wish to make serious and useful decisions about the nature and direction of Serbia's economy. As a Project, we hold a conviction that economic security and fluorescence in cities and regions can only arrive on the shoulders of a private sector that is so competitive and growth-oriented that it erases the rampant and debilitating unemployment present today. High unemployment destroys the very fabric of a city because the unemployed have no vested interest in the productive life of their own community. SMEs that are part of a community's lifeblood and are growing because of their competitive skills are necessary to return the unemployed to a meaningful role in the community organism. It is time to make policies and perform interventions that help such SMEs develop the right way. The CEVES Report will provide instrumental assistance in that task.

Howard Ockman,

Chief of Party of the USAID Sustainable Local Development Project

December 2014

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ABBREVIATIONS and ACRONYMS

CAGR – The Compound Annual Growth Rate

CE – The Competitiveness Effect

CEFTA – Central European Free Trade Agreement

CMS - Constant Market Share

EBITDA – Earnings before interest, taxes, depreciation, and amortization

EBRD – European Bank for Research and Development

ECE - East-Central European

EFTA – European Free Trade Area

ELG - Export-Led Growth

FDI - Foreign Direct Investment

GDP – Growth Domestic Product

HHI – The Herfindahl-Hirschman Index

LPI – Logistics Performance Index

OECD – Organization for Economic Cooperation and Development

PCA – Principal Component Analysis

RCA - Revealed Comparative Advantage

SBRA – Serbian Business Registry Agency

SME – Small and Medium Enterprises

WEF – World Economic Forum

EXECUTIVE SUMMARY

Introduction

The main goal of our research is to **shed light on the most promising industries, with the potential to drive sustainable growth and development of Serbia's economy through enhanced international competitiveness and exporting activities.** In addition, this research will also shed light on industries that have obvious market potential, but struggle to achieve their goals and realize this potential fully. We will briefly point out the fields in which certain constraints limit the realization of the full potential of those industries. The knowledge produced by this research should motivate policymakers to look for various actions whose implementation would adequately support the most promising industries and remove, or at the least minimize the constraints that these industries encounter.

Serbia must jump-start growth if it is to increase the wealth and living standards of its citizens. However, relative to the development seen between the political transition of 2000 and the onset of the economic crisis in 2008, **policymakers must strive to implement a model that is more sustainable, inclusive, and smart.** Drawing on the lessons of not only Serbia's past, but also the experience of countries similar to Serbia in terms of economic structure and geographic location, this report asserts that **exports must play an integral role as the locomotive of Serbian growth**. In a domestic economic environment characterized by limited and anaemic growth, Serbia must look beyond its borders to find its opportunity for development.

One of the primary goals for policymakers in Serbia is to support, stabilize and even enhance the international operations of current exporters, but also to strive to broaden the base of exporters, by enabling and helping more firms to penetrate foreign markets. Only 30% of companies in the tradable sector of the Serbian economy are active exporters, while the remaining 70% of companies are exclusively domestically oriented. Despite the fact that a majority of small, medium and large firms from tradable sector are exporters, a relatively small number of micro firms have managed to internationalize their activities, and this reality has had a significant impact on the relatively low share of exporters among Serbian firms. Exporters were in general more successful, more dynamic and twice as productive and profitable, in comparison to non-exporters..

Serbian leadership must take a proactive, systematic approach to raising exports by adopting a strategy that focuses on enhancing the competitiveness of Serbian industries and the companies within them. However, policymakers dedicated to promoting economic development in Serbia are forced to design strategies without the benefit of all the information that should and must be available in order to invest resources as productively as possible. The current state of Serbian statistical and sector performance analysis does not allow for a clear understanding of the relative strengths, potentials, advantages and weaknesses of the Serbian economy.

This report will help to fill this gap by identifying the strengths on which the economy should be built, in order to generate employment, enhance competitiveness and improve local development interventions in Serbia. This research will assess the performance, competitiveness and industries' potential, with specific emphasis on industries on which policymakers should focus. The sources of comparative advantages and the factors that have led to such performance will not be analysed in depth. Although internal or external sources of comparative advantage will be highlighted where possible and obvious, more focused follow-up projects must be conducted in order to reveal industry-specific characteristics that determine the performance of certain industries.

This report is divided into six chapters:

- **The first and second chapter** will discuss the current state of the Serbian economy. They will examine how the economy has reached its current state, and the models to which we can look as guides on how to propel growth going forward. The second chapter will also examine the general state of Serbian exports and lay out the theoretical and practical arguments in favour of Serbia's adopting an export-led growth model as the foundation of its development strategy.
- **The third chapter** will more closely examine the state of Serbian exports, which collectively constitute a locomotive of economic growth, and analyse the competitiveness of industries. It will shed light on industries in Serbia that have/hold the most favourable position and capacity for further growth based on enhanced competitiveness, taking into consideration: the number of export markets, the characteristics of export markets, the degree to which the export manufacturing base is diversified, the competitive

positions or respective industries, and the respective contribution of various industries to total Serbian exports. Industries identified as the most competitive are the most conducive to growth, possessing the resources necessary to excel in the global marketplace.

- **The fourth chapter** will complement the analysis of export competitiveness and enable a deeper examination of the characteristics of various industries that constitute the Serbian economy. Based on an in-depth analysis of financial statements, it will evaluate broad industry performance and address just how dynamic, sustainable, and systematic the development of a particular industry is.
- **The fifth chapter** will integrate the results of the previous two chapters in providing a holistic picture of the most promising and globally competitive industries within the Serbian economy. It will also assess the results of industries with mixed results - industries that achieved considerable success at home but were less competitive on foreign markets, and the sectors that performed well abroad but were less successful at home. In doing so, chapter five provides possible explanations for what is hindering the performance of businesses within and outside of Serbia's borders.
- **The final chapter** will narrow the focus on the Fabricated Metal Products industry, one of the most promising industries in Serbia's economy. The main goal of this case study is to provide sound knowledge about the performance and competitiveness of a selected industry and to determine the reasons behind this performance, focusing on the identification and understanding of critical success factors (particularly industry-specific). The identification and understanding of hidden potentials and nuanced productivity factors in an industry constitute essential knowledge, if stakeholders and policymakers are going to make decisions to assist an industry to prosper.

The Most Promising Industries

The most promising industries in Serbia are those that possess adequate attributes and provide resources to firms in order for them to systematically produce internationally competitive products while operating profitably, productively and dynamically. Such industries are conducive to the development of competitive firms whose growth will be

able to drive the wider Serbian economy; therefore, we consider these industries to be the most suitable for firm-level development. This does not mean that every firm in a promising industry will be successful and internationally competitive. Rather, an average firm has a greater chance of succeeding in such an industry. Whether a certain firm will succeed depends primarily on firm-level attributes.

Identification of the most promising industries is based on the integration of the results of two complex analyses – export competitiveness analysis and an overall industry performance analysis. Before we proceed to the integration of results of these two analyses, we will briefly present the main goals, coverage, methodology and results of these studies.

Export Performance Analysis

The ultimate goal of the export performance analysis is to identify industries that possess the necessary resources and capabilities for strong, dynamic, diversified, and sustainable export operations. Being successful on foreign markets clearly indicates the systematic ability of an industry to produce a competitive product, but also continuously to improve its market position, while competing with rivals from other countries. The purpose of this analysis is to provide a holistic picture about the ability of various industries to drive sustainable, smart, and inclusive economic growth led by a larger presence in global trade.

Building on a constructed model of export performance and its determinants – competitive advantage, comparative advantage, complexity of products and export diversity, we can derive some general conclusions about the international activities of Serbia's economy. It can be concluded that **Serbia's overall export competitiveness was systematically and comprehensively enhanced in the observed post-crisis period. Export position, measured through a gain in the market share, has improved in 70% of the most important export destinations.** However, it is also indicative that such performance was driven by a minority of tradable industries, primarily by the super competitive motor vehicle industry. The other most competitive industries mainly belong to resource-intensive sectors (plastics, rubber, fabricated metal products, wood and paper, coke, petroleum). Despite being one of the most significant industries for Serbia's export, measured through revealed comparative advantage, the Agriculture and Agribusiness industries were not able to compete with rivals and merely maintained their acquired market share in the post-crisis period, from 2009 to 2013.

An export performance analysis resulted in the identification of four groups of exporting industries in Serbia's economy - export stars, rising stars, falling stars and marginal industries. **Export stars** represent industries that continued to improve their already exhibited comparative advantage. Industries with the highest exhibited competitive advantage in this group are: Manufacture of Motor Vehicles; Manufacture of Electrical Equipment; Manufacture of Clothes; and provision of Electric Current. Industries with the highest comparative advantage and *growing* competitiveness among export stars are: Manufacture of Rubber Products; Manufacture of Prepared Meals and Animal Feeds; and Manufacture of Vegetable and Animal Oils and Fats. **Rising stars** are potentially very prosperous industries that should be in the special focus of policymakers. Those industries were not traditionally significant for Serbia's export, but were able to compete with rivals and to improve their position on foreign markets, despite a relatively unsecure position. Some notable members of this group are: Manufacture of Bodies, Parts and Accessories for Motor Vehicles; General Purpose Machinery; Extraction of Crude Petroleum; and the Preparation and Spinning of Textile Fibers. The acquired position and export competitiveness of **falling stars and marginal industries** deteriorated during the post-crisis period. The most extreme example of the industry with the greatest loss in competitiveness is the Manufacture of Iron and Steel. Furthermore, a large number of traditionally and strategically important agricultural and agribusiness industries faced a downturn in competitiveness. A subject for further study should be uncovering the reasons for such underperformance and deterioration of competitiveness.

Overall Industry Performance

The main goal of overall industry performance analysis is to provide sound knowledge about the systematic ability of firms, within an industry, to effectively achieve key business objectives in an observed post-crisis period (2009-2013). We define key business objectives as quick, inclusive, profitable and productive growth that increases the welfare of main stakeholders – owners, employees and state. The systematic capability of a relatively high number of firms from one industry to more effectively fulfill their goals is not a coincidence, it is a **consequence of a greater availability of requisite resources and attributes in a certain industry.** If a relatively higher number of firms from an industry, compared to another industry, achieve their key business objectives more effectively, it can be considered that the first industry is more attractive, promising and suitable for the development of firms.

Hence, the main purpose of an overall performance analysis is to complement the picture of an industry's systematic ability to drive sustainable and inclusive economic growth based on exploitation of requisite resources and attributes, by looking at the strength, dynamics, and structure of the industry's firms.

Performance has two main components: extent and quality. **Extent** refers to the rate of growth, or the dynamism of an industry's growth, which is determined by demand - quantity of a product or service that is desired by buyers. The more rapid the growth of an industry, the better the performance of that industry (Porter, 1980). With respect to **quality**, growth should be as **comprehensive** as possible, i.e. supported by as many firms within the industry as possible. Ideally, growth of an industry should not be driven primarily by a single firm or a small number of firms. In addition to comprehensiveness, growth has to be **sustainable** in the long term if it is to be considered high quality. Thus the more sustainable the growth, the 'healthier' it is, which augments the performance of the particular industry (Porter, 2008). Sustainable industry growth implies **profitable and productive** operations. Growth can only be sustainable if it is profitable - i.e., generating value added for its owners; otherwise, the owner has no incentive to continue his or her business if profit is continually being lost. Profitability hinges upon the productivity of the firm, which is determined by the efficient use of inputs in the production process (Foster et al., 2005). In order to be productive, growth should be based on best managerial practices, high-quality labour and capital inputs, innovation and technology.

Building on established performance models and knowledge about the dynamics, comprehensiveness and sustainability of Serbia's post-crisis recovery, we have observed some **general trends and conclusions** about the characteristics and structure of Serbia's economy growth and development. **Serbian industries have been slowly recovering from economic crisis that occurred in 2009.** The **revenue** of Serbia's economy has been slightly increasing- 5.5% annually, in the post crisis period. This passive recovery of Serbia's economy was followed by the growth of **productivity**. However, Serbia is lagging behind its regional competitors and developed European countries. The productivity of the EU27 in manufacturing is more than double compared to Serbia, according to the World Bank. **Profitability** of Serbia's economy was solid in 2013, eight cents of EBITDA was generated per euro of those slightly increasing revenues. However, only 25% of firms were **successful** - every fourth bona fide firm managed to increase its revenues, generate

employment and operate profitably in the post crisis period. These successful firms are very significant for Serbia's economy, contributing to economic revenues with almost 50%. However, the remaining three-fourths of Serbian firms were not able to foster post-crisis recovery by achieving profitable growth.

In the past 5 years, the development of Serbia's economy was mainly driven by a minority of industries and large companies within them. The impact of large firms on growth, profitability and productivity of industries was very significant. More numerous, but smaller firms were not able to follow the trends dictated by large corporations. Growth of revenues of an average firm was negative in the post-crisis period, while the economy grew annually by 5%. An encouraging fact is that the average firm in Serbia's economy has created positive EBITDA and, therefore, its profitability was positive. However, profitability was only 3% in 2013, just above boundary value, while productivity reached approximately EUR 6.000 per employee, three times the productivity of the economy.

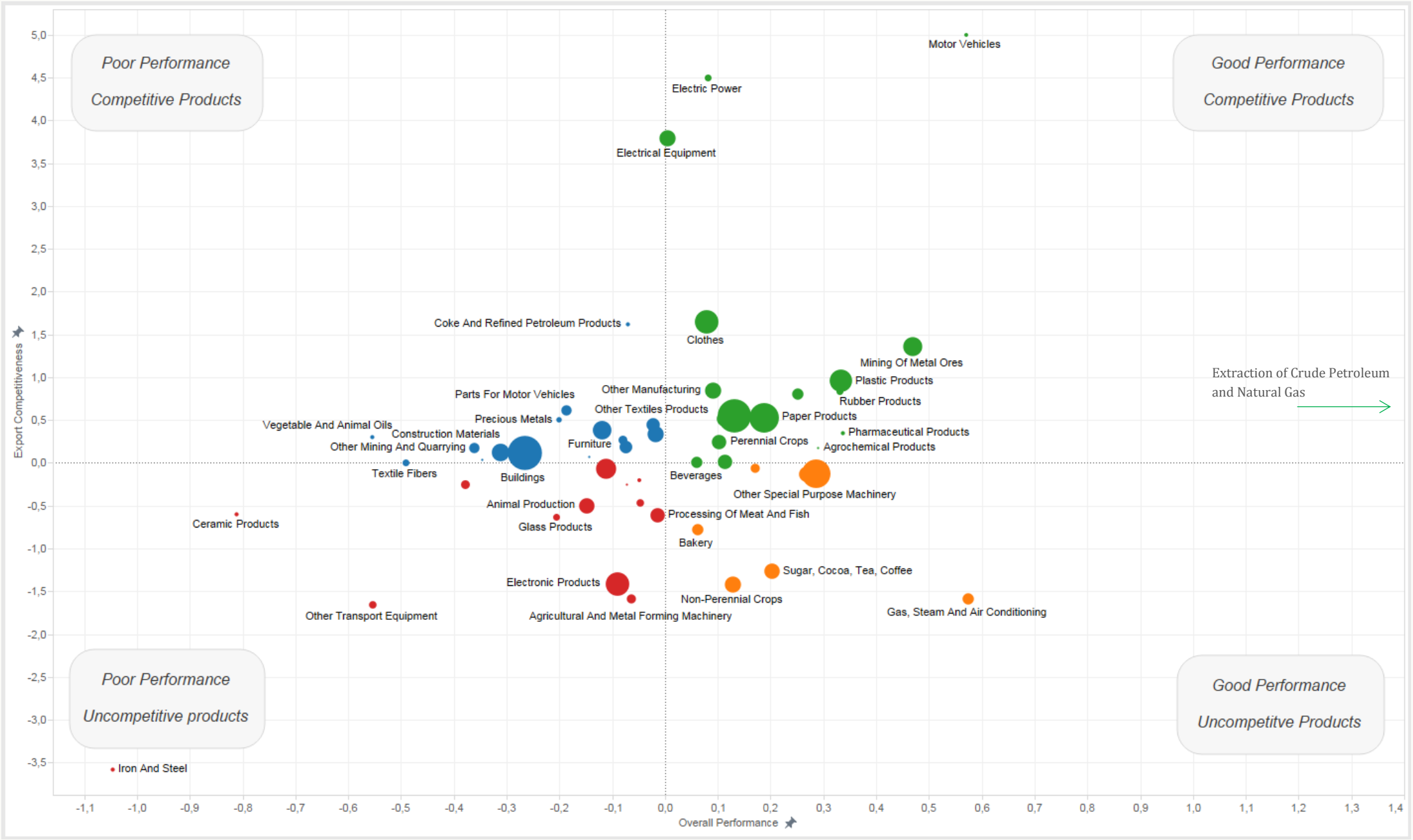
The top ten industries with the best overall performance are: Extraction of Crude Petroleum and Natural Gas, Rental and Leasing Services, Real Estate, Postal and Courier Activities, Computer Programming and Consultancy, Manufacture and Distribution of Gas, Manufacture of Motor Vehicles, Human Health, Mining of Metal Ores and Water Collection. As can be noted, the **Tertiary sector is dominant** among the best performing industries. The dominance of services among the best performing industries is a result of the rapid development of these industries in the past decade. Serbia achieved dynamic economic growth between 2000 and 2008, but this progress was fuelled primarily by capital inflows and a domestic credit boom that mainly targeted the non-tradable sectors of the economy. **The production sector**, which represents the backbone of an export-led growth model, is represented with only one industry among the top 10 industries with best overall performance – Manufacture of Motor Vehicles. But, even this industry is highly concentrated and its activities and results are completely determined by operations of one large and dominant firm. **There are no systematically and comprehensively developed, high-complexity production industries among the best performers.** Moreover, the best ranked, low concentrated production industry is Manufacture of Plastic products. It occupies the 15th position among industries, sorted by best exhibited performance. Some of the industries from the Food sector, Manufacture of Rubber products, Manufacture of Paper products,

and Manufacture of Fabricated metal products are placed just below on the list.

Considering that Serbia should pursue an inclusive, smart, and sustainable model of growth, based primarily on private sector-led exports, it is a primary goal to increase competiveness and productivity in tradable sectors.

Identifying the Most Promising Industries

By combining the results of the two cornerstone analyses, overall industry performance and export competitiveness, we were able to **develop a typology of industries**, understand their current situation and potential, and finally, prioritize and pinpoint tradable industries that are the most promising and suitable for firm development. **The Performance-competitiveness matrix**, presented in the figure below, **provides an overview and comparison of industries based on the characteristics and structure of international competitiveness and overall performance.** It depicts the dispersion of 53 tradable industries according to their overall industry performance, represented by the horizontal x-axis; and their export competitiveness, represented by the vertical y-axis. Each industry is presented by a bubble, while the size of each bubble is determined by the number of firms within an industry. The more firms comprising an industry, the larger the bubble representing that industry.


Poor Performance
Competitive Products
Good Performance
Competitive Products
Poor Performance
Uncompetitive products
Good Performance
Uncompetitve Products
Extraction of Crude Petroleum and Natural Gas
Export Competitiveness
Overall Performance
Motor Vehicles
Electric Power
Electrical Equipment
Coke And Refined Petroleum Products
Clothes
Mining Of Metal Ores
Plastic Products
Rubber Products
Parts For Motor Vehicles
Other Manufacturing
Other Textiles Products
Paper Products
Pharmaceutical Products
Vegetable And Animal Oils
Precious Metals
Construction Materials
Furniture
Perennial Crops
Agrochemical Products
Other Mining And Quarrying
Textile Fibers
Buildings
Beverages
Other Special Purpose Machinery
Animal Production
Processing Of Meat And Fish
Ceramic Products
Glass Products
Bakery
Sugar, Cocoa, Tea, Coffee
Electronic Products
Non-Perennial Crops
Gas, Steam And Air Conditioning
Other Transport Equipment
Agricultural And Metal Forming Machinery
Iron And Steel

The matrix is naturally divided into four quadrants. Each quadrant identifies industries according to particular characteristics, depending on their overall performance and export competitiveness.

Quadrant I consists of 18 (33% of total) promising industries, both internationally competitive and well performing. These industries have exhibited superior performance through an adequate combination of factors that determined their export competitiveness, comparative advantage, market and product diversification, dynamics, success rate, profitability and productivity. This quadrant obviously represents the desirable and preferable location for every industry. Industries located in this quadrant can be considered the current stars of Serbia's economy.

Policymakers should seek actions and solutions the implementation of which would support and prolong the exhibited performance and competitiveness of these sectors. The main goals of policies should aim to stabilize and strengthen the position of industries located in the first quadrant, primarily through competitiveness and export enhancement in order to **"push" these industries away from boundary axes.** For example, although the Manufacture of Paints, Varnishes, Soap and Detergents and the Manufacture of Beverages are located in the first quadrant, their positions are not secure. These industries, as can be seen in the graph, are located on the x axis, very near the coordinate origin. This indicates that export competitiveness and overall performance of these industries was only slightly positive.

Quadrant II consists of 15 (28% of total) internationally competitive, but overall underachieving industries. These industries obviously possess competitive core businesses and products, but some factors are limiting their ability to fulfil their potential. Observing some of those industries, it can be concluded that the common limiting factors may refer to a wide range of constraints, from **internal** issues, such as **poor corporate governance**, to generic restrictions, such as **obsolete technology**. Weak performance may also be a reflection of the **youth and immaturity of a certain industry**.

Internal constraints that block fulfilment of market potential are very common in the case of **highly concentrated industries**, which are **led by large, ineffective and frequently state-owned companies**. A majority of industries located in this quadrant can be considered either highly or moderately concentrated. In addition, looking at industries located in the second quadrant, it can be concluded that some dominant firms in these sectors may still be in the investment phase, which is hindering the current profitability of the company despite satisfactory corporate governance and adjustment to the

economic crisis. This was the case with Fiat, whose competitiveness in the first years after its initial investment was increasing while its overall performance, primarily the component of profitability, was poor. Still, Fiat eventually managed to translate its very high export competitiveness into satisfying business results and overall performance. One industry that can be associated with the early stage of the lifecycle and investment phase is the Manufacture of Bodies and Parts for Motor Vehicles.

Hence, industries located in the second quadrant should be interesting to potential investors and entrepreneurs and should surely not be neglected by policymakers. These industries possess competitive core products, while their poor overall performance can be inverted through processes of private sector strengthening, including privatization, foreign direct investments, and if possible, more entrepreneurs and healthy competition. In addition, they could benefit from better corporate governance, cost control, and business rationalization, as well as time, trust and patience in the case of large investments and immature industries. Business environment impediments in these industries must be addressed and improved in order to attract investors and allow healthy and dynamic growth.

Industries located in Quadrant IV exhibit the opposite characteristics. These industries demonstrate **satisfactory overall performance**, but their products are **not competitive** on foreign markets. Only 13% of observed tradable industries (7 out of 53) are located in this quadrant. **Sectors in this quadrant are often characterized by the presence of companies that have strong positions in the domestic market, but tend to be uncompetitive abroad.** Also, it is possible that industries located in this quadrant are primarily concentrated in the domestic market that has proven to be large and profitable enough. The comparative advantage of these industries may be based on knowledge of the domestic market and the lower price of products. Investments in technology, know-how, branding and networking may improve product quality and the competitive position of these industries in foreign markets.

The vast majority of industries from this quadrant are from agribusiness fields: Non-Perennial Crops; Manufacture of Bakery Products; Manufacture of Dairy Products; Manufacture of Sugar and Condiments; and Processing and Preserving of Fruit and Vegetables. Agribusiness has great economic, social, and political significance in Serbia and is widely considered to have significant potential for improvement. There are major opportunities for improvement

(WB2, P.97), primarily through optimization of extension services, supply chains, trade liberalization and the costs of trade (customs, logistics, and transport), and budget structure. Unpredictable policies and a lack of structural reforms are making it hard for farmers, processors, and traders to plan ahead.

Quadrant III consists of industries whose products were not competitive on international markets and whose overall performance was relatively low, indicating that their main performance characteristics were relatively unsatisfactory. One out of every four industries is located in this undesirable quadrant (13 out of 53). 3 out of 5 agriculture and forestry sectors are located in this quadrant – Animal Production, Fishing and Hunting and Forestry and Logging. The Manufacture of Iron and Steel, also located in this quadrant, was the most important sector of Serbia's economy as recently as 2000 in terms of export volume. Unfortunately, the international position of this industry deteriorated due to the withdrawal of US Steel from Zelezara Smederevo.

Further development of the most promising industries, and those facing some obstacles and limitations, should be targeted by policies, rather than being left to exclusively rely on the activities of firms to fulfil their potential and overcome negative impacts from the business environment. The Serbian economy is very diverse (and its SMEs especially so) and should not be subject to simple, one-size-fits-all approaches. Policymakers should precisely and effectively target industries and actively propose systematic tailor-made policies and solutions in order to eliminate obstacles, adapt regulation and laws, promote entrepreneurship and investments and thereby enhance capabilities and further growth of focused industries.

Private Sector Strengthening and SME Development

Expansion and development of the private sector, particularly SMEs, represents both an opportunity and a necessity for the Serbian economy. Further development of the private sector is of critical importance to Serbia's economic and employment growth as the country's economic structure is characterized by the dominance of very few large companies, almost no middle sized firms, and many small and micro companies that seem unable to break into the middle-sized range. It is hence of critical importance that SMEs be supported to grow and fill this existing gap.

In the context of private sector strengthening, it is of particular importance to recognize **SME friendly**

industries among promising and competitive ones. SME friendly industries are defined as **low concentrated industries, easy to enter for new entrepreneurs and desirably with no dominant impact of state-owned enterprises.** Entry barriers must be taken into account because they obviously affect the potential development of small and medium-sized enterprises.

The structure of almost every fifth industry in Serbia, according to the HHI index - the most widely used summary measure of industrial concentration**, is monopolistic or oligopolistic**. 18% of industries in Serbia's economy have HHI indexes above 2,500, which indicate high concentration. In addition, 9% of industries are moderately concentrated. The remaining **73% of industries can be considered competitive** and less concentrated. The list of highly and moderately concentrated industries is shown in the table 5.3 below.

The overall performance of highly-concentrated industries is completely determined by the performance of a few firms, or even only one firm. In addition, **these industries consist of a small number of active firms with limited or restricted space for new entries.** Frequently, these large companies are state-owned. The Manufacture of Motor Vehicles industry consists of 23 firms, but the industry performance of this sector is almost exclusively determined by the performance of FIAT, as the company is responsible for 98% of total industry revenue and employs 56% of the total number of employees in the industry. In the most extreme cases, an industry may only consist of a few firms, as it is case with Extraction of Crude Petroleum.

Highly concentrated industries, despite their potential attractiveness, cannot be considered suitable for SME development, but they can indirectly stimulate both the growth of that sector and overall country development. These industries are still very important, considering that potential investments in them could enhance their performance and competitiveness and therefore contribute to economic growth, employment generation, competitiveness enhancement, creation of backward linkages or have other positive spillover. In fact, the Industry of **Motor Vehicles** and related industries experienced just this with the Fiat investment.

On the other hand, competitive industries can be considered very suitable for SME development. These industries are characterized with an absence of entry barriers or the presence of low and manageable barriers that an average firm can surpass. Of course, such industries may contain large enterprises, but the market is large enough for many participants and potentially new firms.

Relative to highly-concentrated industries, these sectors are characterized by an easier entry, primarily because of lower fixed costs.

The 10 best performing and most competitive industries, characterized by **low concentration**, are Manufacture of: Fabricated Metal Products; Clothes; Plastic Products; Electrical Equipment; Beverages; Paper Products; General Purpose Machinery; Prepared Meals and Animal Feeds; Paints and Other Chemical Products; and Perennial Crops.

Still, despite solid performance and competitiveness, these **low concentrated tradable industries are less developed compared to non-tradable industries, but there is a room for further improvement and growth, primarily based on exploiting the exhibited export competitiveness.** These sectors stay far behind the non-tradable sectors in terms of exhibited performance. None of the less concentrated tradable industries is among the top ten best performing industries in Serbia's economy. The highest ranking is obtained by the Manufacture of Plastic Products, which is ranked 15th for overall performance. However, relatively high and increasing export competitiveness indicates that these sectors possess resources adequate to produce and sell products on foreign markets, while their market share is increasing and their market position is strengthening.

In order to adequately define and later implement a set of policies, whose implementation would support and enhance the competitiveness and development of promising SME friendly industries, it is necessary for decision-makers to **understand the capacities, strengths, and advantages of those industries**. Only in this way will it be possible to tailor a strategy and precisely target the industries whose development is needed in order to best grow the private sector, promote entrepreneurship, and attract the investment required to enhance competitiveness and increase Serbia's exports. We should bear in mind that the Serbian economy, as every other, is very diverse (and its SMEs especially so) and should not be subject to simple, one-size-fits-all approaches.

Case study - Fabricated Metal Products

In order to support the development of promising SME friendly industries and even enhance their performance and competitiveness, we must disclose and understand the factors, both industry-level and firm-level, that determine their success and international activities. **The main goal of this case study is to provide sound knowledge about the performance and competitiveness of a selected industry, and to determine the reasons explaining that performance and competitiveness by focusing on the identification and understanding of**

critical success factors (particularly industry-specific). The identification and understanding of hidden potentials and factors is the first step in creating required industry-specific knowledge that can provide essential information to key stakeholders and policymakers in order to assist an industry to prosper.

Considering the performance and competitiveness of the industry, SME friendliness and SLDP priorities, the manufacture of Fabricated Metal Products (FMP) was selected as the main subject of a case study. The Industry of Fabricated Metal Products is a **large and very diverse** industry, in terms of the number of firms and their respective economic activities and regional distribution. This industry is an **essential part of the metal industry** and a very significant member of a wider array of sectors. Fabricated Metal Products proved to be a **resilient** industry that managed to increase its value added and extent of activities in the last five years despite the negative impact of the global financial crisis. However, this industry has also experienced certain difficulties in the process of post-crisis recovery, primarily in the field of employment enhancement. That recovery is generally characterized by **"jobless growth"**, which is not only a reflection of the negative impacts of the crisis and Serbia's delayed and inefficient transition, but also of a broader malaise affecting many other European and middle income countries and industries at the beginning of 21st century.

FMP currently consists of almost **8.000 firms** and entrepreneurs, **employed 35 thousand** people in 2013 and contributed to approximately **EUR 372 million** (5.6% of total VA of tradable economy) to Serbia's economy. The SME constituents of the industry contributed to overall industry performance to a larger extent than SMEs did on average in the whole economy.

The Industry of Fabricated Metal Products is one of the best performing industries in the Serbian economy, possessing adequate attributes and resources for firms to **produce internationally competitive products while operating relatively sustainably and dynamically.** The main characteristics determining the position of this industry in the performance-competitiveness matrix are a great number of firms, a relatively solid overall performance and strong international competitiveness.

Overall performance of the FMP industry was positive and slightly above average for Serbia's economy. It can be concluded that this industry was performing relatively well, better than the majority of other industries in Serbia's economy. The potential of the industry is reflected in the presence of a healthy and large base of small and medium-sized enterprises that exhibited the capacity to push the

development of the entire industry forward. CEVES' success analysis uncovered that the FMP industry consists of relatively more successful firms in comparison to the overall tradable sector. The growth of the FMP industry was modest, but still more dynamic than the growth of other tradable industries. In terms of efficiency and effectiveness, the performance of the FMP industry was indistinguishable from other tradable industries.

The Industry of Fabricated Metal Products exhibited solid export performance with the ability even to advance its position on foreign markets. This industry can foster its development and augment international activities by building on its enhanced competitiveness, increasing strength on foreign markets and further diversifying exports. The export value of the FMP industry continually increased in the last five years, with an average annual growth rate of 11.7%, reaching EUR 471.7 million in 2013. Products of the FMP industry became more competitive on foreign markets, which strongly and positively affected export performance and growth. Export was relatively diversified, without any dominant market destination for the industry's exporters. It is encouraging that most of the exports were oriented to both large and fast-growing markets. In contrast to the total trade balance of Serbia, the Industry of Fabricated Metal Products led by the Manufacture of Other Fabricated Metal Products and the Manufacture of Tanks, Reservoirs and Containers, exhibited trade surpluses through the whole post-crisis period.

Improved export performance, based on enhanced competitiveness, represents the major lever of the FMP industry's development and growth. In order to increase the export performance of the industry, apart from fostering export by existing exporters, it is also necessary to broaden the base of exporters by enabling more companies to sell on the international market. Exporting firms were the main engine of growth and development of the FMP industry. This industry exhibited above average performance primarily due to the relatively large base of exporters that have proven to be its most resilient and most successful part. One third of companies within the industry were exporters in 2013. Exporters proved to be systematically more successful, productive and dynamic than exclusively domestically oriented companies. The superior performance of exporters allowed them to make a dominant contribution to the industry's employment, revenues and value created, although exporters did not represent the majority of the total number of enterprises. **To summarize, the FMP industry is one of the best performing industries in Serbia's economy, but room for additional improvement exists,**

primarily through support directed towards a healthy SME sector and more importantly, its exporters.

The main opportunities for export performance enhancement of the FMP industry are:

1) **SME strengthening -** In order to increase exports of existing exporters and broaden the base of exporters, it is of particular importance to support the systematic **growth of the SME sector in terms of revenues and number of employees. The growth of this sector will enable sustainable, consistent and continuous operation of these firms on global markets, while also filling the existing gap in the FMP industry structure caused by the lack of genuinely large companies.** SMEs face a number of obstacles when entering or retaining their position on foreign markets. Much of these difficulties are associated with the size of the firm (Altomonte, Aquilante and Ottaviano, 2012). Measures of support for small firms should clearly and explicitly target their productivity and growth (Bruegel, P.49). The key question for SME policy should not be how to help small firms survive, but rather how to make small firms adopt the right attitudes towards innovation, finance, human resources, management and ownership, promoting not only their survival but also their growth (Altomonte, Aquilante and Ottaviano, 2012).

2) **Reallocation of resources** -A subsector structure analysis reveals the existence of a hidden potential for export performance improvement through **reallocation of available resources and shifting investments from low competitive subsectors, whose position on foreign markets is worsening, towards more competitive sectors, whose position is strengthening and improving.** The most massive sector, in terms of export value, was the least competitive and its export position was deteriorating. On the other hand the vast majority of other subsectors within the FMP industry were strengthening their export position through competitiveness enhancement.

3) **Penetration of available, but unexploited markets** - The export of the FMP industry is diversified, directed to 84 foreign markets, without any dominant market destination. However, there is considerable room for **exploitation of attractive and currently**

insufficiently penetrated foreign markets, including countries from the EU 27 such as the Czech Republic or the Netherlands, but also China and Turkey.

The question that arises is which concrete factors of a company's competitiveness should be addressed with adequate support and policy design, in order for Serbian exporters to be more competitive abroad. **We have identified five critical factors of success: product quality, product price, delivery time, innovation capacity and access to buyers.** By identifying where gaps exist, policymakers and experts can see where the constraints in a given industry may be.

1) **Product Quality - Numerous studies indicate that the most important factor of success is the quality of the products produced.** Product quality most frequently represents a specific and demanded requirement, which cannot be negotiated. Principally, that includes maintaining the consistency in quality and reliability.

   Lack of **quality standards** and **certificates** represent one of the major impediments to accessing foreign buyers. **Poor quality of raw materials** and intermediate goods are frequently cited problems that influence product quality.

   Furthermore, **the quality of labour**, an **insufficient number of highly specialized workers**, and the **lack of middle management** that should improve the production process by improving coordination between workers and engineers, lead to problems in organizing the production process. Finding adequate skilled labour is a problem common to the fabricated metal products industry, and demographic and educational trends indicate that it will become an even greater obstacle as time passes.

2) **Product Price - The price of the product is almost equally as important as the quality.** The industry is characterized by a large number of potential suppliers, so it is not surprising that customers often cite price as an important factor of success when considering which fabricated metal producer to purchase from (FWC P.120-121).

   The price of raw material and intermediate goods is the single most important factor that determines product price. Although fabricated metal production involves energy-intensive and labour-intensive manufacturing, the main

determinant of cost on the supply side is usually the **price of metal**, the primary input into production. First, the prices of metal inputs can vary considerably from year to year. Global steel prices can change even up to 25% in the course of a single year (FMR, P.3). Second, because there are relatively few suppliers and many smaller buyers of raw metals, purchasers of raw materials are in a difficult bargaining position vis-à-vis their suppliers (FWC, P.9). Companies association into **clusters** could provide a higher bargaining power. One of the main challenges that further influence product price is **productivity**. The majority of SMEs have low productivity based on **obsolete technology**. **Transportation and logistics** are factors which influence product price. Poor railway infrastructure and limited use of the Danube River are constraining factors that make transport more difficult and costly (Singidunum, 2012). In addition, transportation costs for SMEs are relatively higher due to the small quantity of exported products or uncontentious export activities.

3) **Delivery Time / Distribution** - **Delivery time is a specific requirement that is also the quality measure -- *on time in full*.** That implies providing the entire quantity agreed upon in the contract in a timely manner, without partial delays in delivery. Being able to provide delivery on time in full is a direct indicator of reliability that influences the stability and durability of cooperation with foreign buyers.

   This factor of success is particularly important for producers who are part of just-in-time or just-in-sequence manufacturing systems that always seek to minimize inventory stock and produce within very specific and relatively **"tight" timeframes** (SAP, P.9). This puts increased **pressure on geographic location, transportation infrastructure, and relationships with distributors**.

4) **Innovation** - In a similar vein to product quality, an important factor of success is **the ability of companies to continuously innovate in an industry in which customer and regulatory demands constantly change and in which technological change and competition are part of the landscape.**

The lack of SME innovation is a cumulative consequence of **discontinuity in production, lack of financing, and a lack of innovation management capacity**, which make the vicious circle hard to break. Without continuity in placement, a certain and predictable source of finance is missing. Consequentially, there are no resources necessary for innovation. Even though FMP companies had a higher opportunity of using bank loans to finance investments, industry experts underline that the credit considerably impeded business for the majority of companies.

5) **Marketing / Access to Buyers** - **The primary sales channels for fabricated metal product manufacturers are direct contacts with distributors and end-customers (FMR, P.9).** Direct contact with potential customers is particularly important for MTO producers, as it enables buyers and suppliers to define the precise specifications of potential products.

SME visibility is one of the major challenges regarding entering foreign markets**.** Even though most of the companies export or aspire to do so, little has been done in order to increase visibility on foreign markets (on a larger scale). According to the survey, 39% of companies do not invest any share of revenues in **advertising, promotion and branding**. Out of those who do invest, as much as 95% invest only up to 10% of revenues. **SME association into clusters** is a valuable way of increasing visibility of SMEs. However, some experts point out that there is considerable **lack of a culture of association**. Furthermore, once they join a cluster they do not exploit all the benefits, and the realization of potential synergy becomes more difficult.

In addition, the FMP industry is characterized by some general impediments that hinder company development and affect all of the success factors to some extent. One of the most important generic obstacles refers to the **quality of corporate governance**. SMEs seem to plan strategically in a less structured and more informal manner than bigger companies. CEVES' survey indicates that the majority of the FMP SME companies wish to expand their business operations and grow into bigger companies. Furthermore, the majority of the companies do have a development and growth plan, based on certain predictions and financial data. However, only 18.6% of them have it as a formal document.

Moreover, the **decision-making process** regarding investment planning is mostly reserved to the companies' owner.

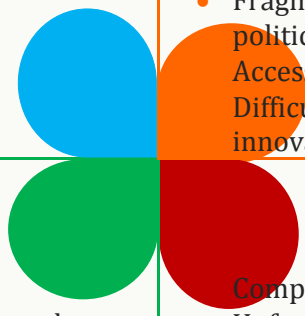
Building on knowledge provided and established in this research, presented in the table below, a high level strengths-weaknesses-opportunities-threats (SWOT) analysis of the Fabricated Metal Products industry in Serbia. This matrix provides knowledge about the most important strengths on which the FMP industry should build its competitiveness and performance, but also presents opportunities which should be seized, in order for the FMP industry to enhance and prolong its growth and development. On the other hand, policies and activities should target the weaknesses of this industry, which are obstructing its further development, so that their influence is eliminated or minimized. Knowledge produced by this case study should serve as a starting point for a follow-up project, which would prioritize and concretize recommendations and propose actions whose implementation would improve the business environment of the FMP industry in Serbia.

Strengths

- Metal products are "interchangeable" between industries and are not dependent on any one sector alone
- Specialization (common among SMEs) allows for higher margins
- Long industrial tradition; good value in terms of skill/cost
- Producers flexible to adjust to buyer requirements
- Demonstrated export competitiveness
- Demonstrated solid domestic performance
- SME friendly industry
- Strong base of healthy MSMEs
- Relatively high share of exporters

Weaknesses

- Prolonged economic slowdown in largest traditional demand markets
- Oscillating raw material prices
- Difficulty in finding adequately-skilled labor
- Skills gap both in engineering and in middle operational management competence
- Industry generally characterized by "thin" margins
- Low worker productivity
- Obsolete machinery (30 years old on average)
- Lack of facilities in Serbia for "final product testing"
- Domestic certification bodies not up to international standards
- Poor transport infrastructure
- Cumbersome business environment
- Poor IP Protection discourages innovation
- Low level of cooperation both within industry and with government
- Low level of product development
- SME Specific
- Low bargaining power vis-à-vis suppliers
- Low bargaining power vis-à-vis buyers
- Specialization implies customer concentration
- Fragmented nature of companies equates to less political clout (the invisible sector)
  Access to finance difficult, hence…
  Difficult to invest in process and technological innovation



Opportunities

- Increased demand in developing markets
- Serbia logical outsourcing choice from EU markets (geographic proximity, previous experience, etc.)
- New metal alloys allow for increasingly sophisticated final products.
- Addition of non-metal substances to final products
- Industry consolidation
- Geographic proximity to EU market, other fast-growing markets
- Potential for collaboration/information sharing
- Resources reallocation, from low competitive towards high competitive subsectors
- SME sector strengthening
- Available fast growing markets, which are not currently penetrated by FMP exporters

Threats

- Competition from developing countries
- Unfavorable demographic & educational trends deprive sector of skilled labor
- Rising energy prices
- Substitution of metal with other materials (e.g. plastic, ceramics)
- Product lifecycles shrinking over time (especially in MTO
- Frequent change of regulations and political influences

POST TRANSITION ECONOMIC DEVELOPMENT IN SERBIA:

The Untenable Wave Of Domestic Demand Led Growth

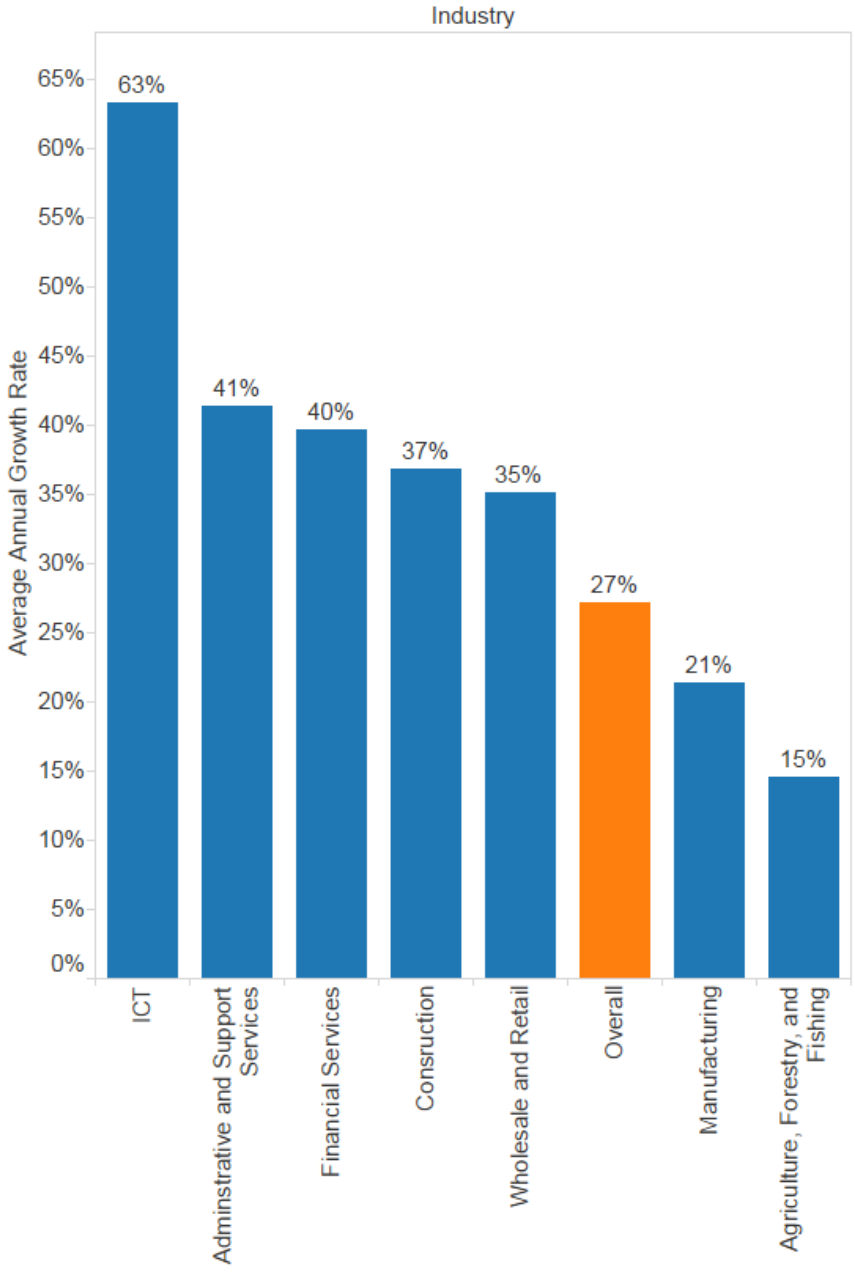
Following its political transition of 2000, Serbia, like its many of its East-Central European (ECE) neighbors a decade earlier, jump-started its economy and ushered in a period of dynamic economic growth. Benefiting from an international environment characterized by relatively inexpensive, widely-available capital, the Serbian economy grew considerably, primarily on the engine of increased consumption and demand. However, once capital inflows decelerated and the financial crisis took told in 2008, growth in Serbia slowed considerably. As it did in other ECE economies, this slowdown also exposed considerable weaknesses in the Serbian economy and the model it had relied on (McKinsey, P.5). With such a favorable international environment unlikely to return, it is time for Serbia to adapt a new growth strategy.

This chapter first examines the development Serbia has achieved since political transition in 2000 before – in later chapters - proceeding to a discussion of how it should re-start growth and the strategy it should adopt to achieve this. In doing so, this chapter will address the following questions: What kind of growth has Serbia achieved since 2000? What were the shortcomings of this development model? How was the economy impacted by the financial crisis of 2008? What is the state of the economy now? Finally, looking ahead, which models should its leaders look to for guidance for a new development strategy?

Although Serbia achieved dynamic economic growth between 2000 and 2008, this progress was fuelled primarily by capital inflows and a domestic credit boom that mainly targeted the non-tradable sectors of the economy. Between 2001 and 2008, real GDP per capita grew by an annual average of just under 5% as it benefitted from a favorable international environment that enabled significant capital flows to Serbia (Min Finansija World Bank, P.9). This fuelled a domestic credit boom and the expansion of domestic demand, particularly in non-tradables (WB 2, P.7). Foreign Direct Investment (FDI) in this period followed a similar pattern: approximately three

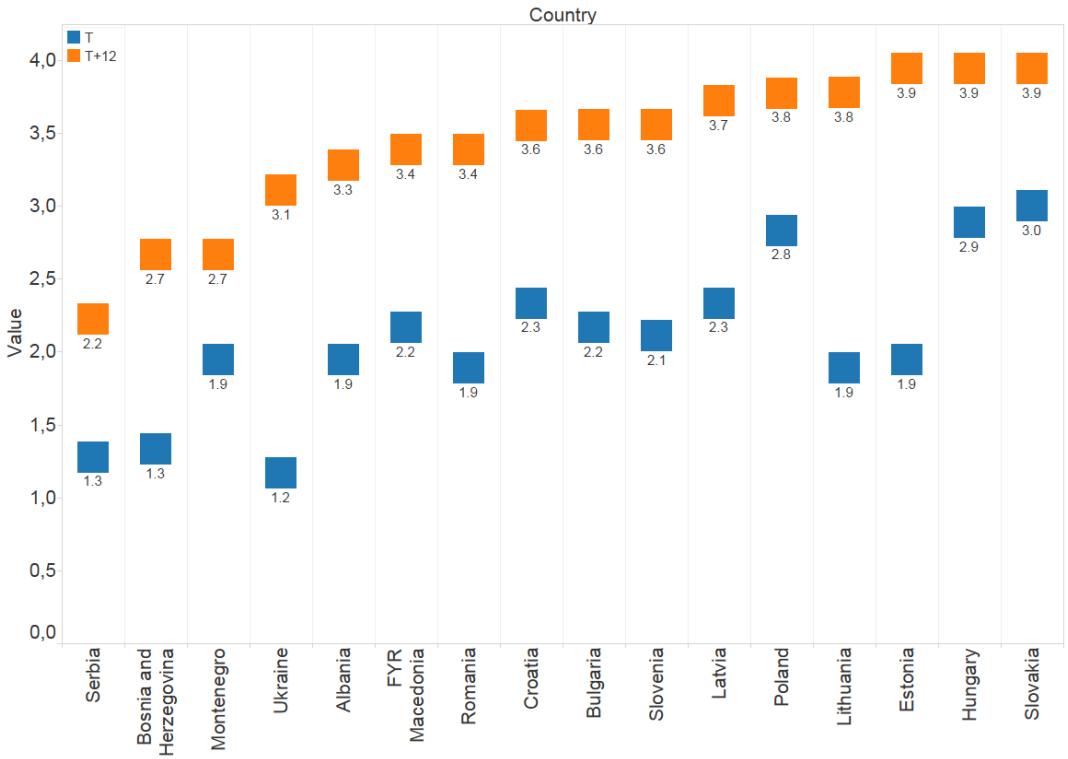
quarters of inward FDI between 2001 and 2008 was directed to non-tradable sectors, industries that are considered "safer" investments where investors could expect a return on investment in a relatively shorter period (WB2, P.9). Relatedly, personal consumption grew by nearly 80% between 2001 and 2008, the same year that private external debt reached a level of 53% of GDP (SRB strategy, WB P.9). Overall, the growth of non-tradable sectors of the economy accounted for 80% of real growth in Serbia during this period (WB2, P.7).

Figure 1.1 Average Annual Growth Rate by Industry, 2001 – 2008



Even though Serbia grew considerably in this period, it largely failed in making necessary enhancements to improve its national competitiveness and lay a more sound economic foundation. When referring to national competitiveness, this report uses the World Economic Forum's (WEF) definition of "the set of institutions, policies, and factors that determine the level of productivity of a country."(WEF, P.4). Serbia has generally lagged behind Eastern and Central European countries in implementing reforms to boost competitiveness. According to the EBRD's *Transition Report*, Serbia did not make - and still has not made - as many transition-related reforms as most of its ECE neighbors. Figure 1.2 shows that, relative to where its neighbors were 12 years following their respective transitions, Serbia still ranks poorly relative to other ECE countries in implementing transition-related changes (EBRD Transition Report).

Figure 1.2 Composite Average EBRD Transition Indicator Scores

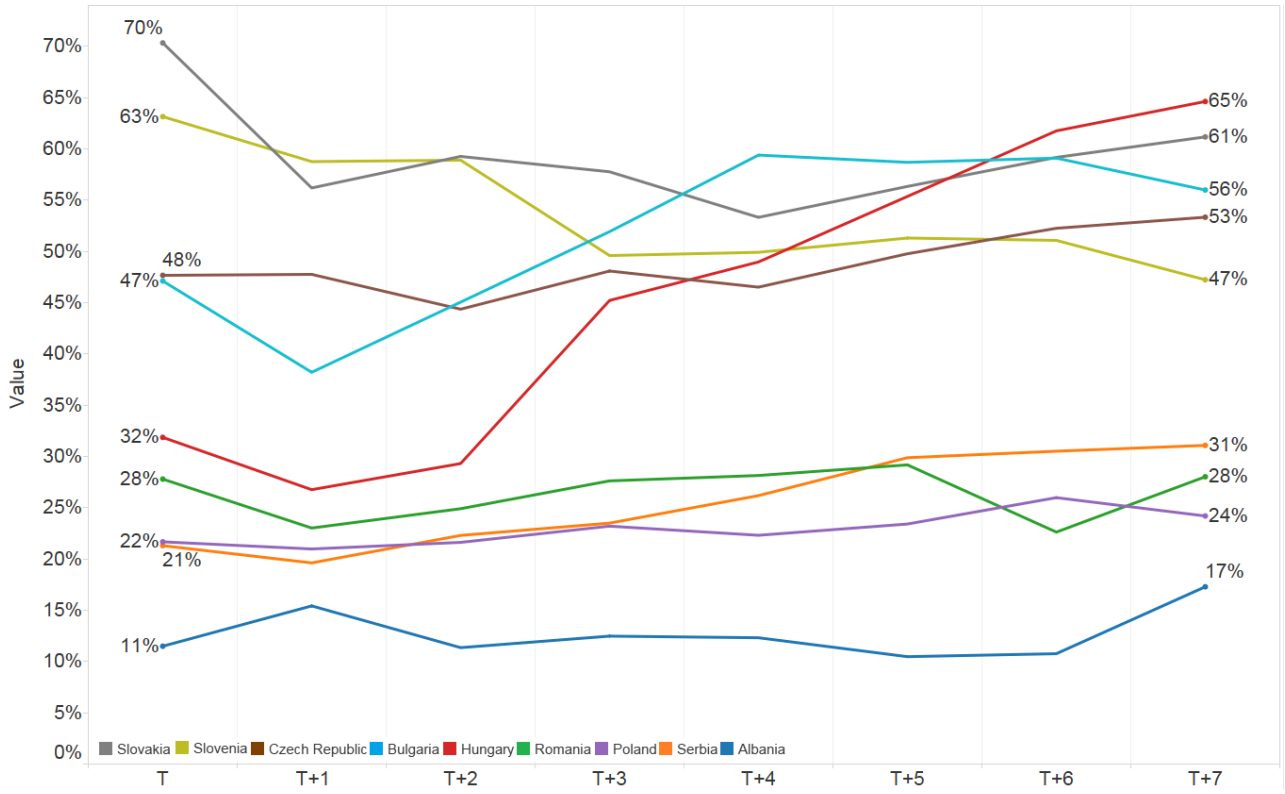


Note: T denotes the start of the transition period for the appropriate countries; for Serbia it represents 2001; T for other countries represents 1992

Although it has implemented some business-related reforms since 2000, the country today nevertheless ranks 93rd out of 189 economies in the World Bank's most recent *Doing Business* report, an increase of only two spots since the publication started including a ranking in 2006 (DB). It is also 94th out of 144 economies in the recently-released *Global Competitiveness Report 2014-2015* published by the World Economic Forum (WEF). Both of these rankings place it behind most of its regional neighbors and well behind the countries of the EU.

Serbia's lagging competitiveness was reflected in its shrinking manufacturing sector and in its exports that grew only marginally in spite of dynamic growth. While non-tradable industries grew considerably, the tradable goods sector only grew by 0.6% between 2000 and 2009 (SRB Strategy, P.27). Manufacturing specifically only grew by an average of 2% between 2000 and 2008 while its contribution to overall value added in the economy fell to around one-fifth, a figure significantly lower than that of comparable economies (WB 2, P.7). These industries, which were largely characterized by low output and productivity, also shed many jobs during this period (ibid). It is also unsurprising that a decrease in manufacturing, a linchpin of exports, would be reflected in tepid export growth figures. Although the percentage of exports to GDP rose from 15% in 2001 to 23% in 2008, this was still considerably lower than the rates achieved by other Central and Eastern European countries on their path to economic convergence with the countries of Western Europe (Mfinansija, WB2 P.17). Having made considerably more progress in economic transition, Hungary, the Czech Republic, Slovakia, and Poland each consistently achieved annual export to GDP rates of between 60% and 80% in their run-up to EU accession (WB 2, P.10).

Figure 1.3 Exports as Percent of GDP in Years Following Transition



Note: T for Serbia represents 2001; for other countries 1992

The onset of the global economic crisis slowed down growth considerably and revealed that the economic development achieved since 2000 was unsustainable. Put simply, growth ground to a halt once the crutch of inexpensive, freely-available capital and financing dried up. Indeed, the sudden slowdown of capital inflows drastically reduced domestic demand, decreased output, and led to the depreciation of the dinar. This put additional strain on businesses that had loans indexed to the euro, forcing many to close down or lay off workers (WB, P.11). Combined with a sudden drop-off in demand and FDI from the EU, Serbia's largest economic partner, this increased unemployment considerably. Indeed, unemployment in Serbia rose from 13.6% in 2008 to 22.1% in 2013 (MFinansija).

Consistently rising unemployment and the structure of unemployment also illustrate that growth in Serbia since 2000 was also non inclusive.

Unemployment increased from year-to-year most years and became most pronounced with the onset of the financial crisis.

Figure 1.4 Unemployment Rate in Serbia, 2000 - 2013

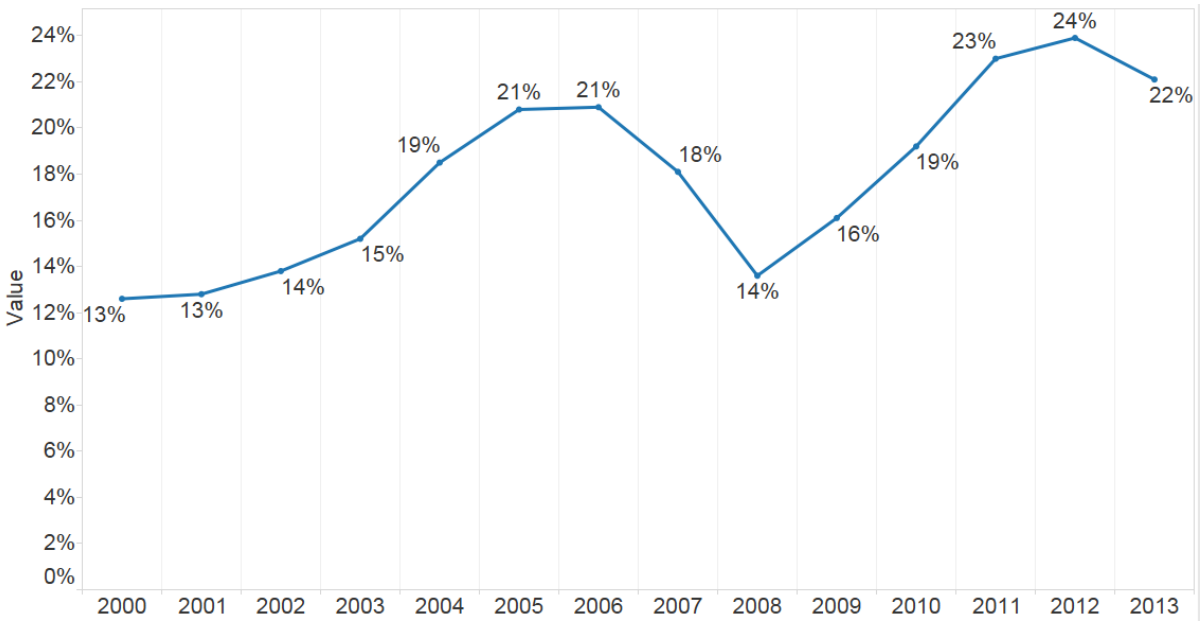
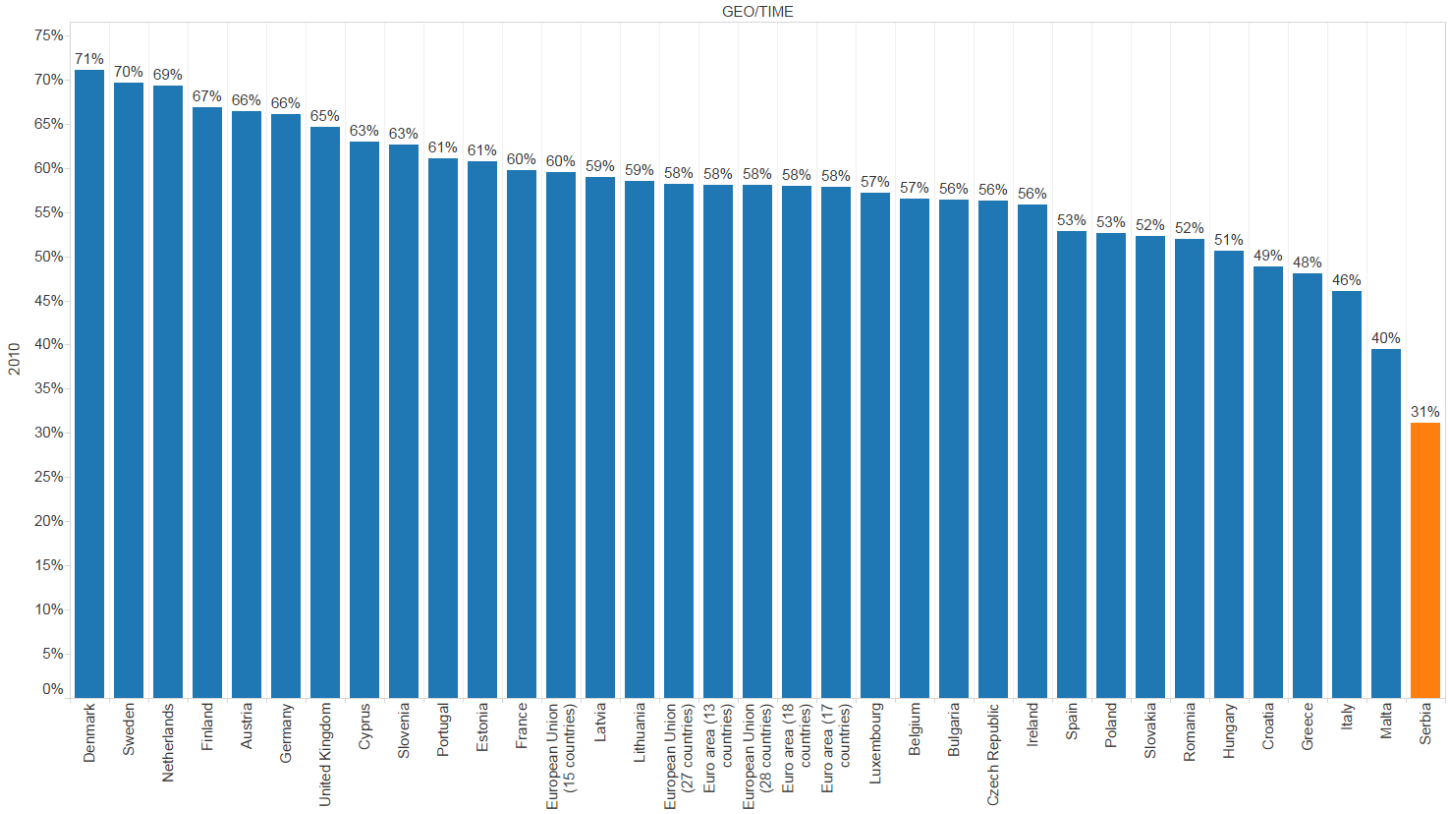


Figure 1.5 Female Employment Rate (15-64 Years Old), 2010



In 2013, only 47% of the working age population was employed (WB2, P.5). Moreover, employment rates were especially low among women, the Roma minority population, and relatively older and younger workers (WB, P.43). Only 59% of men and 43% of women aged 25-64 were fully employed in 2010; both numbers are considerably lower than those of EU member states (WB, P. 43).

Where does this leave Serbia today? There remains significant room for improvement in many areas of the Serbian economy, but, encouragingly, there are positive trends as well. At only 60% of total GDP, Serbia's private sector is relatively small (WB, P.4). Output and productivity are below capacity; the World Bank estimates that industrial output in Serbia in 2011 was only 40% of its level in 1989 (WB2, P.8).

Moreover, in spite of recent gains in productivity, Serbian manufacturers achieve average productivity levels at only about 40% the levels of relevant comparator manufacturers in countries such as Slovakia, the Czech Republic, Hungary, or Poland (WB2, P.13).

However, there are some encouraging signs that may point to a recovery: While unemployment is still well above the 13.8% rate of 2008, the 2013 figure of 22% represents nearly a 2% decrease relative to the previous year. Although Serbia's percentage of exports to GDP is low by comparison to those of other ECE countries in their run-up to EU accession, it has grown considerably in the past couple of years to 43.6% in 2013 – it's highest rate since the breakup of Yugoslavia - and has demonstrable potential for further growth. Serbia may be in a difficult economic position, but it can still follow the successful path of its ECE neighbors that achieved considerable growth on their convergence path with the EU and markedly improved their citizens' living standards.

Serbian policymakers must adopt a cohesive economic growth strategy to guide decision-making at all the highest levels of government. While it is possible to allow market circumstances to dictate elements of economic policy, this report asserts that Serbia should proactively undertake measures to bolster its own development.

So, what model of economic growth should Serbia aim for in order to reignite growth and put the economy back on track to prosperity? The levers that policymakers could pull are many, but our organization believes that **Serbia should pursue an inclusive, smart, and sustainable model based primarily on private sector-led exports.** This implies shifting the economy

box no. 1

Defining smart, sustainable, and inclusive growth

The *Europe 2020 Strategy* defines smart, sustainable, and inclusive growth as:

- Smart growth implies creating an economy based on innovation and knowledge;
- Sustainable growth aims to foster a greener, more competitive, and resource-efficient economy;
- Inclusive growth promotes an economy characterized by social and territorial cohesion. *(Source: Europe2020 Strategy(P.10))*

away from the consumption-led growth engine of the 2000-2008 period and toward an export-led growth model supported by increased competiveness and productivity in tradable sectors.

A smart, sustainable, inclusive model of economic growth mirrors the development goals of the European Union and Southeast Europe and provides an excellent guideline for Serbia's future development (Box 1) (Europe 2020 Strategy, P.10, SEE2020 Strategy, P. 4). Smart growth based on innovation is a key foundational element of a sound long-term development strategy for Serbia. Sustainable growth founded on increased competitiveness can underpin a strategy that achieves better and more maintainable growth outcomes (WB, P.12-13). Inclusive growth is necessary to increase employment and standards of living across all regions and socioeconomic layers of Serbian society.

The model presented in the EU2020 and SEE2020 strategies is not a universal solution, but rather a broad framework that Serbian policymakers should adapt to the unique advantages and needs of the Serbian economy. By shedding light on the competitiveness and performance of industries and firms, our analysis will help decision-makers to tailor policies to grow the companies and sectors that can increase exports. It will also analyse the specific factors that help explain why businesses succeed or fail, thus enabling policymakers to precisely target reform to the very specific elements of the business environment so as to best power Serbian growth.

Exports As The Key To Balanced And Resilient Economic Development

Policymakers in Serbia must adapt a proactive approach to re-igniting economic growth by focusing on increasing exports. It appears quite clear that the country can no longer rely on demand-led growth to drive economic development. Not only are the inexpensive capital flows of the 1990s and most of the 2000s unlikely to return, but the Serbian economy simply does not generate enough demand in its small, relatively saturated market to sustain long-term development (WB, 1-2). Companies and political leadership must look to foreign markets and exports to drive development.

However, focusing exclusively on other areas of the economy and employing a passive approach to increasing exports simply is not enough to kick-start significant, sustainable growth. **Serbian leadership must proactively promote exports, and the first step in this direction is to create a cohesive strategy that will unite and guide all the highest levels of government.** While the economy may face obstacles to growth, it also holds much untapped potential. This analysis can play an integral role in helping formulate such a strategy by enabling policymakers to uncover hitherto unknown export potential by analysing the financial and export performance of Serbian companies and the factors that help determine their success or failure. In doing so, it will enable policymakers to precisely focus reform efforts to boost exports and, by extension, the economic development and the living standards of its citizens.

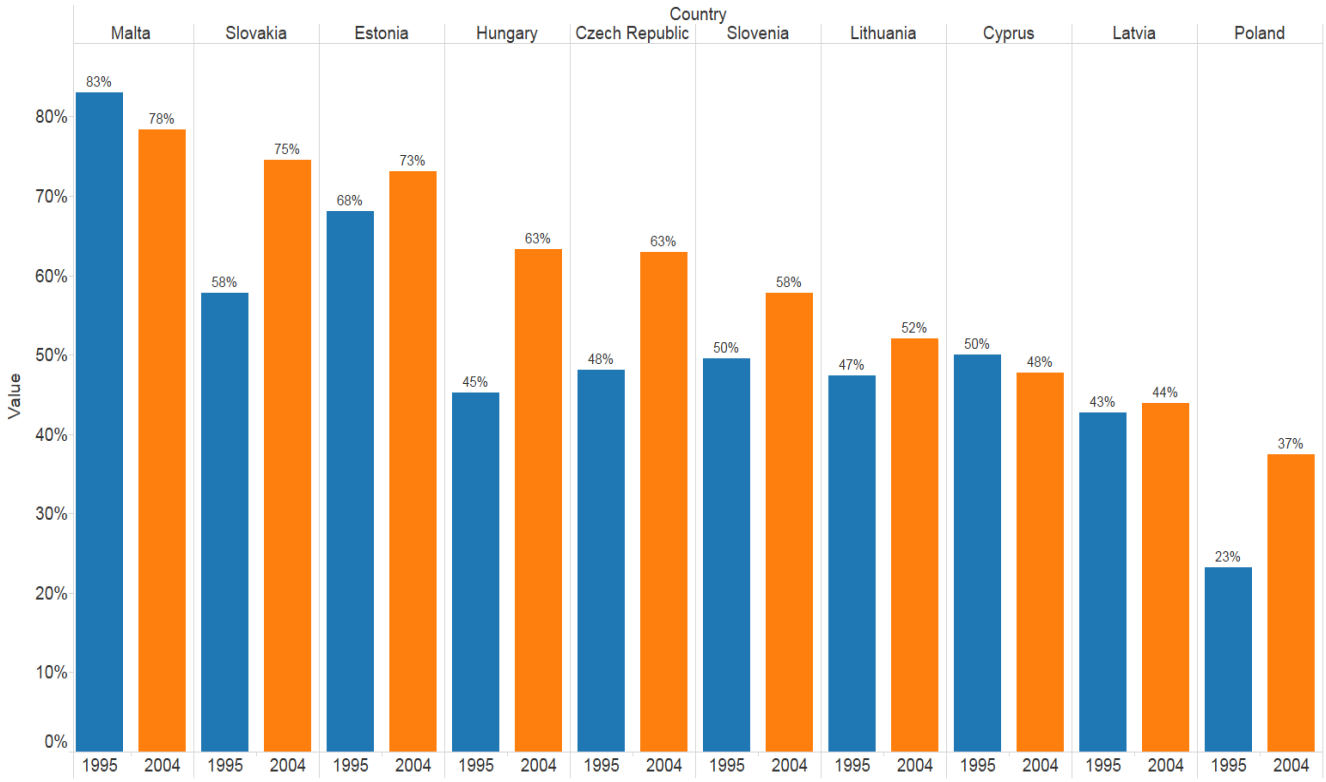
This report argues that Serbia should employ an Export-Led Growth (ELG) model as the foundation of its economic development strategy. This implies encouraging increased exports as the primary engine of wider economic growth. An ELG-based model can promote smart, sustainable, and inclusive economic growth by promoting innovation and the production of goods and services with higher value added, fostering competitive exports which are more resilient to external shocks, and helping create more long-lasting employment for more marginalized groups in Serbian society.

Economic theory supports the idea that increased exports underpin wider economic growth in a number of different ways: First, from the demand-side and firm-specific perspectives, businesses' growth is limited in their countries due to the limited size of the domestic market (Silverstovs and Herzer, from Dreyer and Herzer, P.42). Export markets offer increased aggregate demand and can therefore encourage output growth and enable companies to benefit from greater economies of scale (ibid, Helpman and Krugman, 1985). Increased foreign exchange enables businesses to import technologies and production know-how, which can increase productivity on the firm level (Grossman + Helpman, 1991 from Dreyer and Herzer P.43). It can also amplify the positive effects of innovation and increase the probability of the firm surviving its nascent phases and external shocks (BIS, P.65-66). Along with increased competition, these benefits can encourage positive spillovers to other companies and sectors in the form of backward linkages, more efficient management, labor training, and technological improvements (Chuang 1998, from Dreyer and Herzer P.43).

From a macroeconomic perspective, increased exports also exert a wider, indirect, positive impact on growth. This occurs through an increase in productivity, as exports can allocate investment away from relatively less competitive sectors to those in which the country has a comparative advantage (Kunst and Marin, from Dreyer and Herzer P.43). Greater exports would also help reduce Serbia's sizeable trade deficit of nearly (€4.5 billion, or 14% of GDP in 2013) and, consequently, help maintain a more stable rate of inflation.

Past experience also suggests employing an ELG model is one of the most effective approaches to sustained, long-term economic development. Historically, Japan, Germany, South Korea, Taiwan, and China – some of the most notable economic "success stories" since 1945 – owe much of their economic development to the ELG model and, in particular, demand for their manufactured goods from more developed markets (UNIDO, P.103). The World Bank also points out that no country has ever sustained significant economic growth over many decades without relying on exports and that the Growth Commission cites exports as one of the main attributes of countries with sustained strong output growth records (WB, P.5). Many ECE economies such as the also achieved impressive export growth in their run-up and eventual accession to the EU (Strategija, P.40, WB, P.15). As Figure 2.1 shows, of the 10 countries that joined the EU in 2004, only the export to GDP ratios of two countries – Malta and Cyprus – decreased very slightly relative to 1995.

Figure 2.1 Export to GDP Ratios of EU10 Countries, 1995-2004



Export competitiveness is a key component of export growth and the successful application of the ELG model. It is perhaps the most important tool for generating increased exports; therefore, an examination of competitiveness is central to analysing exports and a major factor that may uncover export potential. This analysis of export competitiveness in particular is based on the Constant Market Share (CMS)

box no. 2

What is Export Competitiveness?

The OECD defines export competitiveness as the ability of certain countries and more specifically industries, to produce with the available resources and competencies, a product in foreign markets that consumers desire over competing products (OECD, 2005).

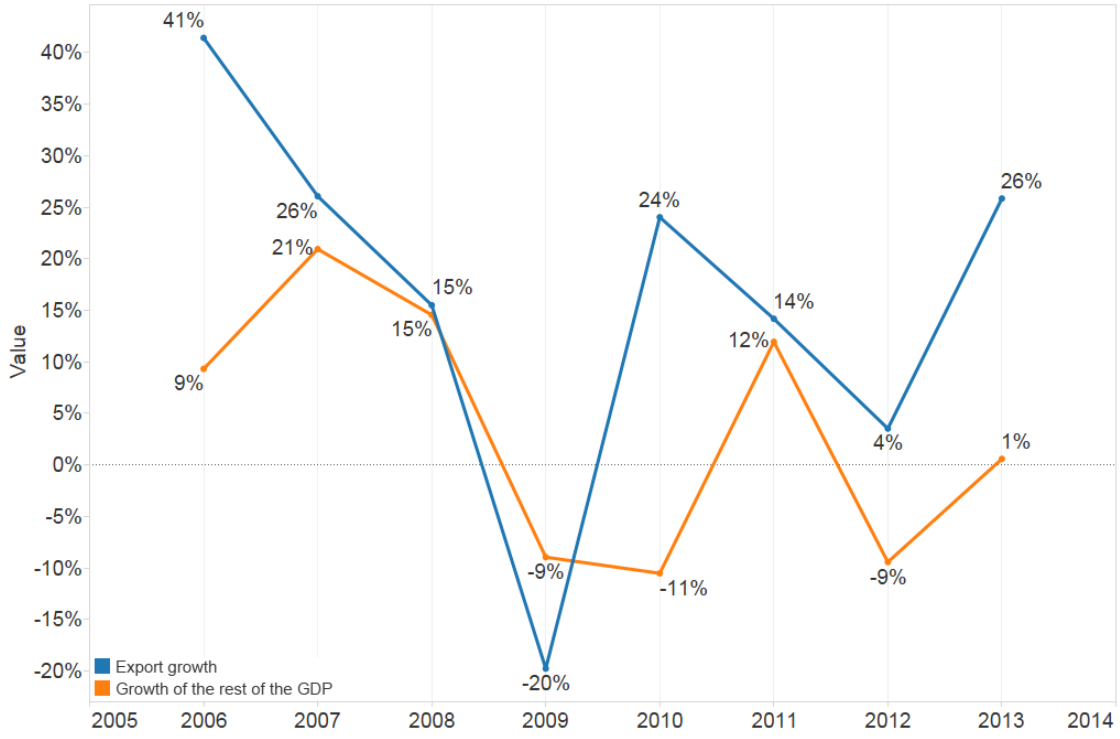
model and Revealed Comparative Advantage (RCA). More information on these models, and their subsequent application is provided in chapter(s) five.

Viewed broadly, Serbia possesses a number of advantages conducive to the successful application of an ELG-based growth model: The first is its geographic position in Southeastern Europe which is not only on the border of the large EU market, but also within relatively close proximity of the sizeable Turkish, Russian, and Middle Eastern markets. Numerous free trade agreements with these and other countries such as Kazakhstan, Turkey, and the European Free Trade Area (EFTA) countries also offer an additional competitive boost to current and potential exporters aiming to access these markets (Uprava Carina). Serbia can also further exploit historical ties to countries with burgeoning export markets (Strategija P. 197-198). Perhaps most importantly, its EU accession path will offer it an opportunity to achieve economic convergence with the more developed countries of Western Europe in the same manner as many other countries in ECE such as the Czech Republic, Poland, Hungary, Slovakia, and others. While these countries, like Serbia, also benefited from growth boosted by consumption, they also achieved considerable export growth and can serve as a model for Serbia as it moves forward. Lastly, according to many experts, the Serbian Dinar is overvalued, and its potential depreciation could also facilitate increased exports of goods and services (B92 – Krugman).

Serbia has demonstrable potential to increase its exports. Recently, overall manufacturing productivity has experienced growth on par with more developed economies such as Hungary, Poland, Romania, and the Czech Republic, although it is still lower than in Slovakia or Bulgaria (WB 2, P.12-13). Furthermore, a product space analysis of Serbian exports shows that Serbia has been exporting increasingly sophisticated products and particular sectors such as food processing, metals, and automobiles – among others - have potential to achieve increased market share on foreign markets (WB, P.21-22).

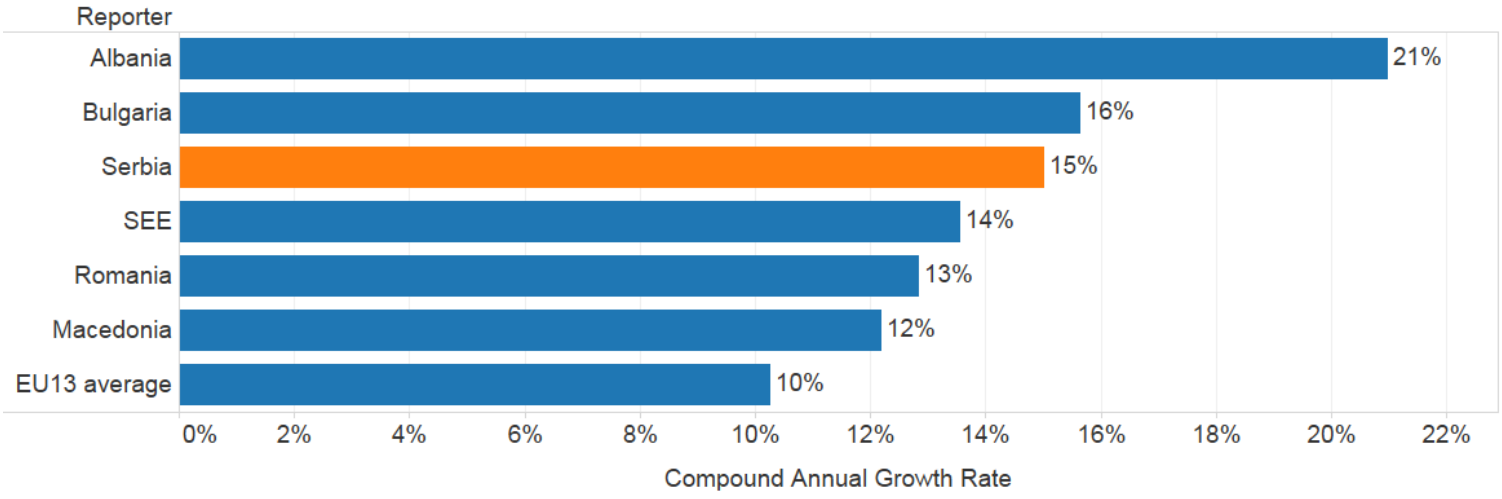
Figure 2.2 shows that they grew by an average of 15% per year between 2005 and 2013 and now stand at over 43% of GDP (Narodna Banka Srbije), the highest rate since the political transition of 2000. It also illustrates how other components of GDP "follow" the performance of exports with a one-year delay.

Figure 2.2 Growth rates of GDP components



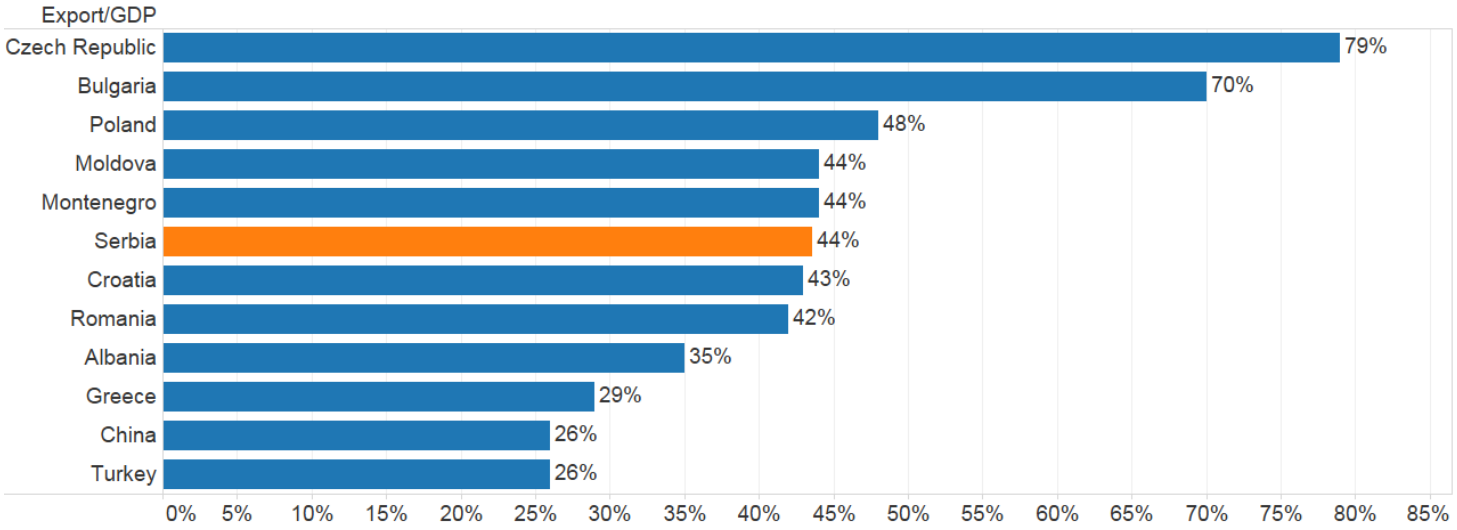
How do Serbian export growth and its current performance in terms of GDP stack up relative to those of comparator countries? **It has achieved impressive results, but could nevertheless improve to the level of some its regional neighbors.** Figure 2.3 shows that Serbia's rising exports are some of the most impressive seen in the region in the past half-decade, while Figure 2.4 shows that Serbia's export to GDP ratio places it ahead of certain comparator countries from the region such as Bosnia and Herzegovina, but behind other regional neighbors such as Bulgaria.

Figure 2.3 Compound Annual Growth Rate of Export Goods, 2009-2013



Note: Southeast Europe (SEE) refers to Albania, Bosnia and Herzegovina, Macedonia, Montenegro and Serbia.

Figure 2.4 Exports of goods and services as a percentage of GDP, 2013



Traditionally, the most important export destinations for Serbian exporters are the countries of the EU and the Central European Free Trade Agreement (CEFTA), which together represent 80% of Serbian exports. However, while the EU market is becoming more and more important, as the share increased from 55%

to 61%, the share of exports to the CEFTA market declined from 32% to 21% which is illustrated in the Figure 2.5. The rise of exports to the Russian Federation and other markets also shows that Serbian exporters are increasingly looking beyond their traditional destinations.

Figure 2.5 Destinations of Serbian Exports

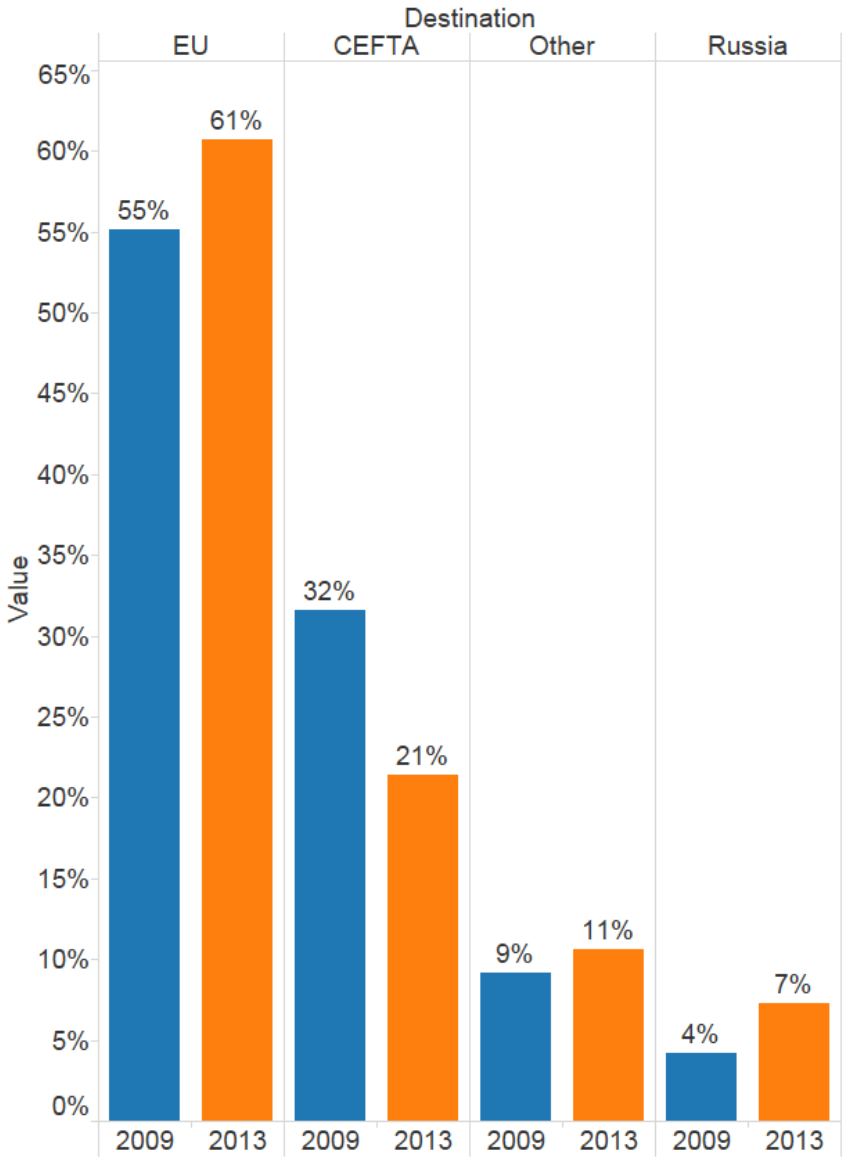
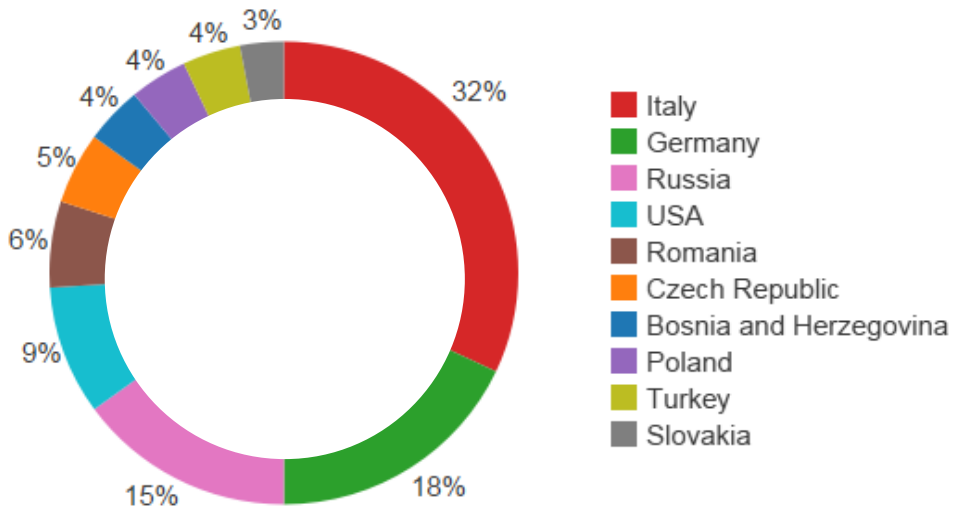


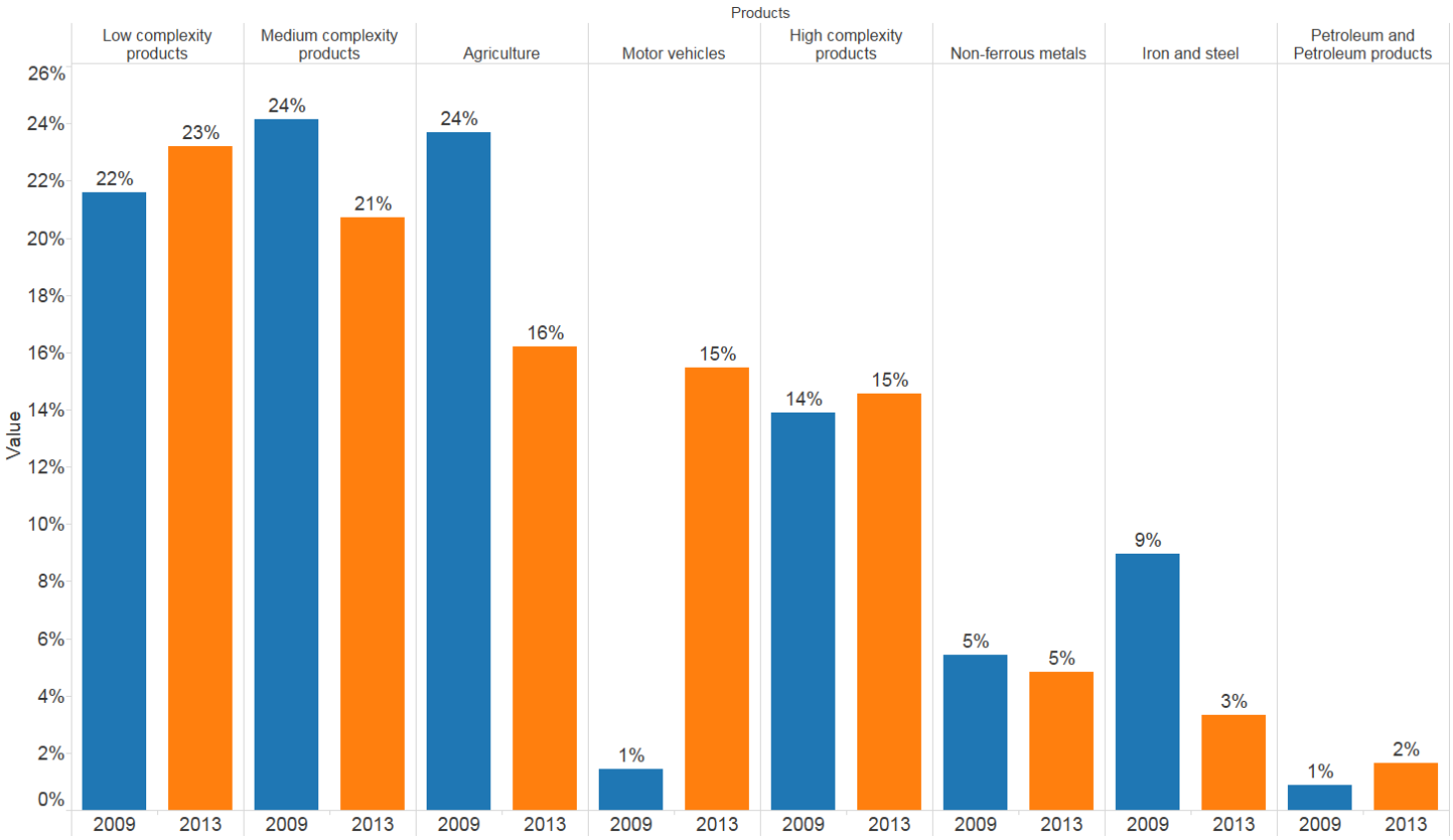
Figure 2.6 shows the top 10 destinations for Serbian exports by individual country. It is worth noting some changes that have occurred on this list since 2009: The Russian Federation was the top export destination for Serbian goods and services in 2009, but was third in 2013. Its place has been overtaken by Germany and Italy, the latter of which was the 32nd most important destination for Serbian exports in 2009. The United States, now the fourth largest export destination, is up from 24th place in 2012.

Figure 2.6 The share of export growth rate of export destinations (Top 10 markets), 2013



The sectorial makeup of Serbian exports has changed considerably in between 2009 and 2013. Broadly, the share of medium-complexity products and agriculture declined and was replaced primarily by increased exports of road vehicles. On a sector-level, iron, steel, and cereal products in fell the most in this period, while the exports of vehicles, electrical machines, appliances, and devices rose to usurp the shares of the former. These general trends can largely be explained by large foreign investments (e.g. the Fiat investment in Kragujevac) as well as the rise of other large companies in certain sectors.

Figure 2.7 The share of sector in total exports of Serbia



Note: The grouping of the sectors was carried out by the complexity of the products, as well by segregation the groups of products that are of the most significance for the Serbian exports.

Serbian exports face a number of challenges: The first of these is a regulatory business environment that directly and indirectly inhibits exports by placing unnecessary burden on private companies. According to the World Bank's *Doing Business* report, Serbia performs poorly relative to its regional neighbors in key areas such as construction permitting, tax procedures, and enforcing contracts, among others (Doing Business). These challenges are often cited in the context of attracting FDI, but many are also relevant to domestic enterprises looking to export.

There are other elements of the business environment that more directly hamper Serbian exports: The first are the procedures directly involved with exporting. The *Trading Across Borders* report published by the World Bank notes that

enterprises from Serbia generally have to prepare more documents, pay greater fees, and wait longer in order to export goods than do companies in OECD countries (Trading Across Borders). Furthermore, elements of Serbia's physical transport infrastructure could also be improved in order to facilitate shipping according to the *Logistics Performance Index* (LPI) of the World Bank. According to the World Economic Forum's *Global Competitiveness Report*, Serbia ranks in the bottom quartile in each of the quality of roads, railroad infrastructure, port infrastructure, and air transport infrastructure (WEF, P.429-432). The Progress Report of the European Commission also notes that customs procedures have achieved market improvements in efficiency but still need to be further harmonized with European standards in order to facilitate the flow of goods across borders (EC Progress Report, P.57-58). Relatedly, Serbian authorities need to continue to make progress in the harmonization of standards, conformity assessment, accreditation, metrology, and market surveillance with EU regulations so as to increase trade between Serbia and the EU, its main trading partner (ibid P.21-22). Our subsequent report will also help uncover other firm-level factors that may represent considerable obstacles to Serbian exporters.

Export Competitiveness

Export performance

The ultimate goal of export performance analysis is to identify industries that possess the necessary resources and capabilities for strong, dynamic, diversified, and sustainable export operations. Being successful on foreign markets clearly indicates the systematic ability of an industry to produce competitive product, but also to continuously improve its market position, while competing with rivals from other countries. Hence, export performance is one of the best and most accurate indicators of the systematic ability of an industry to grow and prosper, while relying on its competitive and comparative advantages.

Export performance analysis is the first step in the process of identifying the level of industry success, in terms of potential to perform and contribute to sustainable, smart and inclusive growth. This analysis will later be integrated with overall industry performance analysis into final industry performance assessment, and therefore, it will contribute to the identification of the most promising industries in Serbia. Those industries are recognized as the industries which possess adequate attributes and provide resources to firms in order for them to produce internationally competitive products while operating relatively productively, profitably and dynamically.

The purpose of this analysis is to provide a holistic picture of industries' ability to drive sustainable, smart, and inclusive economic growth led by a larger inclusion into global trade. The ability of Serbian firms to perform in competitive markets is essential to the growth of the nation's economy. Systematic and comprehensive knowledge about this ability should contribute to the creation of a strategy for sustainable economic development, based on the Export-led growth (ELG) model.

This chapter will result in comprehensive and detailed analysis of industries with the highest level of required capacities to perform successfully abroad, and consequentially push the growth and development led by exports.

The export performance analysis will enable an in-depth look at industries' main international characteristics, through measurement of key performance indicators (KPI), such as comparative and competitive advantages. This analysis will help us identify the industries that can outgrow competitors and penetrate foreign markets successfully due to the presence of particular advantages. Addressing possible sources of these advantages is beyond the scope of this report. Our goal is to present a ranking of industries according to their export performance, which integrates all the determinants of export competitiveness. Such ranking and assessment of industry export performance would allow for policy makers to properly define export strategy, which would consequentially bring state closer to better positioning in the global trade processes. In addition, this analysis will also provide information about **general trends and regularities of Serbia's export**.

The export data base used for the analysis of export performance is obtained from the United Nations Commodity Trade Statistics Database. The geographical scope of the analyses is focused on the 31 markets which have the greatest importance for Serbia as international trade partners. Their market shares account for 94% of the total value of Serbian exports in 2013. Data that quantify export to those markets is disaggregated at the 4-digit level - Standard International Trade Classification, which enables comparison of industry export performance at the product level. Total number of observed products is approximately 800. CEVES has also made an effort to create a detailed crosswalk between NACE and SITC classification, in order to assign the international performance of each product to the industry that produces it. Data covers the five year period, from 2009 to 2013, which takes into account the period after the crisis.

In the **first section** of this chapter, we will determine and describe the term -- export competitiveness, which is the best indicator of export performance. In the **second section**, a detailed methodology used for export competitiveness assessment, which consists of decomposition and description of determinants of export competitiveness, will be presented. **Third section** will provide general conclusion, stylized facts and trends of main determinants of Serbia's export competitiveness. In **fourth section**, we will quantify and describe export performance of all tradable industries in Serbia's economy through final ranking of industries based on integration of their export competitiveness indicators. In **fifth section**, that ranking will be complemented with graphical presentation, identification and description of four typologies of exporters.

What is export competitiveness?

Competitiveness assumes the ability of certain countries and, more specifically, industries, to produce with the available resources and competencies and sell a product on a foreign market that consumers desire over competing products (OECD, 2005). In other words, the ability to manufacture competitive products is linked primarily to the company, and its ability to innovate, improve the production process and thereby produce a competitive product. At the level of industries, competitiveness can be best understood as the industry's ability to export a greater number and variety of products as extensively and dynamically as possible vis-à-vis its competitors, so as to secure a superior export position and drive economic growth. This concept encompasses multiple components that collectively determine the export competitiveness of an industry.

Hence, export competitiveness is the primary and most significant indicator of export performance of an industry. This indicator provides information about level of ability of firms within an industry to comprehensively and dynamically improve its position on foreign markets, while competing with rivals from other countries. Export competitiveness represents the result of wide range of factors that determine and influence international performance. Those include both macroeconomic (natural resources, currency, interest rates, infrastructure and transportation etc.) and firm level factors (productivity, technological development, innovative capacity, skilled labour, capable managers etc.). However, addressing possible sources of concrete advantages requires thorough and deep understanding of the processes that shape international performance, which is beyond the scope of this report.

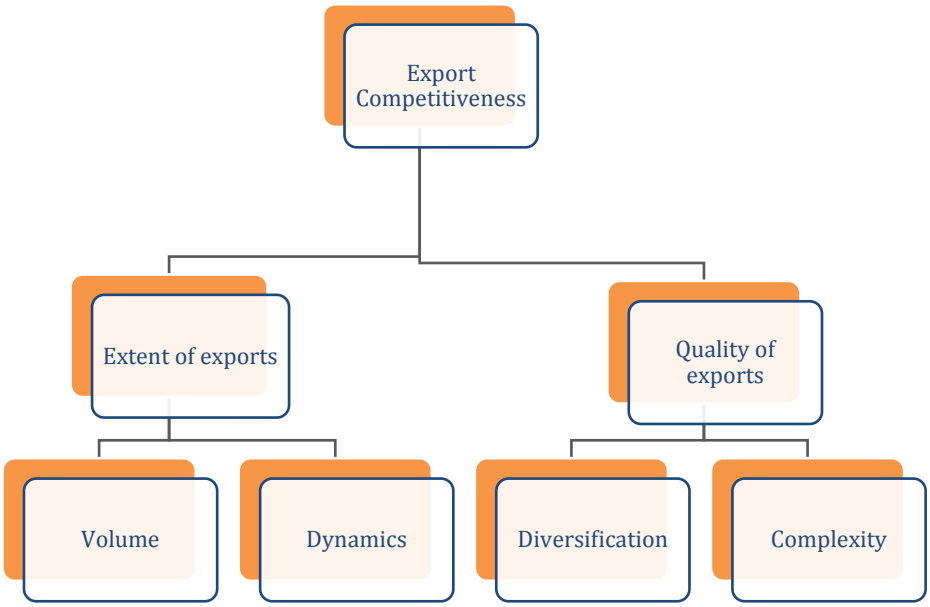
Assessment of industry export performance requires decomposition of export competitiveness into determinants that comprehensively and accurately capture it. In the effort to be as comprehensive as possible in our analysis, we have decomposed competitiveness into four determinants and constructed a model that describes competitiveness in a detailed and systematic manner. These components include extent of export, in terms of its volume and dynamics, and export quality, which is consisted of diversity and complexity. Each of the determinants has been discussed and explained in next section.

Determinants of Industry Export Performance

Export competitiveness has two main components: extent of exports and quality of exports. These components are derived from our definition of export competitiveness, which indicates that it is important for industry to achieve strong

market position and quick growth, but that it is also significant for that growth to be sustainable in the long term. These components are further decomposed into 4 key determinants of export competitiveness that together reveal industry's export performance. These concepts are presented in the Figure 3.1 below

Figure 3.1 Determinants of export competitiveness



Extent of Exports

Extent of exports refers to the capability of an industry to achieve significant and strong position on foreign market(s), all the more so with a potential to improve that acquired position. This determinant encompasses two sub-components which endeavor to classify industries according to accumulated capacities: through their achieved position and the potential to improve their export position. Those components refer to export volume and export dynamics.

Export volume

Export volume refers to the capability of an industry to achieve strong position on a foreign market and to become a significant part of country's export. Volume of exports, by definition, is the quantity of products that are exported (Balassa, 1975). It shows an industry's acquired export position, revealing the strength of the industry in terms of its capabilities, resources, and efficiency in producing the product or products exported. In this sense, export volume depicts, to a certain extent, an industry's comparative advantage.

Comparative advantage refers to the critical mass of resources and capabilities necessary for superior export performance. The ability to achieve high volumes of exports clearly indicates a significant position in foreign markets and consequently the presence of an acquired set of resources and capacities that enabled this accomplishment.

Export volume is examined from two relative perspectives: on the one hand, we compare relative export potency between industries within Serbia; on the other, we compare the relative volume of industries' exports worldwide. The proxy for volume of exports we use is the value of exports.

Hence, our analysis is two-fold: the first step is to illustrate the relative importance of certain industries in the total "basket of exports" in Serbia by identifying those with a relatively high value of total exports in comparison with other industries in the country. Therefore, we introduce the first volume indicator: *Share of industry's export value in total value of Serbian exports (2012-2013 average)*. Having a greater share than average indicates a relatively superior ability to produce and sell a good compared to other industries. In other words, we can safely assume that those particular industries have a critical mass of competences for producing and selling on foreign markets.

The second step is to compare industries' relative value of exports worldwide. In the literature, several techniques are used to measure the weak and strong sectors of a country. One of the most widely used methods involves the concept of "**revealed comparative advantage**" (RCA) developed

by Balassa (1965), which we employ here. Identifying and quantifying industry performance through RCA discloses how the structure of a country's total "basket of exports" reveals a hidden comparative advantage or disadvantage in producing and selling products on foreign markets. Essentially, RCA tries to explain the relative importance of each product in the total basket of exported products from a particular country in comparison to the same relation in the world.

The volume of exports represents a significant indicator of industry's capability to produce and sell on foreign markets. However, this is a static component, which indicates export status of an industry in one moment in time. An industry's position will inevitably change the following continual technological and other transformations. Therefore, we must also analyse the dynamics of export activities.

Export dynamics

Analysis of export dynamics reveals if an industry possess the potential to improve its export position. According to Porter (1990), competitive advantage is the ability of an industry to innovate and upgrade in order to maintain its competitive export position. Implicit is the notion of maintenance; an industry must continually transform its "given" capabilities into advantages in order to remain competitive. Because of that, an analysis of export dynamics is important for identifying industries that did not initially exhibit a comparative advantage, but that possess the potential to upgrade capabilities and improve their export position. Thus, export dynamics reveals, to a certain extent, if an industry has a competitive advantage, i.e. whether it possesses the potential to upgrade capabilities and to improve its export position.

Analysis of export dynamics reveals existence of industries' *competitive advantage* through evaluation of export trends in a certain period. In the previous section, the analysis of export volume depicted the level of *comparative advantage* interpreted as the critical mass of resources and capabilities leading to superior export performance. However, the analysis fails to take into account changes over time. Export dynamics indicate if an industry's export position has improved or deteriorated by evaluating export trends over time.

Since we are dealing with change over time, the measure of interest is the rate of export growth. As in the previous section, export dynamics are evaluated from two perspectives. On the one hand, we compare industry growth rates within Serbia, identifying those industries with the highest rate of export growth in the economy. On the other hand, we compare export growth rates globally, distinguishing between industries with the capacity for further improvement of their position in foreign markets. Each perspective generates

one indicator for export dynamics. In addition, we also introduce a third indicator - contribution of market position improvement to the export growth of an industry. This indicator provides a closer look at significance of exhibited competitiveness for export growth and it complements and refines the results of the previous two indicators.

1) The first indicator we include in the dynamics analysis is: ***Total growth rate*** in post-crisis period. Industries having a higher rate of export growth indicate a relatively superior ability to advance their export positions compared to other industries within the economy, suggesting the presence of a unique set of capabilities. However, even the highest export growth rate, theoretically speaking, does not have to be sufficient to "beat the competition" and improve its market share on foreign markets.

2) In order to assess and quantify competitive advantage of industries that have the capacity to improve their position on foreign markets, we introduce the **Constant Market Share** (CMS) method into our analysis. The baseline of the CMS analysis uncovers whether a country's exports "follow" the world's average rate of export growth. Therefore, the basic assumption is that a country's export growth rate should be the same as the world's in order to retain its market share on particular foreign market. Any difference between a country's achieved export growth and the world growth trend are generated by competitiveness (A. Kaur, P. Nanda, 2011). The CMS decomposes export growth into four effects: the World Trade Effect, the Commodity Composition Effect, the Market Distribution Effect and the Competitiveness Effect. While the first three effects capture structural changes in world trade, the last one reflects changes in the export competitiveness. Since the scope of this report is to discover competitive industries, an examination of competitiveness is central to analyzing exports and a major factor that may uncover export potential. Therefore, the analysis will focus exclusively on the competitiveness effect.

The Competitiveness Effect (CE) is singled out as the second indicator of export dynamics, which identifies whether or not a given industry has succeeded in taking over market share from others. CE describes the improvement of an industries' competitive position in some concrete market (country) at the

expense of other's positions (A. Kaur, P. Nanda, 2011).

3) Apart from the two previously defined indicators of competitive advantage, export growth rate and the competitiveness effect, we introduce one additional indicator into the analysis. Final indicator will quantify to what extent improvement in competitiveness has influenced and enhanced export growth. Since CE is expressed in absolute terms and highly depends on absolute value of industry exports, in order to make comparisons of the "successfulness" of industries with respect to CE, we include ***contribution of CE to the export growth of industry*** as an additional indicator of export dynamics. That way we consider CE in relative terms, and prevent misjudgements.

Quality of Exports

Quality of export refers to the innovation capacity and technological advancement, but also to risk and sustainability of an industry's export. Quality of exports encompasses two components: diversification and complexity.

Export diversification

Diversification shows the degree to which an industry achieves expansive and far-reaching export competitiveness. Industries with a relatively high degree of diversification evidently possess the necessary capabilities to produce a variety of products that are demanded in a variety of markets. In this sense, the industry shows the ability to accommodate different customer needs, values, and cultures.

Diversification deals with both product diversification and market diversification. An industry's level of diversification from both perspectives reveals the degree to which an industry's competitiveness is comprehensive. In addition, the combination of both types of diversification reduces the instability in output and price that would otherwise result from external shocks (Hesse, 2008). Product diversification is the level of product variety in the export basket of the industry, while market diversification deals with the number of foreign markets to which the industry exports. In other words, it reveals whether the industry possesses the necessary capabilities to produce a variety of products that are demanded in a variety of markets.

Product variety, or product diversification, can lead to a number of positive externalities. By diversifying the production base, knowledge spillovers may result from new techniques of production, new management or marketing practices that can potentially benefit other industries (Hesse, 2008; Farole et al, 2010).

Market diversification, on the other hand, has had mixed results (Haddad et al, 2010). Nevertheless, the combination of both types of diversification is necessary for superior export performance and long-run economic growth, especially in the context of developing and transition economies due to the reduced volatility in output that would otherwise result from the impact of external shocks on a concentrated export basket and a concentrated number of markets (Farole et al, 2010; Haddad et al, 2013; Hesse, 2008).

Export diversification encompasses both product and market diversification indicators. However, considering the main objective in evaluating export performance, which is the assessment of export competitiveness of industries, we are interested in analysing the level of diversification of industries that have already been identified as competitive in the previous section. More precisely, we take into account only those industries exhibiting competitive advantage and whose products proved to be successful on foreign markets.

Product diversification

In order to assess the level of product diversification **two indicators are introduced.** The first indicator measures the relative number of products within an industry, whose competitiveness was positive in observed period. A high value of this indicator demonstrates a high number of competitive products included in industry export performance. On the other hand, the share of exports of competitive products in the industry's total export value could differ. In order to properly weight the significance of competitive products in a particular industry, we must introduce another indicator: *proportion of competitive products' exports in total value of industry export.*

Taking both indicators into account, we exclude industries that have a small number of competitive products which dominate industry exports. Therefore, the greater the value of both indicators, the less the industry's success depends on one, or few products.

Market diversification

Indicators included in the evaluation of geographical diversification intend to identify those industries that performed successfully in a number of different foreign markets. The first indicator is the *number of markets where a positive EC is exhibited.* Since the number of markets where industries were successful may differ from the number of markets entered, an additional indicator was introduced: *share of the markets exhibiting a positive EC from the total number of markets to which the product is exported.* That way we evaluate both the ability to enter foreign markets as well as the ability to compete in them.

Export complexity

Complexity refers to the level of sophistication of a product and is directly related to the industry's degree of innovation. The more innovative the industry, the greater is the complexity of products. A higher degree of innovation relative to other industries signifies the presence of a superior stock of capabilities and knowledge. In addition, by producing highly complex products, an industry enhances its competitiveness because the exclusive nature of the product decreases competition and allows for the industry to capture a larger share of the world market (WIFO, 2012). However, we lack the necessary data to conduct an analysis of complexity. Rather, following the final integration of the other three determinants mentioned above, a short explanation of how complexity plays a role in export performance will be provided. The importance of complexity should be explored in further studies.

Trends and Regularities in Serbia's Export

This section will provide information about trends and regularities of Serbia's export competitiveness on 31 most important foreign markets in post-crisis period. Focus is on the export determinants presented in previous section –volume, dynamics and diversification. Before we proceed to detailed analysis of export performance, we present key messages of this section, in form of stylized fact:

Stylized Facts of Serbian Exports Competitiveness

- *Overall export competitiveness of Serbia was positive in post-crisis period*
- *Serbian export position has improved in 70% of export destinations.*
- *Majority of the most competitive industries comes from resource-intensive industries (plastics, rubber, fabricated metal products, wood and paper, coke, petroleum).*
- *Serbia exhibited highest revealed comparative advantage in Agriculture and Agribusiness industries.*
- *Most of Agriculture and Agribusiness industries were not successful in maintaining their export position in foreign markets.*
- *Competitiveness of the majority of the best ranked industries was driven by small number of enterprises.*
- *The vast majority of the most competitive industries is either moderately or highly concentrated.*

- *85% of large, 71% of medium and 51% of small enterprises are exporters. (among tradable industries in 2013)*
- *Exporters are in general more successful, more productive, more profitable and more dynamic in comparison to non-exporters.*
- *Great share of the most competitive industries rely on foreign direct investments*

Export volume

The most prominent industries, with respect to *both* indicators are those with the highest level of acquired capabilities for achieving and maintaining strong export performance. The analysis yields a total of 16 industries that are considered the most successful due to their ability to produce certain goods that are relatively more competitive in foreign markets than those of other industries.

The leading industries in terms of export volume are Manufacture of electrical equipment, Processing and preserving of fruit and vegetables and Manufacture of clothes, Manufacture of fabricated metal products and Manufacture of rubber products. However, even though Electric power generation and distribution and Manufacture of motor vehicles are officially excluded from the PCA analysis, the value of these industries' indicators demonstrates strong export value performance. Particularly, the RCA value of Electric power generation and distribution is far above the value of other industries, which validates the reasons of its exclusion from the data analysis.

Figure 3.2 is a **graphical presentation of all industries in the Serbian economy**, based on their contribution to total Serbia's export (represented by the size of bubbles), and their value of RCA (represented by the color of the bubbles).

Gray bubbles represent industries that do not have a revealed comparative advantage (RCA below 1). On the other hand, the shades of green indicate those with a lower or higher RCA. The darkest shade of green illustrates the highest RCA.

Figure 3.2 Industries' export volume performance

As it has been made evident by the figure, a significant contribution of one industry's export to total country export does not necessarily imply that particular industry possess a comparative advantage. Therefore, analyzing volume exclusively in absolute terms would lead to the wrong conclusions. Certain industries, apart from having a large share in total exports, do not exhibit comparative advantage when compared to the world. Good examples of the latter include the Manufacture of Pharmaceutical Products and the Manufacture of Coke and Refined Petroleum Products. On the other hand, there are particular industries that, despite their small share in total exports, demonstrated high RCAs. Such industries include the Manufacture of Grain mill, Starch and Starch Products and the Manufacture of Bakery and Farinaceous Products.

Export dynamics

The internationally most dynamic industries are those which have achieved quick growth of exports, based on enhanced competitiveness, which implies increment in market share on foreign markets. The most dynamic industries were able to grow faster than competitors from other countries, which enabled them to obtain a larger piece of market cake. The leading industry is Manufacture of Electrical Equipment, which exhibited the highest competitiveness effect (20% of total industries). That industry is followed by Manufacture of coke and refined petroleum products, Mining of metal ores, Extraction of crude petroleum and natural gas, Other manufacturing, Manufacture of clothes and Manufacture of plastic products.

Industry that achieved by far the largest loss in competitiveness is Manufacture of Iron and Steel. This industry had the sharpest decline in exports of all the other industries, and at the same time the highest loss in market share abroad. Apart from it, underperforming industries in terms of export dynamics were Printing and reproduction of recorded media, Manufacture of agricultural, forestry and metal forming machinery, Non-perennial crops, Manufacture of sugar, cocoa, tea, coffee, condiments and other food products and Manufacture and repair of other transport equipment.

In order to illustrate the degree to which the export growth rate of an industry was sufficient and efficient in advancing its position in foreign markets, two out of three export dynamics indicators are graphically presented. Figure 3.3 depicts the dispersion of industries according to their export growth rate (horizontal x-axis) and the contribution of CE to the export growth of industries (vertical y-axis). The reason these two particular indicators were chosen in the graphical depiction is because they provide the most insight into export

dynamics. The higher the contribution of CE to the export growth rate, the greater the improvement of an industry's competitiveness and therefore, the better is that industry's export position. The yellow vertical line represents the growth rate of the total volume of world trade.

Industries to the right of that line are exhibiting higher growth than the global trade trend, while the opposite is the case with industries lying to the left.

Figure 3.3 Export growth rates vs. Contribution of CE to export growth

Integrating these two indicators also reveals the trends in global demand for the products of a certain industry. Industries having the same growth rate, but different levels of the contribution of CE to the export growth indicate a different level of demand growth for products of those particular industries. In comparing two industries, the fact that first industry exhibited a higher level of the contribution of CE to export growth while both of their export growth rates remained the same, implies a lower level of demand growth for products of first industry. That leads to the conclusion that with the same growth rate, first industry was able to enhance its market share to a greater extent despite the lower level of demand.

Export diversification

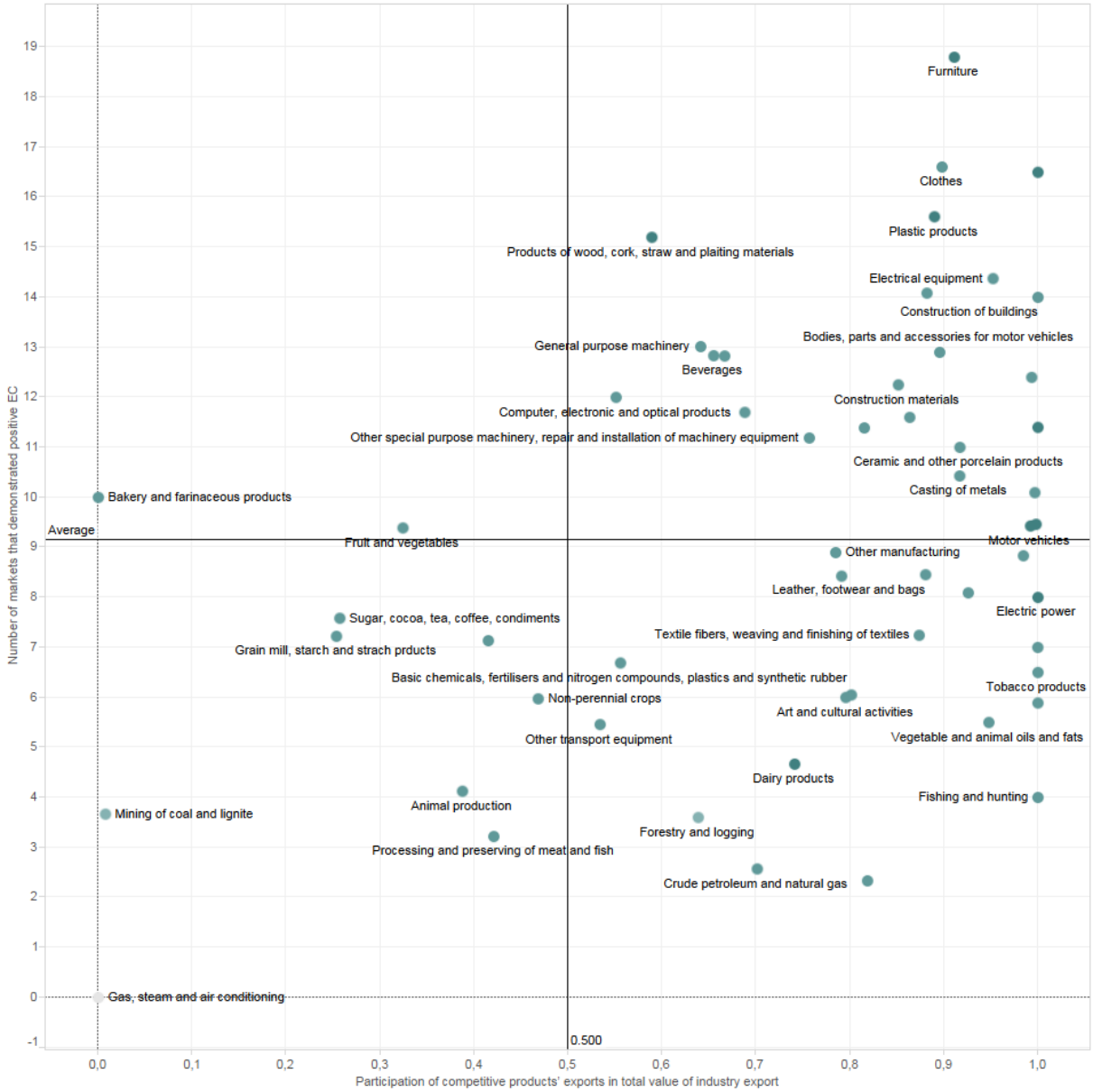
The best performing industries in terms of export diversity are those that produce and sell a great number of competitive products on a wide range of foreign markets.

The leading industries identified by the diversification analysis are Manufacture of Prepared Meals and Animal Feed, Manufacture of Agrochemical Products, Manufacture of Furniture as well as Construction of buildings and Manufacture of products of wood, cork, straw and plaiting materials. The first two industries previously listed succeeded in diversifying the complete product base, to the relatively highest number of export markets.

On the other hand, the least diversified industries are Manufacture and distribution of gas, steam and air conditioning, Mining of coal and lignite, Manufacture of bakery and farinaceous products and Mining of metal ores. They did not exhibit capacity to diversify they export both in terms of product and foreign market destinations.

In Figure 3.4 two out of four indicators are presented, one corresponding to product diversification (x-axis) and the other to geographical market diversification (y-axis). Industries are scattered by the number of the markets where they exhibited competitive advantage (on the vertical y-axis), and by the share of competitive' products exports in the total value of the industry's exports (horizontal x-axis). The vertical and horizontal lines intersecting the figure indicate the averages corresponding to each indicator. In this way, industries are classified into four quadrants by the number of markets where their market share was improved, and by the level of the product's participation in such improvement.

Figure 3.4 Export diversification of industries



The figure makes evident that, for most industries, the share of competitive products' exports in the total value of the industry's exports is greater than 50%. Few industries rely on a concentrated number of products with which to compete in foreign markets. However, the number of markets "conquered" differs among industries. More than half of the industries compete in a below-average number of markets. Industries located top right in first quadrant exhibit the best performance with respect to the two indicators of diversification.

Final integration of indicators

The final integration of indicators incorporates all the previously defined indicators into one final score, which will provide a ranking of industries according to their export competitiveness performance. The final score is obtained through a Principle Component Analysis (PCA) that integrates three principal components each representing one of the three determinants of export competitiveness.

While the first principal component combines indicators of export volume, the second encompass indicators of export dynamics. Determinants of product and market diversification are consolidated in the third principal component. The final score is obtained through the additional integration of all three principal components, with the second principal component carrying the most weight. The complete methodology of export competitiveness analysis is presented in Table 3.1.

The final rank of industries according to their export competitiveness performance is shown in Table 3.1. Table includes the values of the original indicators for volume, dynamics and diversification.

Table 3.1 Final rank of industries by exhibited export competitiveness

Industry	Final rank	Competitiveness effect	Contribution of EC to Export Growth	Revealed Competitive Advantage	Total Value of Exports (2012-2013 average)	Export growth rate	Market Diversification Indicator 1*	Market Diversification Indicator 2*	Product Diversification Indicator 1*	Product Diversification Indicator 2*
MotorVehicles		0.53	1.00	1.78	0.09	42.9	9.43	0.67	0.99	0.29
Electric Power		0.08	0.51	18.44	0.05	1.10	8.00	0.73	1.00	1.00
Electrical Equipment	3.80	0.20	0.72	1.98	0.09	1.08	14.38	0.60	0.95	0.69
Clothes	1.65	0.09	0.87	1.81	0.05	0.56	16.61	0.61	0.90	0.74
Coke And Refined Petroleum Products	1.63	0.04	0.54	0.37	0.02	2.20	5.89	0.56	1.00	0.56
Mining Of Metal Ores	1.37	0.05	0.62	1.11	0.03	1.33	2.33	0.46	0.82	0.39
Plastic Products	0.96	0.04	0.73	1.63	0.02	0.76	15.61	0.63	0.89	0.67
Other Manufacturing	0.85	0.02	1.07	0.20	0.01	1.22	8.90	0.54	0.78	0.55
Rubber Products	0.84	0.03	0.45	4.13	0.03	0.65	14.08	0.58	0.88	0.83
Prepared Meals And Animal Feeds	0.81	0.01	0.78	3.46	0.00	1.42	16.50	0.77	1.00	1.00
Extraction Of Crude Petroleum	0.74	0.00	0.79	0.01	0.00	1.73	2.57	0.55	0.70	0.57
Bodies and Parts For Motor Vehicles	0.62	0.03	0.57	0.64	0.03	0.56	12.90	0.56	0.90	0.70
Fabricated Metal Products	0.55	0.02	0.32	2.15	0.05	0.27	12.83	0.58	0.67	0.61
Paper And Paper Products	0.54	0.03	0.46	2.02	0.03	0.44	10.10	0.61	1.00	0.81
General Purpose Machinery	0.52	0.03	0.54	0.45	0.03	0.53	13.01	0.57	0.64	0.53
Precious And Non-Ferrous Metals	0.51	0.02	0.37	1.54	0.03	0.48	6.05	0.50	0.80	0.50
Other Textiles Products	0.44	0.02	0.64	1.25	0.01	0.86	11.60	0.60	0.86	0.56
Furniture	0.39	0.02	0.97	1.78	0.01	0.50	18.80	0.66	0.91	0.80
Pharmaceutical Products	0.36	0.02	0.55	0.54	0.02	0.44	8.09	0.53	0.93	0.45
Sawmilling And Planing Of Wood	0.34	0.01	0.82	1.81	0.00	0.68	8.83	0.51	0.98	0.50
Vegetable And Animal Oils And Fats	0.30	0.01	0.30	2.98	0.02	0.58	5.50	0.59	0.95	0.64
Casting Of Metals	0.27	0.01	0.67	3.79	0.01	0.44	10.43	0.61	0.92	0.71

As previously mentioned the ***Manufacture of Motor Vehicles*** and ***Electric Power Generation and Distribution*** represent industries with outstanding export competitiveness, holding the top two positions with respect to export performance. However, they are presented in the tables separately from other industries due to the fact they were excluded from the PCA and consequently a numerical value for the final score could not be assigned. Nevertheless, both industries exhibited far superior export competitiveness compared to other industries. Therefore, the industries ranked by the PCA cannot be directly compared with the *Manufacture of Motor Vehicles* and *Electric Power Generation and Distribution*.

The final integration of indicators generated the final rank of industries according to their export competitiveness performance. Industries distinguished as the most prominent are **Manufacture of electrical equipment, Manufacture of clothes, Manufacture of coke and refined petroleum products, Mining of metal ores, and Manufacture of plastic products.** These industries exhibited exceptional export performance regarding each of the determinants of export competitiveness: volume, dynamics and diversification. However, it should be taken into account that the industry with the highest rank (Manufacture of electrical equipment) represents in fact the third best performing industry after the Manufacture of Motor Vehicles and Electric Power Generation and Distribution.

In order to complement knowledge about the best internationally performing industries and to create a holistic picture about export performance of industries in Serbia's economy, next section will provide a graphical interpretation of that performance and development of a typology of Serbia's industry exporters.

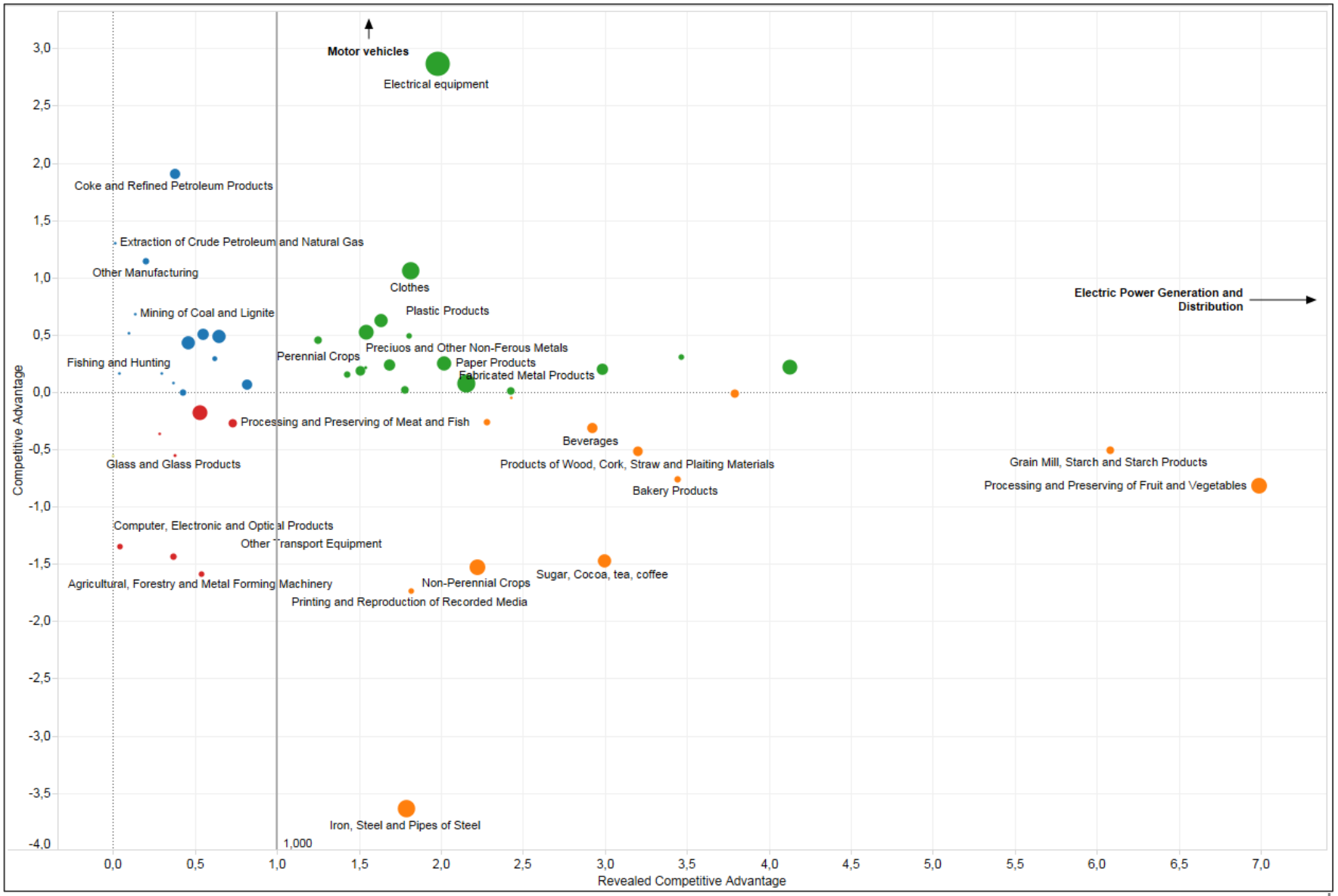
Integration of comparative and competitive advantage

Special focus on the extent of exports enables evaluation of export performance of industries through two different components: comparative and competitive advantage. Integration of comparative and competitive advantages into one analytical framework enables the identification and ranking of industries' export competitiveness by combining both the stock and flow categories of export performance. While comparative advantage describes export performance by the level of resources and capacities that have already been obtained, competitive advantage endeavors to identify those industries that have potential for further growth. Theoretically speaking, continuous improvement in competitive advantage eventually leads to further enhancement of comparative advantage.

Figure 3.5 depicts the distribution of industries according to both their

comparative and competitive advantages. The horizontal x-axis represents the Revealed Comparative Advantage (RCA) indicator. A vertical reference line is included at an RCA value of 1, which separates those industries with (to the right) and without (to the left) comparative advantage. The vertical y-axis represents the integrated indicator representing competitive advantage. The size of the bubbles indicates the value of export.

Figure 3.5 Distribution of industries according to both their comparative and competitive advantages



The integration of these two perspectives of export performance differentiates **four groups of industries in terms of their comparative advantage and ability to maintain or improve their positions.** Such differentiation of industries enables us to uncover the hidden realities of an industry's export position. For example, the agriculture and agribusiness sectors are traditionally considered prosperous and wise choices for investment due, in part, to their comparative advantage in producing and selling on foreign markets. However, they did not succeed in improving, or at least retaining the same export position. Figure 3.5 reveals which particular industries within these sectors are benefiting from that advantage and strengthening their significance in exporting, and which are not.

Classification of industries according to their comparative and competitive advantage results in four typologies of industries. Each typology is located in a different quadrant on the Figure 3.5. Industries with competitive advantage, located in quadrants I and II, are identified as *Export stars* and *Rising stars,* respectively, according to their level of RCA. In the same manner, industries without competitive advantage (located in quadrants III and IV) are classified as *Marginal industries* and *Falling stars,* respectively. In the following section, each of the groups of industries is presented.[1]

[1] Marginal cases are excluded.

Export stars

Industries that exhibited both comparative and competitive advantage are considered "export stars". The industries located/that belong to/in the first group (quadrant I) hold strong export positions, which are reflected in RCA indexes higher than one. In addition, these industries are continuing to improve upon their export positions.

Industries with the highest exhibited competitive advantage in this group are Manufacture of Electrical Equipment and Manufacture of Clothes. On the other hand, industries with the highest comparative advantage and growing competitiveness are Manufacture of Rubber Products, Manufacture of Prepared Meals and Animal Feeds and Manufacture of Vegetable, and Animal Oils and Fats.

Even though Electric power generation and distribution and Manufacture of motor vehicles are excluded from the analysis, they represent export stars with performance far superior than other industries' belonging to this group.

Rising stars

Industries found in the second quadrant are those without initial comparative advantage, but with growing competitiveness. Rising starts are potentially very prosperous industries that should be in a special focus of policymakers. These industries were not traditionally significant for Serbia's export, but were able to compete with rivals and to improve its position on foreign markets, despite relatively unsecured position. The performance of companies within these industries should present answers to the following questions: are they "nascent" industries? Are they exhibiting strong domestic growth? Is there a capacity to foster such growth, both domestically and internationally? Can any of these industries become "export stars"?

Different levels of RCA and competitive advantage indicate how far particular industries are from gaining a comparative advantage, and how fast they are approaching such a position. An example within this category is the Extraction of Crude Petroleum and Natural Gas, which exhibited high growth in competitiveness, but was far from obtaining comparative advantage. On the other hand, industries such as the Manufacture of Bodies, Parts and Accessories for Motor Vehicles, and the Preparation and Spinning of Textile Fibers, Weaving and Finishing of Textiles are relatively close to obtaining a comparative advantage.

Falling stars

Quadrant IV captures industries that are losing previously-earned comparative advantage. Even though they still have strong positions in accumulated resources and capacities, such positions are jeopardized by negative competitiveness.

The industry with the greatest loss in competitiveness is the Manufacture of Iron, Steel and Tubes and Pipes of Steel. Furthermore, a large number of agricultural and agribusiness industries faced losses in competitiveness. The subject of further study should be uncovering the reasons for such underperformance and deterioration of competitiveness. Whether the decline was provoked by a fall in product quality, price inefficiency or, ultimately, saturation of the most important foreign markets, should be explored. If the latter proves to be the culprit, the identification of faster-growing markets and a redirection of exports could be a matter of future national export strategies.

Marginal industries

"Marginal export industries" consists of industries whose international position is both weak and deteriorating. Further analysis and integration with an overall industry performance analysis should

uncover the reasons for such poor export performance. Are they showing strong domestic growth and linkages to exporters, but not yet exhibiting international competitiveness?

Industries with the worst export performance within this group are the Manufacture of Computer, Electronic and Optical Products and the Manufacture and Repair of Other Transport Equipment. Apart from having comparative disadvantage, they also exhibit highly negative competitiveness. However, it can be noted that there is a relatively small number of industries considered marginal. This observation is encouraging, given that the vast majority of industries exhibited at least one advantage, either comparative or competitive.

The classification of industries into these four different groups enables the discovery of sectors that should be the focus of policymakers due to their exhibited performance or potential in spurring export growth. Obtaining a more detailed picture, and determining the reasons behind varying levels of export performance, requires a more thorough investigation of each of the groups. However, in order to properly and comprehensively assess export competitiveness of industries, it is necessary to incorporate determinants of export quality into the analysis. In the following section, export diversification as the component of export quality will be presented.

Identifying industries with the greatest export potential is indispenisble in terms of indicating those industries that possess the highest capacity and capabilities to produce internationaly competitive products. Internationalization of industries is one of the key components of overall industry performance, since it creates opportunities for growth, strengthens capacity and know-how, heightens productivity and increases specialization. However, international performance does not necessarily lead to superior overall performance. **Therefore, understanding the extent to which export performance influences a company's performance and growth of an industry should be deepened by an analysis of sector performance, which is provided in the next section.**

Overall Industry Performance

The main goal of overall industry performance analysis is to provide a sound knowledge foundation about the systematic ability of firms, within an industry, to effectively achieve key business objectives in the observed post-crisis period (2009-2013). We define the key business goal as quick, inclusive, profitable and productive growth, which increases the welfare of the main stakeholders – owners, employees and state.

Overall industry performance analysis is the second and final step in the process of identifying the level of industry success, in terms of its potential to drive sustainable, smart and inclusive export-led growth. This analysis complements previously conducted analysis of export competitiveness and provides additional information about the suitability of an industry for firm development. As explained in the previous chapter, export competitiveness of an industry is one of the most accurate indicators of industry's attractiveness and overall suitability for a firm's development. Export competitiveness indicates to what extent firms from a certain industry are able to produce and sell products on foreign markets, relying on inputs available in a country or abroad.

The main purpose of overall performance analysis is to provide a holistic picture about industries' ability to drive sustainable and inclusive economic growth, by looking at their strength, dynamics, and structure. The overall industry performance analysis will enable an in-depth look at industries' main characteristics, through measurement of key performance indicators (KPI), such as relative number of successful firms within an industry, overall demand trends, profitability, and productivity, and thereby supplement the picture of industries' competitive capabilities.

Analysis of overall industry performance will result with a comparable, clear, detailed and comprehensive view on the performance of industries in Serbia's economy, but it will also provide information about general trends in the economy that occurred after the strike of the crisis. This analysis uses principal component analysis to evaluate the performance of industries using a set of carefully selected and calculated financial

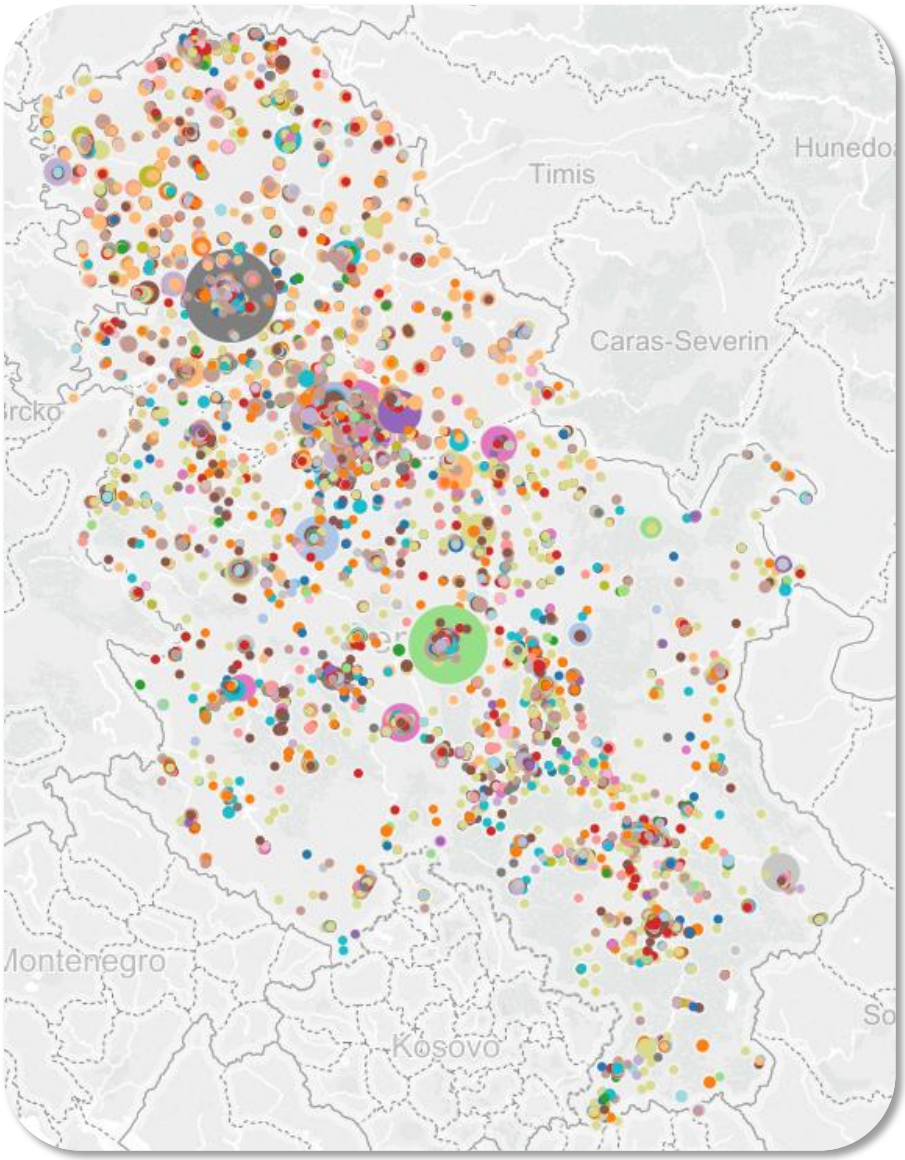
indicators as inputs. The source of data for this analysis and calculations is the Serbian Business Registry Agency (SBRA). Data is derived from official financial statements of enterprises and entrepreneurs that report to SBRA on regularly basis. CEVES' database combines measures of firms' activities (e.g. operating revenues, EBITDA, profit, employment) with qualitative information such as ownership, location and legal form. The data consists of almost 68.000 active bona fide[2] firms that have reported to the SBRA on a regular basis. Data was collected in 2013 and covers the five-year period, from the strike of the crisis in 2009 until 2013.

Complexity and comprehensiveness of our approach are illustrated in Figure 4.1 below. Figure 4.1 represents the three-dimensional presentation of the main subjects of overall performance analysis - 68.000 bona fide firms that have continuously operated in Serbia's economy in the observed post-crisis period.

These firms are presented by bubbles and distributed on a map of Serbia according to their official headquarters' location. The size of each bubble is determined by the size of the firm, which reflects the firm's operating revenues, while the color represents the economic activity of a firm, meaning the industry to which a certain firm belongs. As is evident, the firms which are included in overall performance analysis are fairly evenly distributed across the country and belong to a great variety of industries. Our analysis goes beyond typical analysis of industrial performance, which usually assesses industry performance based only on results of largest companies in Serbia's economy. This analysis sheds a light on the most numerous, but smallest subjects in Serbia's economy – micro and small firms.

[2] BRA database has various issues, but they are mainly caused by irregular reporting, or by uncreditworthy financial indicators. Hence, considerable effort in "cleaning up" the database is invested, so as to be able to observe the stylized facts of the behaviour of the firms that operate as bona fide firms, with a goal to conduct "real" businesses, and earn from it.

Figure 4.1 Serbia's economy



The first and foundational step in industry performance analysis is to clearly and unequivocally define the term "overall industry performance," because it is generally an unspecified and unclear term that can refer to many different business operations. The second step in the process of assessing industry performance is to develop a methodology, which involves decomposing a complex indicator such as performance into simpler components that most accurately describe it, understanding their influence and significance, establishing measures that quantify them, and clarifying our view on main subjects of analysis which are industries. After a complete methodology has been presented and established, we will provide a holistic picture about the trends and regularities of the key business performance indicators in Serbia's economy. The chapter will conclude with an integration of all previous analyses, incorporated into one final super-indicator, which will describe and quantify overall industry performance of all industries in Serbia's economy. This indicator will enable us to develop a typology of industries, pinpoint those sectors that exhibited superior performance, and enable comparison of industries based on their performance and main components of performance.

What is Overall Industry Performance?

Overall Industry performance indicates to what extent firms from an industry are systematically capable of achieving healthy and dynamic growth. Hence, it is not only important for a business to grow, but for the growth it achieves to be healthy. Healthy growth implies that a business, besides expanding its activities, should operate effectively and efficiently, generate value added for owners and increase the welfare of other relevant stakeholders, particularly employees (Diaz Hermelo & Vassolo, 2007; Lichtblau et al; 2013). If a business succeeds in achieving these goals, then its performance can be considered as superior, and the business proves it is capable of enhancing and even prolonging its growth.

The systematic capability of a relatively higher number of firms from one industry to more effectively fulfil their goals is a consequence of the greater availability of requisite resources and attributes in a certain industry. For example, if a relatively higher number of firms from industry A achieve their key business objectives more effectively than firms in industry B, it can be considered that industry A is more suitable for firms' development. Hence, relatively more firms from industry A will be capable of achieving and maintaining healthy and dynamic growth. Therefore, it can be considered that

industry A has a greater availability of resources that are necessary for the competitive and successful running of a business. As a result, industry A can be considered as a more attractive and more promising than industry B.

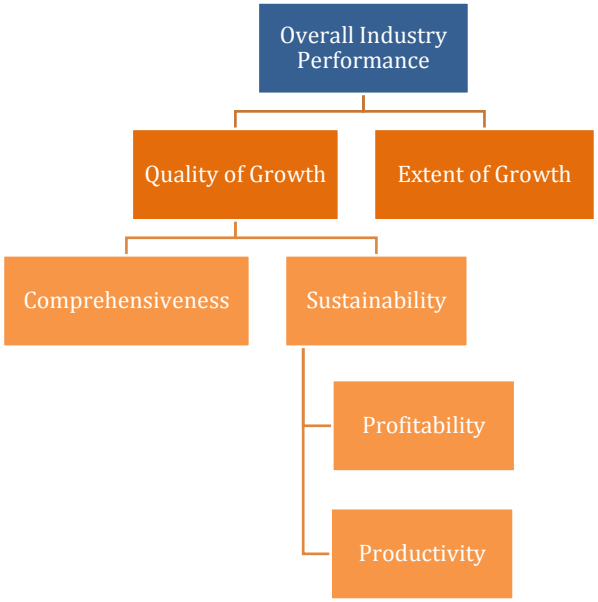
In order to be able to measure and assess industry performance, such a **complex indicator must first be decomposed into simpler components that most accurately describe it.**

Developing a methodology

Determinants of Overall Industry Performance

Performance has two main components: extent and quality. These components are derived from our definition of performance, which indicates that it is important for businesses to grow and expand quickly, but that it is also necessary for businesses to establish a long-term and vital basis for that growth. Further decomposition, detailed description, and graphical presentation of components of industry performance are shown in the figure 4.2 below and in subsequent paragraphs.

Figure 4.2 Determinants of Overall Industry Performance



The extent of growth is the first component of overall industry performance and it refers to the dynamism of an industry - the degree to which an industry has expanded its activities and operations in the observed period. The more rapid the growth of an industry, the better is the performance of that industry (Porter, 1980). From a firm-level perspective, high industry growth has been cited as a key component of market attractiveness for both new and established firms (McDougall et al, 1994; Miller & Camp, 1985; Porter, 1980; Sandberg & Hofer, 1987). Growth enables a business to benefit from advantages such as economies of scale, economies of scope and/or economies of learning.

The change in operating revenues of an industry in the observed period is used to determine the extent of growth of that industry. That change is measured by the compound annual growth rate of deflated[3] operating revenues (revenues CAGR) over a five-year period, from 2009 to 2013. If that indicator is greater than zero, it signifies one of three possible encouraging phenomena: the consumer base has expanded, existing consumers have increased purchases of the product, or the price of a product increased due to implemented innovation or some other kind of product differentiation. To summarize, if revenues CAGR of the observed subject, average firm or industry, is greater than zero, then those revenues were annually growing and it can be concluded that the subject has expanded its business operations. The rate of growth indicates the extent to which a business has expanded operations and, as it is mentioned, the more rapid the growth, the better is the performance.

The quality of growth refers to the ability of an industry to develop systematically and sustainably. It is the second component of overall industry performance, and as previously mentioned, it is not only important for a business to achieve quick growth, but for this growth to be healthy. Quality of growth embodies two key subcomponents: comprehensiveness and sustainability. Comprehensiveness refers to the proportion of firms driving the growth of an industry. Sustainability refers to the firm's ability to survive and continue its business activities in the long run, which hinges upon maintaining competitiveness in the marketplace.

With respect to quality, growth should be as comprehensive as possible, i.e. supported by as many firms within the industry as possible. Ideally, growth of an industry should not be driven primarily by a single firm or a small number of firms. The greater the number of firms contributing to the growth of an industry, the more comprehensive is the growth of that industry. A relatively high number of

[3] The term deflated signifies that the measure accounts for inflation so as to make data comparable across years.

successfully growing firms within an industry indicates that more firms are likely expanding business activities, generating employment, and investing in new capacities and R&D. That is not to say that industries with a high level of concentration exhibit inferior performance; they may generate high levels of profit and increase the productivity of the industry through economies of scale (Liu et al, 2013; Peltzman, 1977). However, it would be additionally beneficial if there were other smaller firms that exhibited growth and development alongside these industry leaders. In this way, the growth could be systemic, continuously attracting new investors and entrepreneurs to the industry. Key firm risk would be reduced and the industry would have a greater chance of becoming a true engine of growth for the economy as a whole. This characteristic of industry performance is of particular importance when it comes to private sector strengthening and entrepreneurship development.

The comprehensiveness of industry growth is measured by the proportion of successful firms in a certain industry. A successful firm is a resilient and profitably growing firm, capable of pulling and enhancing the growth of the industry to which it belongs. For the purpose of this analysis, a firm has to meet the following three criteria in order to be considered successful:

1) Cumulatively positive Earnings before Interest, Taxes, Amortization and Depreciation (EBITDA)[4] in both post-crisis period (2009-2013) and last two years (2012 and 2013)
2) Maintain or increase the level of deflated operating revenues in post-crisis period
3) Maintain or increase the level of employment in post-crisis period

The industry success rate, the percentage of successful firms within an industry, is a good indicator of that industry's prosperity. It provides insight into the potential of existing or newly-established firms of achieving profitable growth in a particular industry. Industries with greater numbers of successful firms are more likely to attract new firms, as those industries are more suitable for firm development. Varying levels of success among industries do not occur accidentally; they emerge as a result of differing trends including consumer needs that affect demand, the availability of key resources, know-how, trade agreements, entry barriers, access to finance and a host of other factors.

Sustainable industry growth implies profitable and productive operations. Growth can only be sustainable if it is generating value added for its owners;

[4] The EBITDA is a measure of profitability and will be explained in greater detail in the following section as it is one of the primary measures of sustainability. A profitable firm is a successful firm precisely because it has the potential to survive and grow in the long run.

otherwise, the owner has no incentive to continue his or her business if profit is continually being lost. Profitable industries also represent an attractive destination for potential investments, which could further enhance the growth of an industry. Hence, growth has to be sustainable in the long term if it is to be considered high quality. Thus the more sustainable the growth, the 'healthier' it is, which augments the performance of that particular industry (Porter, 2008).

Profitability primarily indicates to what extent a company is able to produce and sell its goods in the market place for a profit. Broadly, it is a reflection of how well a company renders a product and/or service and to what degree it is able to generate sales. The EBITDA margin in this analysis is used as an indicator of profitability. More specifically, EBITDA measures a company's operating profitability. It is equal to earnings before interest, tax, depreciation and amortization divided by operating revenue. Because EBITDA excludes depreciation and amortization, it provides an investor with a more focused and accessible view of a company's core profitability. Hence, EBITDA indicates to what extent a company is successful in its core business. This statistic also gives investors a way to focus on operating profitability as a singular measure of performance.

Profitability hinges upon the productivity of the firm, which is determined by the efficient use of inputs in the production process (Foster et al, 2005). Growth and development should be based on best managerial practices, high-quality labor and capital inputs, innovation and technology. Productivity in this analysis is measured through labor productivity, which is calculated as the ratio between a firm's or industry's value added and its total number of employees. If a firm is doing the right things right – producing goods of adequate quality that are competitive in the market place - then value added per employee should be relatively high and growing. It can be concluded that effectiveness and efficiency drive productivity. If value added per employee is growing, then the firm is becoming more productive, and vice versa.

We can conclude that performance of industry demonstrates not only the ability of an industry to grow, but also to sustain and even enhance that growth. Growth should increase owners' income, stakeholders' welfare, and attract investments to an industry. To summarize, extent refers to the rate of growth, or the dynamism of an industry's growth, which is determined by demand - quantity of a product or service that is desired by buyers. The more rapid the growth of an industry, the better is the performance of that industry (Porter, 1980). With respect to quality, growth should be as comprehensive as possible, i.e. supported by as many firms within the industry as possible. Ideally,

growth of an industry should not be driven primarily by a single firm or a small number of firms. In addition to comprehensiveness, growth has to be sustainable in the long term if it is to be considered high quality. Thus the more sustainable the growth, the 'healthier' it is, which augments the performance of the particular industry (Porter, 2008). Sustainable industry growth implies profitable and productive operations. Growth can only be sustainable if it is profitable - generating value added for its owners; otherwise, the owner has no incentive to continue his or her business if profit is continually being lost. Profitability hinges upon the productivity of the firm, which is determined by the efficient use of inputs in the production process (Foster et al, 2005). In order to be productive, growth should be based on best managerial practices, high-quality labor and capital inputs, innovation and technology.

Two Points of View

Industries are comprised of a large number of firms and those firms together determine the performance of an industry as a whole. Industries do not themselves grow, do not produce, do not trade and do not compete. It is firms that carry out these activities (Altomonte et al, 2011). Hence, although it is the status quo, it is not always reliable to observe only industry-level data. Knowing the industry structure and firm-level performance distribution is also essential for a comprehensive understanding of industry potential and consequently effective policy making. Our analysis examines characteristics of industry performance from two different perspectives:

Bird's-eye view (aggregate level)

This can also be termed the top-down view of an industry. From this perspective, the whole industry is observed as one large firm with its own indicators of performance. Analysis of indicators will reveal if overall industry trends are increasing or decreasing. This approach is usually used in processes of industry performance assessment.

Worm's-eye view (firm-level)

This view can also be called the bottom-up view of an industry from the perspective of a firm. This point of view examines the trends followed by an average firm in a certain industry. Considering that the average firm is almost always micro or small, this point of view indicates what occurs with revenues, productivity and profitability of an average micro or small firm within an observed industry. Does the firm follow overall industry trends or is that trend driven exclusively by a small number of larger firms? This approach is non-standard, but it is very helpful and innovative when industry performance is analysed in-depth.

If an industry is characterized by perfect competition or at least moderate competition, overall industry performance will be similar to the performance of the average firm within the industry. Indicators such as productivity of employees, profitability rates, and growth of demand should be similar among firms. In this case, it is generally reliable to make approximate conclusions about industries based only on industry-level data.

However, observing only industry-level data may provide an incomplete picture of industry performance. Competition is not always perfect or sometimes even moderate. Concentration could be very high in the context of imperfect competition in one industry. Either one firm could have monopoly power or a small number of firms could have oligopoly power. Overall performance of such an industry will be determined by the performance of this small group of firms or even one firm.

If industry performance is determined by the performance of one or few very large firms, then any claims concerning the suitability of that industry for the overall growth and development of firms are not reliable. For example, if one large state-owned enterprise dominates the whole industry but is inefficient and uncompetitive, it can easily be concluded that the industry does not have the requirements of potential for the development of firms within that industry. However, such a conclusion could be misleading. An industry may contain isolated islands of promising, competitive micro and small companies, insufficiently strong to affect the overall performance of the industry, but very capable of acquiring and combining industry-available resources to produce internationally competitive products.

Trends and Regularities in Serbia's Economy

This section will analyse characteristics of industry performance, resulting in facts, trends and figures that describe the post-crisis recovery and development of Serbia's economy, industries in Serbia's economy, and firms within those industries. Focus is on the characteristics presented in detail and discussed in the previous section – extent of growth, comprehensiveness, profitability and productivity. These (sub) components will be measured and observed from two different points of view – bird's eye view and worm's eye view, in order to provide a comprehensive assessment of entire industries' performance and prosperity, and not simply a reflection of a few large enterprises.

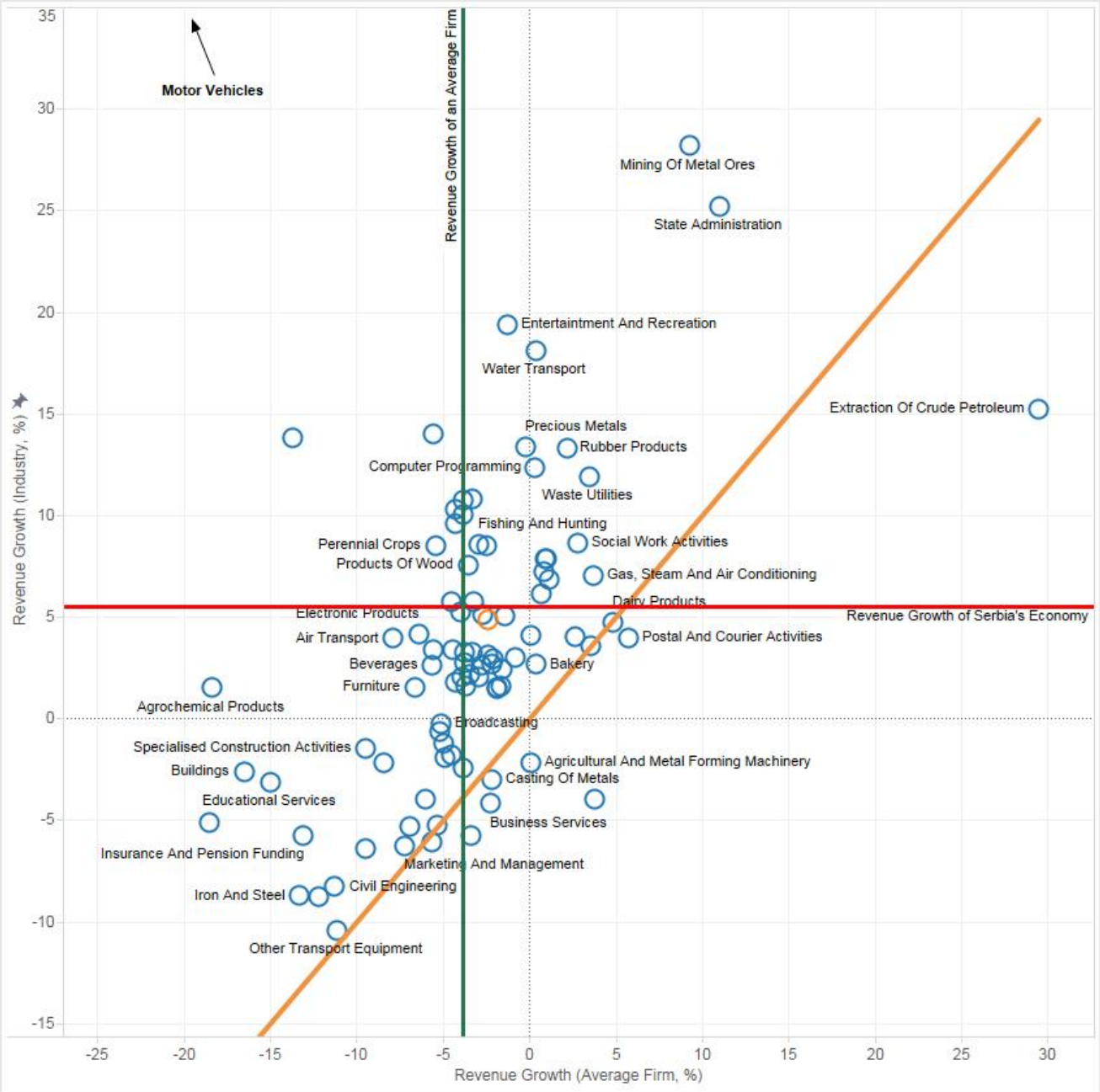
Extent of growth

Serbia's economy has increased its revenues from 2009 to 2013, seemingly recovering from the strike of the crisis. However, a minority of industries drove this

growth. Serbia's economy grew 5.5% in the observed post-crisis period. However, only a third of the country's industries exhibited higher growth than the economy's average of 5.5%, while the rest remained below average.

Figure 4.3 enables a deeper look into the characteristics, structure and sources of growth of the industries in Serbia's economy. This figure presents the distribution of all industries, scattered by the growth of both the average firm within industry and the industry as a whole. The growth of an average firm within an industry is shown on the horizontal X axis, while the aggregate industry growth is shown on the vertical Y axis. Some general conclusions, trends and statistics can be derived from interpreting the figure, and are discussed in the subsequent paragraphs.

Figure 4.3 Extent of the Growth



The dynamics of a vast majority of industries in Serbia's economy were determined by the growth of one or few large firms within those industries. Firstly, revenues of an average firm in Serbia's economy (represented by vertical red line) were falling by 3.9% annually in post-crisis period, while Serbia's economy was growing 5.5% (represented by horizontal green line) on a yearly basis. Secondly, by observing boundary values, it can be concluded that as many as 65 industries (71% of total number of industries) achieved positive real growth, while average firms from only 17 industries (18% of total number of firms) managed to increase their operating revenues in the post-crisis period. Hence, large firms that achieved quick growth in post-crisis period drove the growth of these 71% of industries. Thirdly, the vast majority of industries were located above the purple 45 degree line. This line shows equality between the two indicators – industries located along or near the line are considered industries in which the average firm follows the industry's trends. If an industry data point is located above the line, it can be concluded that the growth is driven mainly by a few large firms, while the average firm lags behind. Industries located below the 45 degree line also exhibit growth driven by a group of larger firms; however, firm-level growth rate in this case is higher than the overall industry trend. The latter situation is rare and unusual, as is evident from the distribution on the figure. Presented contradictory trends clearly indicate that the growth of Serbian industries was driven predominantly by a few large firms within those industries.

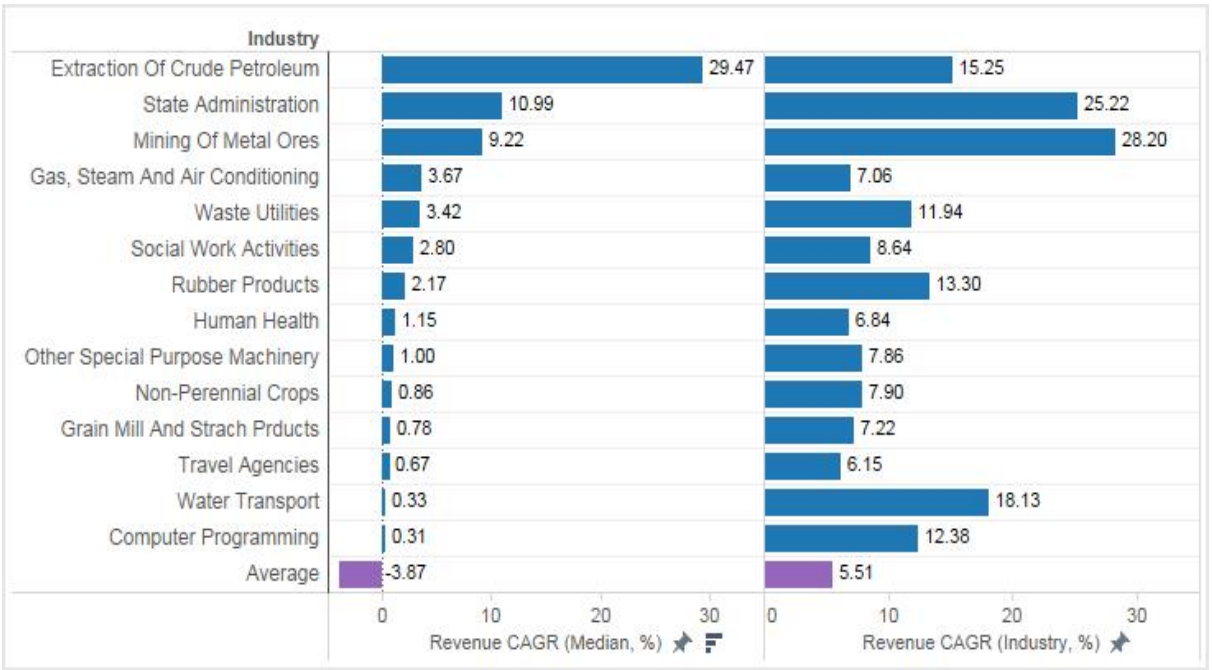
25% of industries managed to recover from the strike of the crisis and achieved comprehensive growth in the five year period; overall demand for the industry's products grew, while the revenues of average firms increased as well. Those 20 industries are located in first quadrant, which obviously represents the desired and preferable location for every industry. On the other hand, quadrant III consists of 25 industries (28% of total) whose operating revenues fell from both points of view. General demand for products of a particular industry decreased, while revenues of the average firm also dropped.

50% of industries in Serbia's economy managed to grow, while their average firms were not capable of maintaining at least the same level of revenues. Quadrant II consists of these 44 industries, whose overall growth was positive, while operating revenues of average firms in those industries were negative. These industries are led by the growth of large firms, where small average firms fail to build a sustainable market position. Characteristics of industries located in Quadrant IV exhibit the opposite characteristics. Average firms from these industries are growing, despite decreasing overall industry demand. Although this case is possible, it is very rare, and only 2

industries are located in this quadrant – Manufacture of Pharmaceutical Products and Manufacture of Agricultural and Metal Forming Machinery. It often implies the presence of ineffective large companies in certain industries, characterized by decreasing operating revenues, the effect of which is more pronounced than the growth of healthy companies in the same industry.

The best performing industries, in terms of extent of growth, are those which have experienced systematic and relatively dynamic growth of business operations. Therefore, considering and intersecting the presented aspects of industries' growth dynamics and characteristics, the best performance is achieved by 15 industries, whose growth, observed from both points of view, was positive and above economy averages. Graphically, these industries are located in the first quadrant and lie above the horizontal green line.

Figure 4.4 Extent of the Growth - the best performing industries



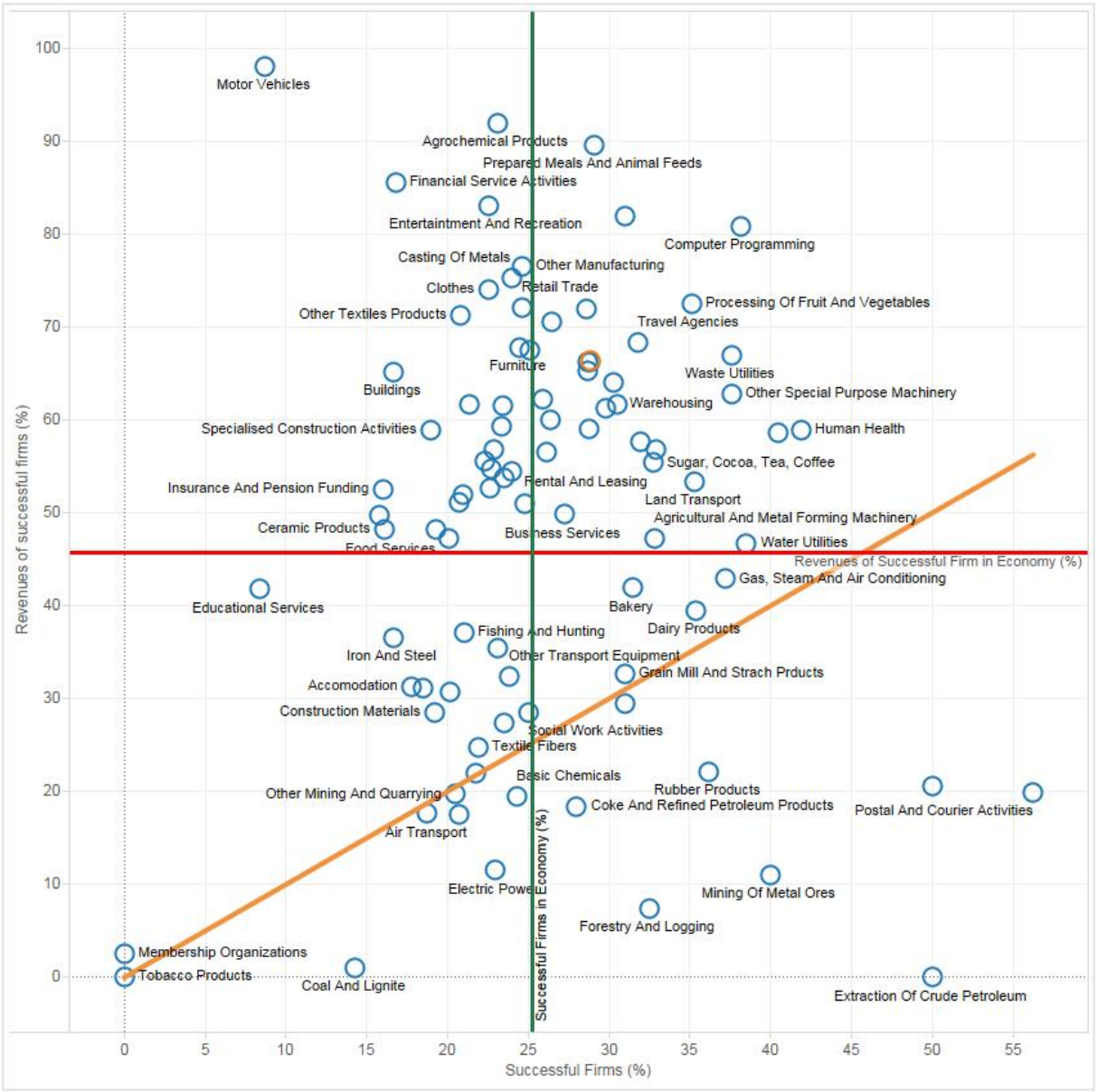
Comprehensiveness

Every fourth bona fide firm in Serbia's economy was successful in the post-crisis period. However, these firms are responsible for almost a half of total revenues generated in Serbia's economy in 2013. Therefore, although only 25% of firms were successful, jointly, these companies generated 45% of the economy's total revenues. Hence, the average revenue of one successful firm in Serbia's economy was almost three times higher than the average revenue of an unsuccessful firm.

Of the successful firms, almost 40% of them can be considered fast-growing, with an increment of revenues above 20% annually. Every tenth bona fide firm in Serbia's economy was both successful and fast-growing. Those 7,000 companies represent the real strength and healthy foundation of Serbia's economy. Factors of their success and quick growth must be revealed and explained in order to motivate policymakers to seek actions and solutions, whose implementation would create a more enabling business environment and thereby support further growth and expansion of these firms. In addition, this process would stimulate the development of other similar firms and entrepreneurs.

Figure 4.5 provides in-depth look into attractiveness, suitability and development of industries in Serbia's economy. The figure depicts the dispersion of industries according to their success rate, represented by the horizontal x-axis; and the contribution of successful firms' revenues to the industry's total revenues, represented by the vertical y-axis. These two indicators are always positive so all the industries are located in the top right quadrant of the figure. Some general conclusions, trends and statistics can be derived from interpreting the figure, and are discussed in the subsequent paragraphs.

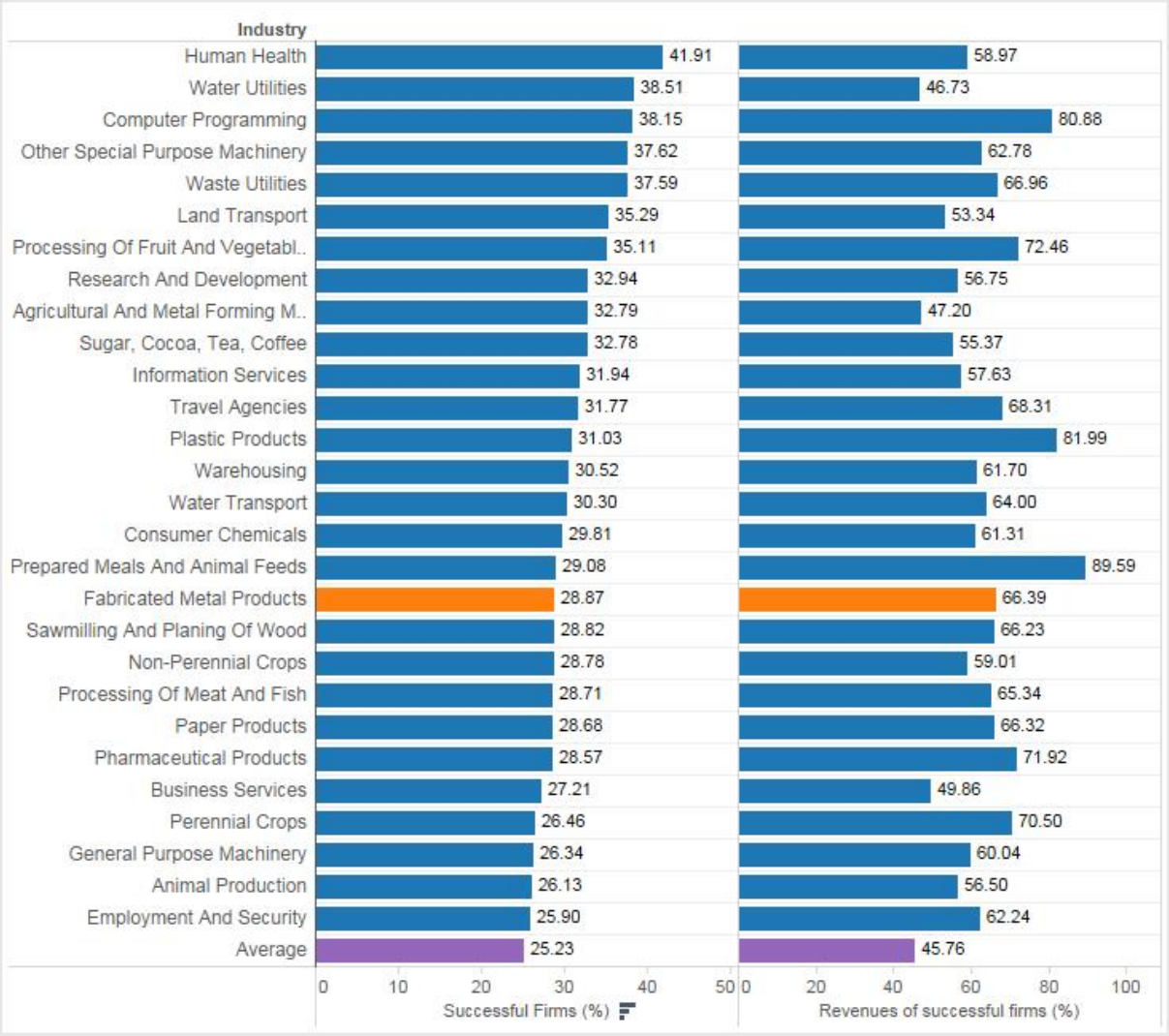
Figure 4.5 Comprehensiveness of industry development



Successful firms have generated relatively more revenue in a vast majority of industries in Serbia's economy. 85% of industries are located above the orange, 45 degree line. As explained earlier, this line shows equality between the two indicators – industries located along or near the line are considered industries in which average revenues of successful firms were equal to average revenues of unsuccessful firms. If an industry data point is located above the line, it can be concluded that successful firms contributed to the industry's revenues relatively more than unsuccessful firms. Industries located below the 45 degree are characterized by a relatively higher contribution of unsuccessful firms revenues to the industry's revenue. Such a situation is rare and therefore only 15% of industries stayed below the orange diagonal line. The economic activity of industries located below the orange line is dominantly heavy industry. In addition, these industries are highly concentrated, driven and dominated by ineffective and inefficient state-owned enterprises. Some of these industries are: Extraction of Crude Petroleum and Natural Gas, Telecommunications, Mining Of Coal And Lignite, Electric Power Generation And Distribution, Manufacture Of Rubber Products, Postal And Courier Activities, Manufacture Of Coke And Refined Petroleum Products, Mining Of Metal Ores, Other Mining And Quarrying, Manufacture Of Basic Chemicals, Air Transport.

The best performing industries in terms of comprehensiveness are those with a high concentration of resilient and profitably growing firms, whose contribution to industry revenues was relatively significant. There are 28 (31% of total number of industries) such industries – those located in the first sub-quadrant, characterized by above average measures for the two success indicators. This is of course, the most desirable situation for any industry. Industries located in first sub-quadrant have some of the greatest potential to drive economic growth and development for the country as a whole.

Figure 4.6 Comprehensiveness of industries - the best performing industries



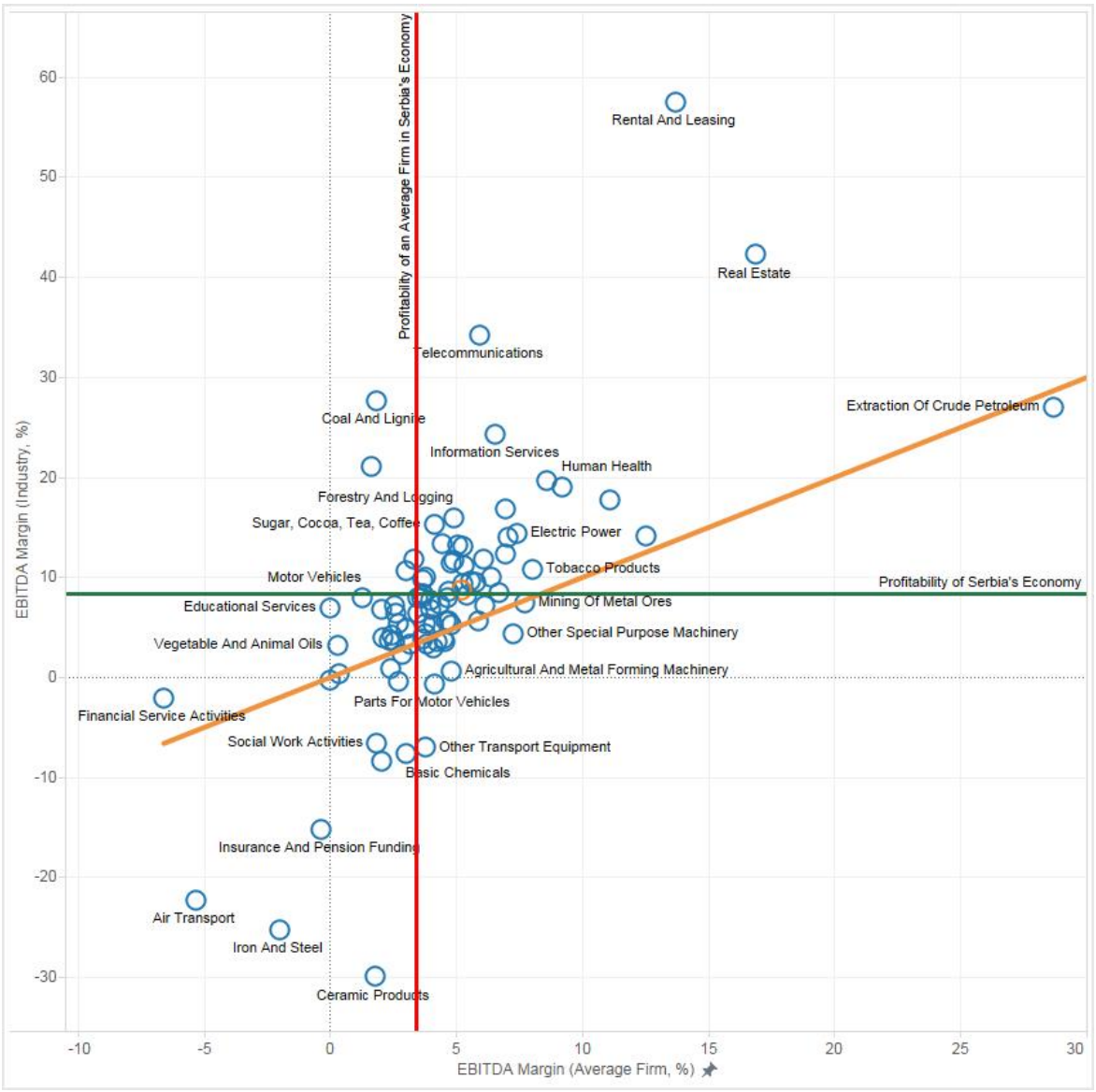
Profitability

The EBITDA Margin of Serbia's economy stood at a solid 8% in 2013 - eight cents of EBITDA was generated per euro of sales. The average firm in Serbia's economy was also capable of generating a positive EBITDA, which is encouraging, but its profitability was lower, standing at only 3%. Average firms were not able to track the economy's trends dictated by larger profitable firms, due to lack of possibility of becoming more competitive, in terms of production costs, market power, visibility

and other key competitiveness factors which create gaps between small and large businesses.

Figure 4.7 provides an in-depth look into the profitability of industries in Serbia's economy. The figure depicts the dispersion of industries according to the profitability of their average firms, represented by the horizontal x-axis; and the profitability of industry as a whole, represented by the vertical y-axis. These two indicators are always positive so all the industries are located in the top right quadrant of the figure. Some general conclusions, trends and statistics can be derived from interpreting the figure, and are discussed in the subsequent paragraphs.

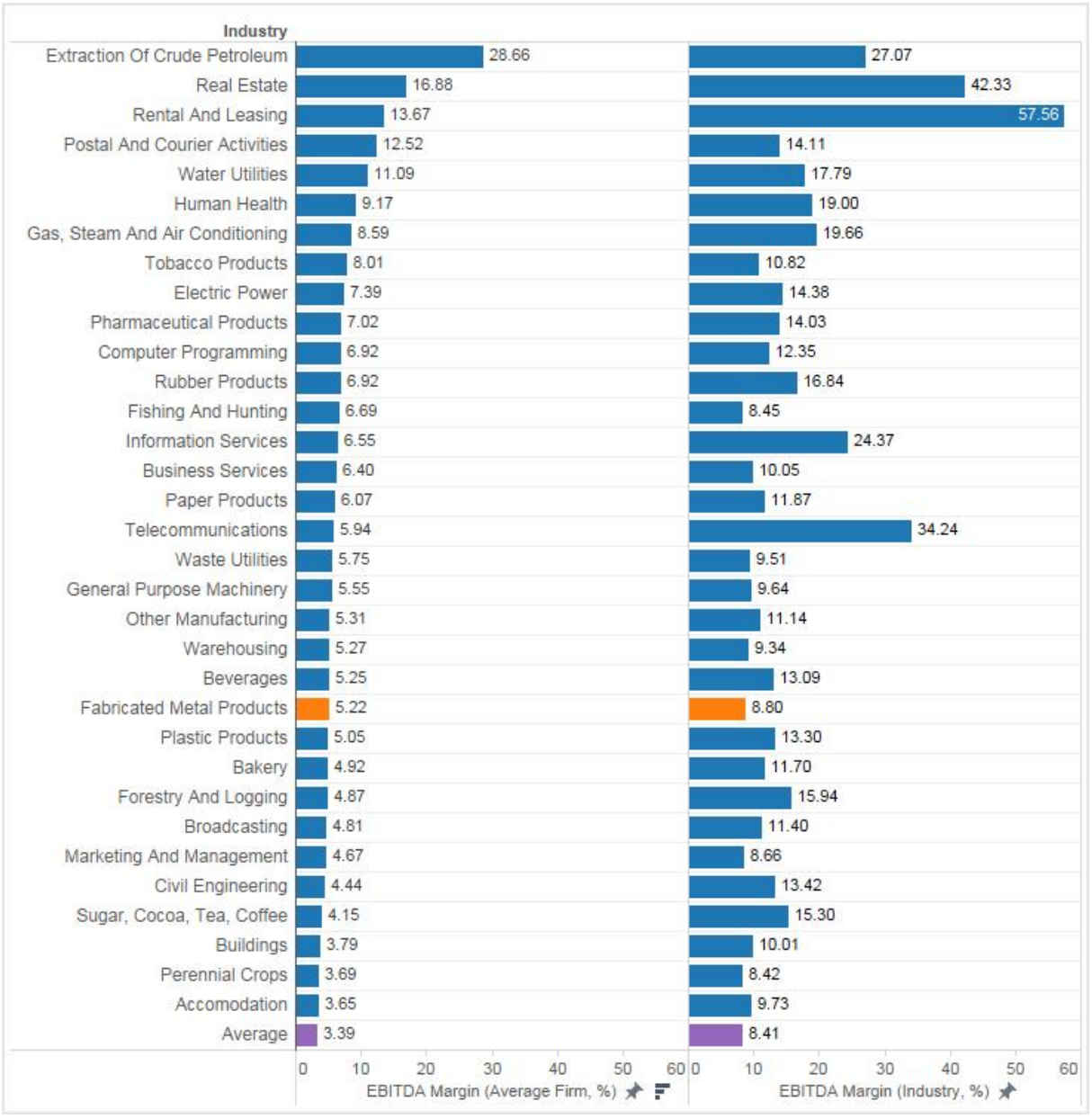
Figure 4.7 Profitability of industries



The profitability of a vast majority of industries in Serbia's economy was determined by the earning power of one or few large firms within those industries. Firstly, the profitability of an average firm in Serbia's economy (represented by vertical red line) was 3.4% in 2013, while profitability of the entire economy was 8% (represented by horizontal green line). Secondly, the majority of industries are located above the purple, 45 degree line. If an industry data point is located above the line, it can be concluded that the profitability of an industry is driven, to a greater or lesser extent, by the earning power of a few large firms, while the average firm lags behind. The farther an industry point is from the diagonal line, the more its profitability is determined by the earning power of large firms.

The most profitable industries in Serbia's economy are those that have most effectively and efficiently produced and sold their goods in the market place and thereby systematically achieved remarkable core profitability rates. The industries located in sub-quadrant I (above the horizontal green line and to the right of the vertical red line) exhibit profit margins that are above both averages for the economy. These industries' profits are higher than the average industry profits for the entire economy, while the average profits of a firm in that industry are greater than those of an average firm in the economy. These industries are the most profitable and, therefore, the most conducive to firm development. In addition, these industries have the greatest potential to spur economic growth through continued and increased activity.

Figure 4.8 Profitability of industries - the best performing industries



Productivity

The productivity of Serbia's economy was RSD 1.6 million per employee in 2013, which means that the average contribution of one worker to the value added of Serbia's economy was around EUR 14.000. On the other hand, productivity of an average firm in Serbia's economy was much lower, reaching only RSD 640.000, or converted to euros, the productivity of an average firm was below EUR 6.000 per employee. While productivity of Serbia's economy was increasing, productivity of an average firm in 2013 fell below the pre-crisis level, due to the negative impact of the global financial crisis on value added of a majority of companies.

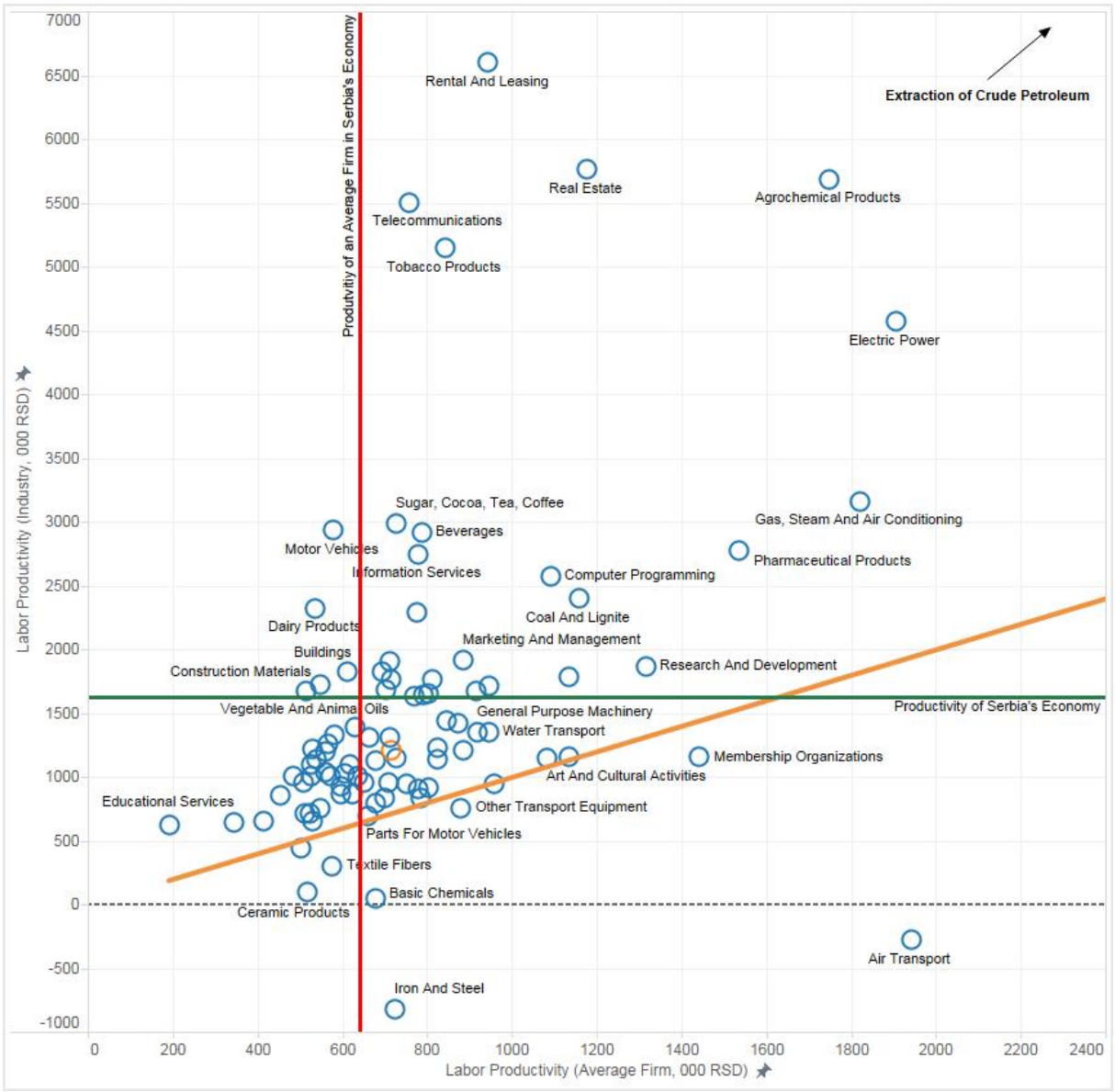
The already low level of productivity of Serbia's economy is driven by a minority of industries and a few large systems within those industries. Only every third industry managed to operate more productively than Serbia's economy. The remaining two thirds have created positive value added, but were not able reach and/or maintain that amount of value added per employee. As expected, the most productive industry by far was Extraction of crude petroleum and gas, whose value added per employee was just below EUR 140.000. However, productivity of this industry was also relatively low, compared to the performance of the same industry in EU27.

According to the World Bank, the productivity of EU27 in manufacturing is more than double compared to Serbia. Low productivity is directly linked with low investment: FDI to Serbia is lower than in regional peers and about three quarters of FDI went to non-tradable sectors of the economy. In order for manufacturing to regain competitiveness, productivity needs to increase significantly. Improving productivity and increasing output in manufacturing should be a high priority. Despite recent improvements, the productivity level of Serbian manufacturing is at about 40 percent of that in countries like Hungary, Czech Republic, Poland or Slovakia, though it is comparable to Bulgaria and Romania (WB 2014, P. 7)

Figure 4.9 provides in-depth information about productivity level, characteristics and distribution within industries in Serbia's economy. The horizontal x-axis represents the productivity of the average firm within the industry, while the vertical y-axis depicts the productivity of the industry as a whole. All industries fall solely in the first and fourth quadrants, revealing that no average firms exhibited negative productivity. Moreover, all industries aside from the 2 found in quadrant IV (Air Transport and Manufacture of Iron and Steel) are located in the first quadrant. These industries, and the firms operating within them, are characterized by positive measures of productivity. Aggregate industry productivity of both the Air Transport and Manufacture of Iron and Steel sectors was negative. This indicates

that the value added of these two industries was also negative. Such extremely bad results of Air Transport and Iron and Steel were directly caused by the unsuccessful operations of two large state-owned enterprises that dominate these industries, Air Serbia and Zelezara Smederevo, respectively.

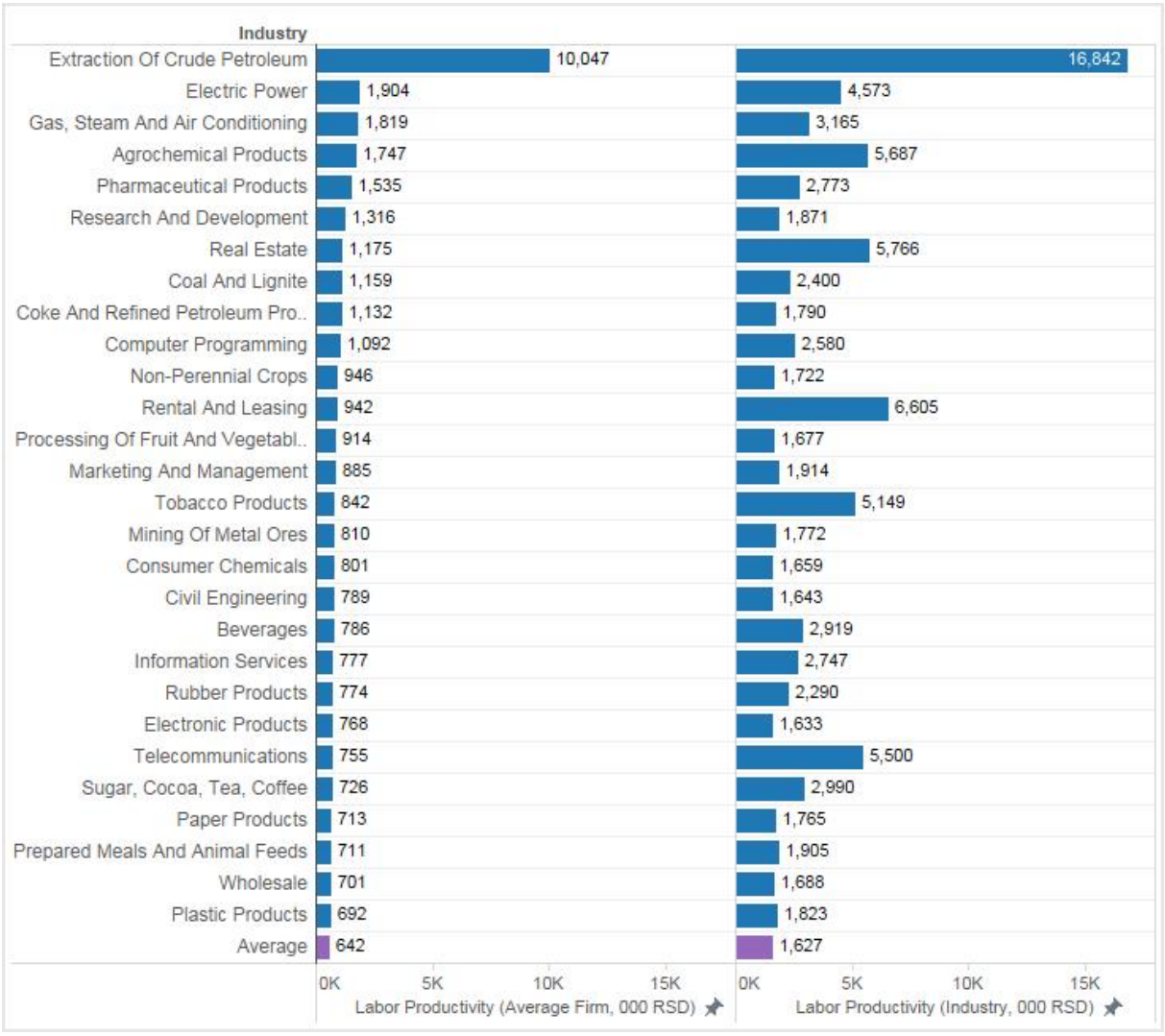
Figure 4.9 Productivity of industries



The productivity of a majority of industries in Serbia's economy was determined by the value added of one or few large powerful firms. This conclusion is based on three observed relations in the post-crisis period. First, the productivity of an average firm in Serbia's economy (represented by vertical red line) was three times lower that total productivity of economy in 2013 (represented by horizontal green line). Second, the vast majority of industries are located high above the purple 45 degree line. Third, although the productivity of Serbia's economy has increased, the productivity of an average firm has dropped.

The most productive industries in Serbia's economy are those that have most effectively and efficiently produced and sold their goods in the market place and thereby systematically achieved the greatest amount of value added per worker employed. The industries located in sub-quadrant I (above the horizontal green line and to the right of the vertical red line) exhibit labor productivity that is above both averages for the economy. These industries' productivity is higher than the productivity for the entire economy, while the average value added per employee of a firm in that industry is greater than those of an average firm in the economy. The highest level of productivity is exhibited by heavily industrial industries dominated by very large enterprises such as the Extraction of Crude Petroleum, Electric Power generation, Manufacture and Distribution of Gas, Manufacture of Agrochemical products, and Mining of Coal and Lignite.

Figure 4.10 Productivity of industries – the best performing industries



General conclusions

Serbian industries are slowly recovering from the strike of the crisis that occurred in 2009. Revenues of Serbia's economy have slightly increased in the post crisis period. This passive recovery of Serbia's economy was followed by the growth of productivity. Still, the productivity of EU27 in manufacturing is more than double compared to Serbia, according to the World Bank. The profitability of Serbia's economy stood at a solid 8% in 2013 - eight cents of EBITDA was generated per euro of sales. However, only 25% of firms were successful - every fourth bona fide firm managed to increase its revenues, generate employment and operate profitably in the post crisis period. These successful firms are very significant for Serbia's economy, contributing to the economy's revenues with almost 50%. However, the remaining three-fourths of Serbian firms were not able to foster post-crisis recovery by achieving profitable growth.

In the past 5 years, the development of Serbia's economy was mainly driven by a minority of industries and large companies within them. The impact of large firms on growth, profitability and productivity of industries was very significant. The more numerous, but smaller firms were not able to follow the trends dictated by large corporations. The growth of revenues of an average firm was negative in the post-crisis period, while the economy grew by 5% annually. An encouraging fact is that the average firm in Serbia's economy has created positive EBITDA and, therefore, its profitability was positive. However, profitability was only 3% in 2013, just above the boundary value, while productivity reached approximately EUR 6.000 per employee, which was three times that of the productivity of the economy.

Computer Programming is the only industry that can be considered the best performing if all criteria are taken into account. This industry is located in the first (sub) quadrants of all represented figures that describe profitability, productivity, rate of success and extent of growth. On the contrary, Iron and Steel industry is the only industry that is marked as the worst performing by all assessed characteristics of industry performance. This industry is located in the third (sub) quadrants of all represented figures that describe industry characteristics.

But how can the performance of an industry be comprehensively and systematically assessed? How can the performance of an industry be compared to the performance of other industries? In order to assess the overall performance of one industry, individual indicators of industry performance must be integrated into one aggregated "super-indicator". The following section will briefly describe the methodology of creating such an indicator and then the overall industry performance will be measured and discussed.

Final rank

The main goal of overall industry performance analysis is to assess industry performance, defined as a systematic ability of firms within an industry to effectively achieve key business objectives, through healthy and dynamic growth, in the observed post-crisis period (2009-2013). Assessed performance will enable us to pinpoint the sectors policymakers should look to in order to identify and support the most promising firms, capable of generating value added and employment, through competitiveness and export enhancement. In addition, this analysis will also shed a light on industries that have a market potential, but struggle to achieve their goals and realize their full potential. Overall performance analysis will briefly point out the fields in which certain constraints limit the fulfilment of potential of industries, such as low productivity in production process, unsufficient demand for products and services that certain industry produces and offer, immaturity of an industry, inability to profitably sell the products…

In order to reliably and comprehensively assess the overall performance of one industry, individual indicators of industry performance must be integrated into one aggregated "super-indicator". Creating such an indicator will help us to identify industries with the best exhibited overall performance, and to compare industries based on this performance. The final indicator of industry performance should combine all previous indicators of the extent and quality of growth. However, these indicators differ in a variety of ways: For example, some can be negative (Revenue growth), while others are always positive (Success Rate); some measures are expressed in percentages (Success rate), while others are expressed in number of units (Labor Productivity); some measures are naturally relatively high (Success rate), while others are relatively low (EBITDA Margin). The questions therefore are: How can these indicators be standardized? Furthermore, how can weights be assigned in order to determine an indicator's importance and influence in calculating overall industry performance?

A Principal Component Analysis (PCA) is used to objectively and systematically integrate indicators of the main characteristics of industry performance. The PCA results in 3 "super variables", or principal components, that capture 76% of the total amount of original information. The first component explains 34% of total variability and is primarily a measure of industry sustainability. The second component explains 26% of total variability and is primarily a measure of the capability of an average firm to be successful (success rate and average firm's growth). The third and final component explains the remaining 16% of the total amount of original information and is primarily a measure of

the capability of an entire industry to expand, based on the growth of successful firms. Table 4.1 presents the top 35 industries ranked by their final score of overall performance. Included in the table are the original indicators from which the final score is derived.

Table 4.1 Top 35 industries, by final score

Industry	Rank	Final Score	# of Firms	Revenue Growth (Average Firm, %)	Revenue Growth (Industry, %)	Successful Firms (%)	Revenues of successful firms (% of industry revenues)	EBITDA Margin (Average Firm, %)	EBITDA Margin (Industry, %)	Labor Productivity (Average Firm, 000 RSD)	Labor Productivity (Industry, 000 RSD)
Extraction Of Crude Petroleum	1	3.55	2	29.4	15.2	50	0	28.7	27.1	10,047	16,842
State Administration	2	1.10	12	10.9	25.2	50	21	2.7	5.4	822	1,145
Water Transport	3	0.78	33	0.3	18.1	30	64	3.7	3.8	944	1,352
Motor Vehicles	4	0.63	23	-23.7	76.5	9	98	1.2	8.0	578	2,935
Rental And Leasing	5	0.60	218	-5.6	-6.0	25	51	13.7	57.6	942	6,605
Computer Programming	6	0.59	865	0.3	12.3	38	81	6.9	12.4	1,092	2,580
Postal And Courier Activities	7	0.54	16	5.7	3.9	56	20	12.5	14.1	1,132	1,161
Waste Utilities	8	0.54	407	3.4	11.9	38	67	5.8	9.5	825	1,234
Mining Of Metal Ores	9	0.48	10	9.2	28.2	40	11	7.7	7.4	810	1,772
Other Special Purpose Machinery	10	0.40	210	1.0	7.8	38	63	7.2	4.4	958	950
Processing Of Fruit And Vegetables	11	0.38	376	-1.4	5.0	35	72	5.4	8.2	914	1,677
Prepared Meals And Animal Feeds	12	0.34	196	-3.3	10.8	29	90	2.6	6.5	711	1,905
Rubber Products	13	0.33	130	2.1	13.3	36	22	6.9	16.8	774	2,290
Land Transport	14	0.32	2,596	2.6	4.0	35	53	6.1	7.1	843	1,445
Gas, Steam And Air Conditioning	15	0.31	86	3.6	7.0	37	43	8.6	19.7	1,819	3,165
Human Health	16	0.31	136	1.1	6.8	42	59	9.2	19.0	726	1,156
Real Estate	17	0.30	361	-3.4	-5.7	24	27	16.9	42.3	1,175	5,766
Entertaintment And Recreation	18	0.30	213	-1.2	19.3	23	83	3.0	4.9	558	1,040
Coke And Petroleum Products	19	0.29	25	-4.2	9.6	28	18	4.5	3.6	1,132	1,790
Telecommunications	20	0.25	297	-1.6	1.5	31	29	5.9	34.2	755	5,500
Plastic Products	21	0.23	767	-2.5	8.5	31	82	5.0	13.3	692	1,823
Travel Agencies	22	0.23	554	0.6	6.1	32	68	5.9	5.6	649	961
Non-Perennial Crops	23	0.21	1,251	0.8	7.9	29	59	2.5	7.3	946	1,722
Perennial Crops	24	0.17	325	-5.4	8.5	26	71	3.7	8.4	628	1,393
Water Utilities	25	0.15	161	3.5	3.5	39	47	11.1	17.8	885	1,209
Grain Mill And Strach Prducts	26	0.12	200	0.7	7.2	31	33	3.2	3.3	603	1,032
Electric Power	27	0.12	61	-3.4	2.1	23	12	7.4	14.4	1,904	4,573
Research And Development	28	0.11	170	-3.8	-2.3	33	57	4.8	5.3	1,316	1,871
Pharmaceutical Products	29	0.10	35	3.7	-3.9	29	72	7.0	14.0	1,535	2,773
Warehousing	30	0.10	1,101	-1.9	1.5	31	62	5.3	9.3	871	1,429
Sugar, Cocoa, Tea, Coffee	31	0.10	363	-1.9	1.4	33	55	4.1	15.3	726	2,990
Information Services	32	0.09	72	-5.0	-1.1	32	58	6.6	24.4	777	2,747
Fabricated Metal Products	33	0.09	1,704	-2.3	4.8	29	66	5.2	8.8	715	1,216
Consumer Chemicals	34	0.08	312	-3.2	5.7	30	61	4.7	5.7	801	1,659
Dairy Products	35	0.07	133	4.8	4.7	35	40	3.0	10.7	536	2,324

The tertiary sector is dominant among the best performing industries. This dominant presence of services among the best performing industries is a result of the quick development of these industries in the past decade. Serbia achieved dynamic economic growth between 2000 and 2008, but this progress was fuelled primarily by capital inflows and a domestic credit boom that mainly targeted the non-tradable sectors of the economy. Foreign Direct Investment (FDI) in this period followed a similar pattern: approximately three quarters of inward FDI between 2001 and 2008 was directed to non-tradable sectors, industries that are considered "safer" investments where investors could expect a return on investment in a relatively shorter period (WB2, P.9). Overall, the growth of the non-tradable sectors of the economy accounted for 80% of real growth in Serbia during this period (WB 2, P.7).

The secondary production sector, which represents the backbone of an export-led growth model, is represented with only one industry among the top 10 industries with the best performance. That industry is the Manufacture of Motor Vehicles. However, this industry is highly concentrated and its activities and results are completely determined by the operations of one large and dominant foreign firm – FIAT. Considering that Serbia should pursue an inclusive, smart, and sustainable model of growth based primarily on private sector-led exports, its primary goal is to shift toward an export-led growth model supported by increased competiveness and productivity in the tradable sectors.

There are no systematically and comprehensively developed, high-complexity production industries among those that are considered best performing. Moreover, the highest ranked production industry with low concentration is the Manufacture of Plastic Products. It occupies 15th place among industries, sorted by the best exhibited performance. Some of the industries including the Food Industry, Manufacture of Rubber Products, Manufacture of Paper Products, and Manufacture of Fabricated Metal Products rank lower on the list. However, none of these industries is highly complex or exhibits high value-added.

As it can be observed, the top ten industries with the best overall performance are: Extraction of Crude Petroleum and Natural Gas, Rental and Leasing Services, Real Estate, Postal and Courier Activities, Computer Programming and Consultancy, Manufacture and Distribution of Gas, Manufacture of Motor Vehicles, Human Health, Mining of Metal Ores and Water Collection. It must be noted that these industries, with the best overall performance, do not necessarily excel in each of the 8 original indicators.

Hence, the best ranked industries can be approximately divided into three groups:

1. Industries that exhibit equally good performance from both points of view
2. Industries whose industry-level performance is far superior to their firm-level performance
3. Industries whose firm-level performance is far superior to their industry-level performance

A typical representative of the first group of industries that exhibit equally good firm-level and industry-level performance is Computer Programing and Consultancy. This industry is the only industry that is located in the first (sub) quadrants of all represented figures that describe profitability, productivity, rate of success and extent of growth. All indicators of performance of this industry are above average. The average firm in this industry managed to maintain the same level of revenues after the crisis, despite a sharp decline of other firms in the economy. Also, 40% of firms in this industry were successful. The productivity of the average firm was RSD 1,000,000 per employee, while the EBITDA margin was 7%. From a bird's-eye view, the entire industry grew by 12% a year. The EBITDA margin of entire industry was 12%, while productivity was RSD 2,500,000 per employee. The contribution of successful firms to industry revenues was 80%.

The post-crisis development of this industry was driven mainly by large enterprises, but micro, small and medium also contributed to the growth, with above average performance. A slight difference between the values of firm-level and industry-level indicators indicates the presence of large, successful and fast-growing enterprises, like Comtrade IT Solutions and Assecco. However, both groups of indicators were relatively high, indicating that this industry is comprised of profitable, productive and successful companies that are small, medium, and large.

A typical representative of the second group of industries, whose industry-level performance is far superior to the average firm-level performance, is the Manufacture of Motor Vehicles. This industry is not located in the first sub-quadrants of any of the represented figures that describe profitability, productivity, rate of success and extent of growth. It means that industry-level indicators of performance of this industry were above average, while firm-level indicators were below average. Revenues of the average firm in this industry were annually declining by 24% after the crisis, while only 8% of firms can be considered as successful in same period. The productivity of the average firm was very low, RSD 578,000 per employee, while the EBITDA margin was 1%. Using only these indicators, this industry cannot be classified as successful. However, industry-level indicators were much greater than

those of the other industries listed. From the bird's eye view, the entire industry grew by 76% a year. The EBITDA margin of the entire industry was 8%, while productivity was RSD 3,000,000 per employee. The contribution of successful firms to industry revenues was 98%. Such a large discrepancy between the values of firm-level and industry-level indicators indicates the presence of a large, successful and fast-growing enterprise, despite the presence of other firms in the industry whose businesses were deteriorating. The company that was pulling the industry onwards was FIAT, the single largest exporter in the country in first seven months of 2014 (Ministry of Finance, 2014). Such a contrast within the industry indicates that there are resources and attributes present, but they are not effectively and efficiently used by other companies in the industry.

A typical representative of the third group of industries, whose firm-level performance is superior to that of the industry, is Postal and Courier Activities. This industry is not located in the first sub-quadrants of any of the represented figures that describe profitability, productivity, rate of success and extent of growth. The most frequent location of this industry was the third (sub) quadrant, meaning that industry-level indicators of performance were below average, while firm-level indicators were above average. This type of industry is rare, because it implies almost perfect competition or that the performance of some of the large firms from this industry was no better than the performance of the average firm. This is not so frequent because large firms usually benefit from economies of scale. Also, these firms have a stronger position on current markets and easier entry on new markets. Firm-level indicators of the performance of Postal and Courier Activities were above average, while industry-level indicators were below the economy's average. The average firm in this industry grew annually by 6% after the crisis; it also had a very high chance of becoming successful, since success rate of this industry stood at 56%. The productivity of the average firm was relatively high, RSD 1,100,000 per employee, while the EBITDA margin was 12%. From a bird's-eye view, the entire industry grew by 4% per year. The EBITDA margin of the entire industry was 14%, while productivity was RSD 1,100,000 per employee. The contribution of successful firms to industry revenues was only 20%. As mentioned earlier, this industry is primarily driven by an insufficiently productive, large state-owned enterprise, "PTT Srbija", while other smaller, private enterprises from this sector - such as "DHL", "City Express", "AKS Express", "YU-PD Express" - are relatively more productive than average firms in this industry.

However, the combination of characteristics of each industry from the top 10 was strong enough to enable firms

within those industries to exhibit the best overall performance in Serbia's economy, despite the obvious deficiencies of some of those industries. All these industries possess desirable characteristics from the point of view of potential investors or entrepreneurs. Choosing the right industry depends on the amount of capital to be invested, the rate and period of return, risk aversion and an industry's accessibility. The ease of entry in an industry will be discussed later when considering entry barriers and industry concentration.

In the next section, we aim to integrate the results of the previous two analyses: overall industry performance analysis and export competitiveness analysis. The integrated result should answer the question of which industries are the most suitable for firm development. Products of those industries should be internationally competitive and exhibited overall performance should be relatively high. Such industries offer attributes and resources that are adequate and of a high enough quality for successful operations. It is precisely these industries that should be in focus for policymakers.

The Most Promising Industries In Serbia's Economy

The main goal of our research is to shed a light on the most promising industries, with a potential to drive sustainable growth and development of Serbia's economy through enhanced international competitiveness and exporting activities. In addition, this research will also shed a light on industries that obviously have market potential, but struggle to achieve their goals and realize their full potential. We will briefly point out the fields in which certain constraints limit the fulfilment of potential of those industries. Knowledge produced by this research should motivate policymakers to look for various actions and possibilities whose implementation would adequately support the most promising industries and remove, or at least minimize the constraints that potentially promising and competitive industries encounter.

The most promising industries in Serbia are those that possess adequate attributes and provide resources to firms in order for them to produce internationally competitive products while operating profitably, productively and dynamically. Such industries can also be considered the most suitable for firm development. This does not mean that every firm in promising industries will be successful and internationally competitive. Rather, an average firm has greater chances of succeeding in such an industry. Whether a certain firm will succeed depends primarily on firm-level attributes.

This section will pinpoint the sectors policymakers should look to in order to find and support resilient and promising firms, capable of generating value added and employment. The Serbian economy is very diverse (and its SMEs especially so) and should not be subject to simple, one-size-fits-all approaches. In order for policymakers to support promising, underperforming, and/or uncompetitive industries, they must completely understand specific factors that determine the success of each industry. This research will only assess the performance, competitiveness and potential of industries, emphasizing especially those that should be in the focus of policymakers. The sources of comparative advantages and factors that led to such performance will not be analysed in depth. Although internal or external sources of comparative advantage will be highlighted where possible and obvious, more focused follow-up projects must be

conducted in order to reveal industry-specific characteristics that determine the performance of certain industries. Once those factors are identified, policymakers will be able to design adequate custom-made measures and implement them in order to enhance quality and dynamics of industrial growth.

Identification of the most promising industries is based on the integration of the results of the two previous analyses – export competitiveness and overall industry performance analysis. After identifying these industries, we will discuss their typology and characteristics, as well as the ability of other competitive or well performing industries to overcome existing barriers and become potential growth engines of the Serbia's economy. Finally, suitability for private sector strengthening and SME development of Serbia's industries will be discussed by turning our attention to their entry barriers and concentration. But, before proceeding to the integration, the focus has to be narrowed on industries that are able to produce internationally competitive products.

In order to pull the economy onward and increase social welfare, the growth of industry should be in compliance with the main national objectives, which in Serbia's case should be primarily focused on export and competitiveness enhancement. In proposing export enhancement, we will therefore narrow our focus to tradable industries, which primarily belong to the agriculture, mining, and manufacturing realms. Tradable industries consist of industries whose output in terms of goods or services are, or have the potential to be, traded internationally. Most commonly, the tradable industries consist largely of sectors related to manufacturing. Although some services are tradable, especially IT and financial services, they will not be included in the analysis because data on international trade in services is less reliable, less readily available and generally less developed than trade in merchandise.

Identifying the most promising tradable industries in Serbia's Economy

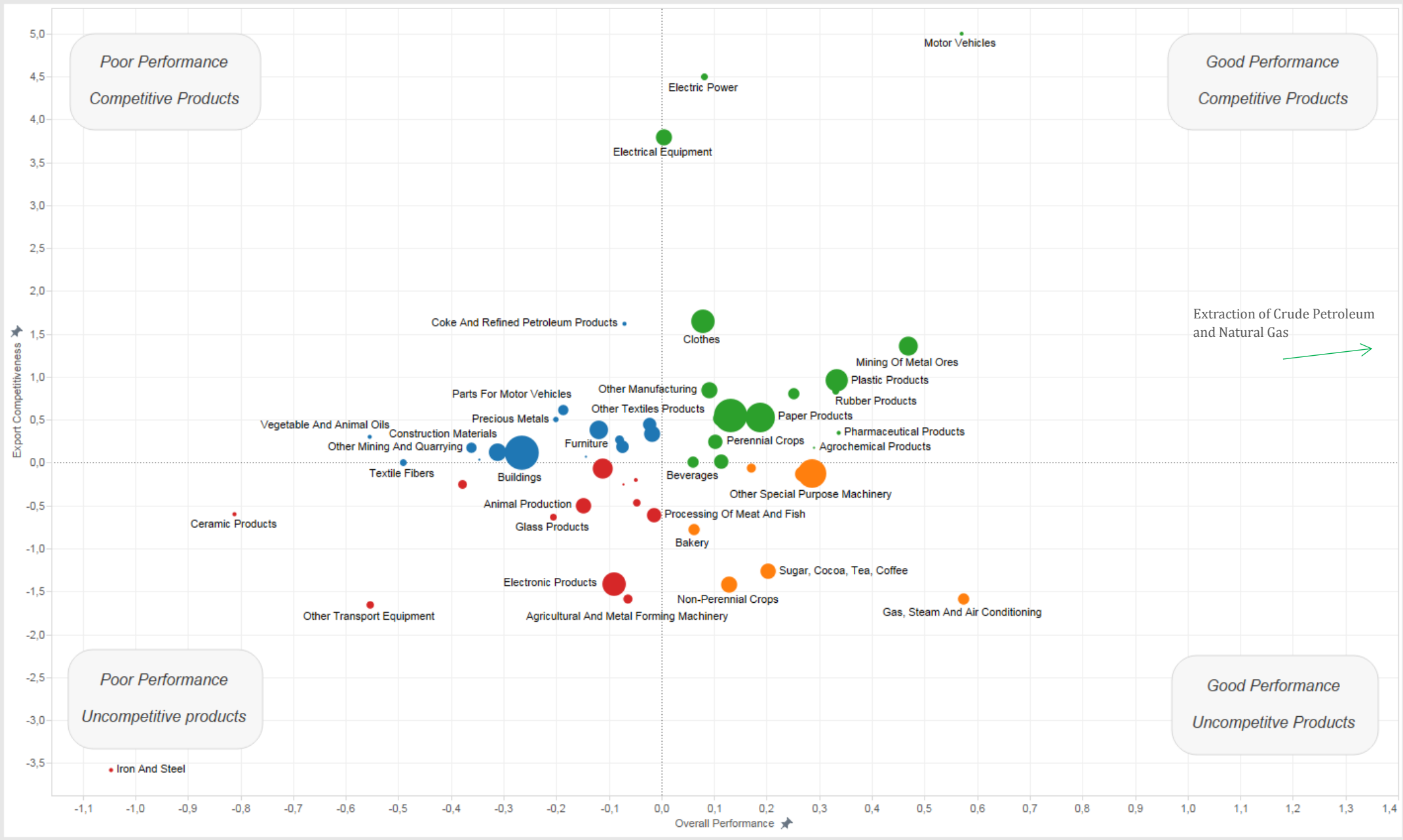
The most promising industries in Serbia's economy are those that produce competitive products, while performing relatively dynamically, profitably and productively. Those industries are capable of enhancing their growth, creating profits for company owners, generating employment, becoming even more competitive on global markets and therefore, significantly contributing to overall economic development of a country.

Combining the results of the two analyses conducted in previous chapters, overall industry performance with the export competitiveness analysis, will enable us to develop a typology of industries, understand their current situation and potential, and finally,

prioritize and pinpoint tradable industries that are the most promising and suitable for firm development. Export competitiveness of an industry is one of the most accurate indicators of industry's attractiveness and overall suitability for a firm's development. It indicates to what extent firms in a certain industry are able to produce and sell products on foreign markets, but also emphasizes the importance of product complexity, comparative advantage of an industry, and diversity of exported products and geographical markets. In addition, overall industry performance analysis complements the analysis of export competitiveness and provides more comprehensive information about the suitability of an industry for firm development through assessment of an industry's structure, growth dynamism, sustainability and inclusivity.

Performance-competitiveness matrix, presented in figure 5.1, provides an overview and comparison of industries based on the characteristics and structure of international competitiveness and overall performance. It depicts the dispersion of 53 tradable industries according to their overall industry performance, represented by the horizontal x-axis; and their export competitiveness, represented by the vertical y-axis. Each industry is presented by a bubble, while the size of each bubble is determined by the number of firms within an industry. The more firms comprising an industry, the larger is the bubble representing that industry.

Figure 5.1 Performance of industries



The matrix is naturally divided into four quadrants. Each quadrant, like in the previous figures, identifies industries according to particular characteristics, depending on their overall performance and export competitiveness. The color of the industries is associated with quadrants. Industries located in quadrant I are colored green, industries located in quadrant II are blue, industries located in quadrant III are red, and industries in the fourth quadrant are orange.

Quadrant I is comprised of 18 promising industries, both internationally competitive and well performing. These industries have achieved both positive export competitiveness and overall performance in the five-year period, from the strike of the crisis in 2009 until 2013.

This quadrant obviously represents the desirable and preferable location for every industry. Industries located in this quadrant can be considered the current stars of Serbia's economy. Every third (18 out of 53) observed tradable industry is located in this quadrant, meaning that products of these industries were widely competitive on foreign markets, while the performance of these industries was relatively high. Table 5.1 presents quick facts about the industries located in this quadrant. Included in the table are the number of firms in each industry and the main determinants of the final rank of these industries – indicators of overall performance and export competitiveness.

Table 5.1 Quadrant I – The most promising tradable industries

Industry	# of Firms	Performance Rank (Tradable Industries)	Performance Rank (Total)	Competitiveness Rank
Extraction Of Crude Petroleum	2	1	1	11
Agrochemical Products	13	8	18	26
Motor Vehicles	23	3	7	1
Pharmaceutical Products	35	5	14	19
Rubber Products	60	7	16	9
Electric Power	61	21	36	2
Prepared Meals And Animal Feeds	196	11	21	10
Beverages	211	24	39	32
Manufacture Of Paints, Varnishes, Soap	312	17	32	31
Perennial Crops	325	19	34	23
General Purpose Machinery	372	18	33	15
Electrical Equipment	411	25	41	3
Other Manufacturing	431	20	35	8
Mining Of Metal Ores	554	4	9	6
Plastic Products	767	6	15	7
Clothes	795	22	37	4
Paper And Paper Products	1,339	13	27	14
Fabricated Metal Products	1,704	15	29	13

These industries exhibited superior performance through adequate combination of factors which determined their export competitiveness, comparative advantage, market and product diversification, dynamics, success rate, profitability and productivity. Although these industries did not necessarily excel in each field of export and overall performance, synergy of their processes, activities and achievements on domestic and foreign markets provided them a superior performance compared to other industries in Serbia's economy. 9 out of 10 industries with the highest export competitiveness and 7 out of 10 industries with the best exhibited overall performance among tradable industries are located in the first quadrant. Four industries from this quadrant are in both top ten ranking lists – Manufacture of Plastic Products, Mining of Metal Ores, Manufacture of Rubber Products and Manufacture of Motor Vehicles.

Policymakers should seek for actions and solutions, whose implementation would support and prolong exhibited performance and competitiveness of these sectors. The main goals of policy solutions should refer to stabilization and strengthening of the position of industries located in the first quadrant, primarily through competitiveness and export enhancement in order to "push" these industries away from boundary axes. For example, although the Manufacture of Paints, Varnishes, Soap and Detergents and the Manufacture of Beverages are located in the first quadrant, its position is not secure. These industries, as it can be seen in the figure, are located on the x axis, very near the coordinate origin. This indicates that export competitiveness and overall performance of these industries were only slightly positive.

Quadrant II consists of 15 internationally competitive, but overally underachieving industries. 28% of industries (15 out of 53) are located in the second quadrant.

These industries obviously possess competitive core businesses and products, but some factors are limiting their ability to fulfil their potential. Observing some of those industries, it can be concluded that the common limiting factors may refer to a wide range of constraints, from internal issues, such as poor corporate governance, to generic restrictions, such as obsolete technology. Weak performance may also be a reflection of the youth and immaturity of a certain industry.

Internal constraints that block fulfilment of market potential are very common in the case of highly concentrated industries, which are led by large, ineffective and frequently state-owned companies. 9 out of 15 industries located in this quadrant can be considered either highly or moderately concentrated. Despite having a qualitative and competitive product, these industries are not performing

satisfactorily, likely due to insufficient management and corporate governance. In addition, it is likely that outdated technology, used in production process, generates more costs and consumes more resources than is necessary. Technology renewal would enable a more productive and large-scale production, more efficient allocation of resources and therefore, would decrease unit costs and increase profit margins and labor productivity.

The Manufacture of Coke and Refined Petroleum Products is extremely highly rated in terms of export competitiveness, ranking 5th overall in this category. It is the only industry from the top 10 industries ranked by export competitiveness that is not located in the first quadrant. Although this industry was relatively productive, its overall performance was poor, due to a lag in success, profitability and growth indicators. This industry is highly concentrated, with an oligopoly structure and consists of only twenty enterprises. Although it has been profitably growing, the largest company from this industry reduced its number of employees by 60% in the post-crisis period. The second largest company is state-owned and currently, in the process of restructuring. Other examples include the Manufacture of Coal and Lignite (only 5 firms, completely controlled by state, led by huge enterprise Kolubara), the Manufacture of Vegetable and Animal Oils and Fats (around 30 companies, mostly privatized ones, and oligopolistic structure) and the Manufacture of Furniture. The latter is led by Simpo, a state-owned enterprise, whose overall performance is very poor.

In addition, looking at industries located in the second quadrant, some dominant firms in these sectors may still be in the investment phase, which is hindering the current profitability of the company despite satisfactory corporate governance and adjustment to the strike of the crisis. This was the case with Fiat, whose competitiveness in the first years after its initial investment was increasing while its overall performance, primarily the component of profitability, was poor. Still, Fiat eventually managed to translate its very high export competitiveness into satisfying business results and overall performance. One industry that can be associated with the early stage of the lifecycle and investment phase is the Manufacture of Bodies and Parts for Motor Vehicles. This industry was revived by the Fiat investment, has attracted foreign investments, is completely led by private firms, is highly competitive, and is generating employment and increasing revenues. However, the profitability of this industry is poor and below average. It needs time in order to convert all these positive characteristics into satisfactory overall performance. Some notable firms from this industry are Yura Corporation (invested in 2010), Magneti Marelli (2011), Johnson Controls (2011), JCMM Automotive (2011), Draxlmaier (2012) and Shinwon (2011). In addition, some SMEs with domestic owners

are also established in this industry and have even become part of Fiat's local supply base.

Hence, industries located in the second quadrant should be interesting to potential investors and entrepreneurs and surely should not be neglected. These industries possess competitive core products, while their poor overall performance can be inverted through processes of private sector strengthening, which includes privatization, foreign direct investments, and if possible, more entrepreneurs and healthy competition. In addition, they could benefit from better corporate governance, cost control, and business rationalization, as well as time, trust and patience, when it comes to large investments and immature industries. Obstacles in the business environment in these industries must be addressed and improved in order to attract investors and allow healthy and dynamic growth.

Industries located in Quadrant IV exhibit the opposite characteristics. These industries demonstrate satisfactory overall performance, but their products are not competitive on foreign markets. Only 13% of observed tradable industries (7 out of 53) are located in this quadrant.

Sectors in this quadrant are often characterized by the presence of companies that have strong positions in the domestic market, but tend to be uncompetitive abroad. Also, it is possible that industries located in this quadrant are primarily concentrated in the domestic market that has proven to be large and profitable enough. Companies from these industries may be well-known to domestic customers, despite their product not being internationally competitive. The comparative advantage of these industries may be based on knowledge of the domestic market and the lower price of products. Investments in technology, know-how, branding and networking may improve product quality and the competitive position of these industries in foreign markets.

The vast majority of industries from this quadrant are from agribusiness fields: Non-Perennial Crops, Manufacture of Bakery Products, Manufacture of Dairy Products, Manufacture of Sugar and Condiments, Processing and Preserving of Fruit and Vegetables. However, there are major opportunities that they could seize, both within and beyond the EU (WB2, P.97). Agribusiness has great economic, social, and political significance in Serbia and it is widely considered to have significant potential for improvement. Serbia has recently become a net food exporter, but its exports could be much higher. According to the World Bank, there are different reasons for suboptimal competitiveness of this sector: extension services could be much more effective; supply chains are not properly established; trade liberalization is not fully completed and the costs of trade

(customs, logistics, and transport) are still relatively high; budget structure does not reflect priorities for this sector and its size is not sufficient to finance all necessary activities. Not least, unpredictable policies and a lack of attention to structural reforms are making it hard for farmers, processors, and traders to plan ahead.

Quadrant III consists of industries whose products were not competitive on international markets and whose overall performance was relatively low, indicating that their main performance characteristics were relatively unsatisfactory. One out of every four industries is located in this undesirable quadrant (13 out of 53). 3 out of 5 agriculture and forestry sectors are located in this quadrant – Animal Production, Fishing and Hunting and Forestry and Logging. The Manufacture of Iron and Steel, also located in this quadrant was the most important sector of Serbia's economy from 2000 in terms of export volume. Unfortunately, the international position of this industry deteriorated due to the withdrawal of US Steel from Zelezara Smederevo. In addition, only this industry was located in the third (sub)quadrant of all figures regarding overall performance, meaning that the profitability, success rate, growth and productivity of this industry were low, and far below that of other industries as well as the economy's average.

Further development of the most promising industries, and those facing some obstacles and limitations, should be targeted by policy rather than being left to rely exclusively on the activities of firms to fulfil their potential and overcome negative impacts from the business environment. The Serbian economy is very diverse (and its SMEs especially so) and should not be subject to simple, one-size-fits-all approaches. Policymakers should precisely and effectively target industries and actively propose systematic tailor-made policies and solutions in order to eliminate obstacles, adapt regulation and laws, promote entrepreneurship and investments and thereby enhance capabilities and further growth of focused industries.

Private Sector Strengthening and SME Development

Expansion and development of the private sector, particularly SMEs, represents both an opportunity and a necessity for the Serbian economy. Further development of the private sector is of critical importance to Serbia's economic and employment growth as the country's economic structure is characterized by the dominance of few, very few large companies, almost no middle sized firms, and many small and micro companies that seem unable to break into the middle-sized range. Serbia's truly large companies are few, and unlikely to provide the growth locomotive needed for the country's development. Also, Serbia should not expect

that large foreign investments can sufficiently enhance its economic growth, as it happened in some transition countries prior to their joining EU. The public sector is already oversized and inefficient and employment should be shifted towards the private sector.

It is hence of critical importance that SMEs be supported to grow and fill this existing gap. SMEs should represent the internal strength of Serbia's economy. Supporting domestic SMEs does not preclude attracting foreign investments. On the contrary, the growth of the SME sector will improve the economic environment for foreign investors and existing large enterprises.

In the context of private sector strengthening, it is of particular importance to recognize SME friendly industries among promising and competitive ones. SME friendly industries are defined as low concentrated industries, easy to enter for new entrepreneurs and desirably with no dominant impact of state-owned enterprises. Intuitively it can be assumed that not every promising industry is suitable for potential investors and entrepreneurs. Some industries often exhibit at least moderate entry barriers, hindering SME entry. Entry barriers are obstacles firms face in trying to enter a market or industry. These include unequal access to distribution channels; consumer loyalty created through product differentiation; restrictive government regulation and licensing; extremely high fixed costs; or the presence of large, established firms taking advantage of economies of scale (Grant, 2003; Porter, 1979; Porter, 2008). Also, in some industries, it is not even permissible by law to establish private business and the majority of firms are state owned.

Entry barriers must be taken into account because they obviously affect the potential development of small and medium-sized enterprises. It cannot be expected that a small firm can be established and developed in an industry with high entry barriers. Such industries, despite their attractiveness, cannot be considered suitable for SME development.

In order to distinguish between industries, industry structure must be analysed. There is a clear correlation between industry structure and barriers to entry. In other words, increased concentration within an industry is strongly associated with increased barriers to entry. As a result, industry concentration can be used as an approximation for the presence of entry barriers in industry precisely because barriers restrict entry and lead to high levels of industry concentration (Tremblay & Tremblay, 2012). In our analysis, we will be able to rank industries according to level of concentration; however, we will not be able to identify the types of barriers facing firms.

Industry Concentration Analysis

The Herfindahl-Hirschman Index (HHI), the most widely used summary measure of industrial concentration, is used as the indicator of concentration in this report. HHI is calculated by summing the squared market shares of all of the firms in the industry. In general, the fewer the firms and the more unequal the distribution of marketshares among them, the larger the HHI; the greater the number of firms and the more equal distribution of their individual market shares, the lower the HHI. The highest possible HHI value is 10,000, indicating one firm has a market share of 100%; the lowest possible HHI value is 0, indicating perfect competition. Industries with an HHI index below 100 are considered highly competitive. A HHI index below 1,500 indicates that an industry is not concentrated, while an HHI index between 1,500 and 2,500 is considered moderately concentrated. A HHI index above 2,500 indicates high concentration and monopolistic or oligopolistic structure of industries (Horizontal Merger Guidelines, U.S. Department of Justice and the Federal Trade Commission). Therefore, high and low concentrated tradable industries should be discussed and observed separately.

Table 5.2 Concentration of industries in Serbian economy

Concentration	Description	HHI Index	% of Industries
Total	Only one firm in industry	10,000	0.0
High	Monopoly or Oligopoly	2,500-9,999	17.6
Medium	Moderately concentraded (Oligopoly)	1,500-2,499	8.8
Low	Competitive	100-1,499	69.2
	Highly Competitive	1-99	4.4
No concentration	Perfect Competition	0	0.0

The structure of almost every fifth industry in Serbia, according to the HHI index, is monopolistic or oligopolistic, as it is shown in table 5.2 above. 18% of industries in Serbia's economy have HHI indexes above 2,500, which indicate high concentration. In addition, 9% of industries are moderately concentrated. The remaining 73% of industries can be considered competitive and less concentrated. The list of highly and moderately concentrated industries is shown in the table 5.3 below.

Table 5.3 Industries with high and moderate level of concentration

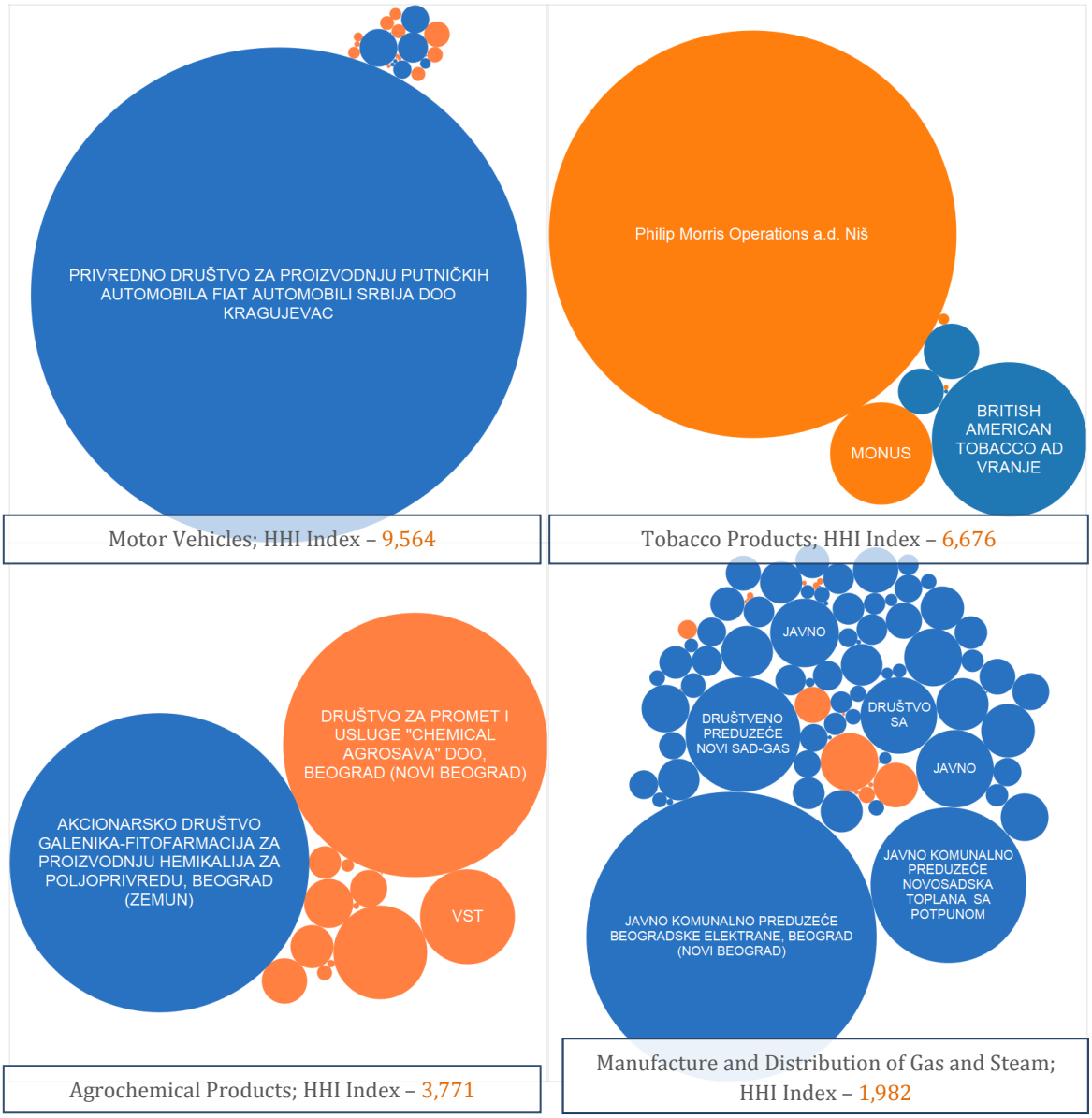
Level	Industry	HHI Index
HIGH	Manufacture Of Motor Vehicles	9,564
	Extraction Of Crude Petroleum And Natural Gas	9,301
	Mining Of Metal Ores	7,302
	Mining Of Coal And Lignite	6,744
	Manufacture Of Tobacco Products	6,676
	Air Transport	6,446
	Postal And Courier Activities	6,389
	Financial Service Activities	5,462
	State Administration And Social Insurance	4,580
	Manufacture Of Pharmaceutical Products And Preparations	3,857
	Manufacture Of Iron, Steel And Tubes And Pipes Of Steel	3,832
	Manufacture Of Agrochemical Products	3,771
	Manufacture Of Rubber Products	3,588
	Forestry And Logging	3,531
	Manufacture Of Coke And Refined Petroleum Products	3,210
	Telecommunications	2,684
MEDIUM	Manufacture Of Precious And Other Non-Ferrous Metals	2,459
	Manufacture Of Basic Chemicals	2,397
	Manufacture Of Vegetable And Animal Oils And Fats	2,357
	Manufacture And Distribution Of Gas, Steam And Air Conditioning	1,982
	Sport, Entertaintment And Recreational Activities	1,892
	Information Service Acivities	1,767
	Electric Power Generation And Distribution	1,600
	Membership Organizations	1,514

The table ranks industries according to their level of concentration, separating highly concentrated industries at the top from moderately concentrated industries near the bottom by a red line. The overall performance of highly-concentrated industries is completely determined by the performance of a few firms, or even only one firm. In addition, these industries consist of a small number of active firms with limited or restricted space for new entries. Frequently, these large companies are state-owned. The Manufacture of Motor Vehicles industry consists of 23 firms, but the industry performance of this sector is almost exclusively determined by the performance of FIAT, as the company is responsible for 98% of total industry revenue and employs 56% of the total number of employees in the industry. In the most extreme cases, an industry may only consist of a few firms. For example, the Extraction of Crude Petroleum industry contains only 2 enterprises, one of which is Naftna Industrija Srbije (NIS). This company contributes 99.9% to total industry revenues and employment.

Industry concentration can also be represented through the use of bubble figures which better illustrate industry structure and allow for greater understanding than a simple ranking. The structure of four highly concentrated industries is shown in Figure 5.2 below. The size of the bubbles is determined by firms' operating revenues, while the color represents the firm's connection with the state. If a percentage of the company is state-owned, then it is considered connected with the state and is colored blue. On the other hand, orange bubbles indicate a company is entirely privately owned.

The top left box illustrates the Motor Vehicles industry, with an HHI index of 9,564; the top right box is the Manufacture of Tobacco Products with an HHI index of 6,676. The Manufacture of Agrochemical products is shown in the bottom left corner, with an HHI index of 3,771 and the structure of Manufacture and Distribution of Gas and Steam is presented in the bottom right corner with an HHI index of 1,982.

Figure 5.2 Structure of highly concentrated industries



Motor Vehicles; HHI Index – 9,564

Tobacco Products; HHI Index – 6,676

Agrochemical Products; HHI Index – 3,771

Manufacture and Distribution of Gas and Steam; HHI Index – 1,982

Highly concentrated industries, despite their potential attractiveness, cannot be considered suitable for SME development, but they can indirectly stimulate both the growth of that sector and overall country development. These industries could possess resources and attributes adequate enough for creating competitive products and sustainable operations, but these industries are not reachable by SMEs. However, the industries are still very important, considering that potential investments in them could enhance their performance and competitiveness and therefore contribute to economic growth and employment generation. In addition, investment and growth of these highly concentrated industries could lead to the growth of the industries that supply inputs, create backward linkages or have other positive spillovers. This spillover effect could enhance the growth of a competitive SME sector.

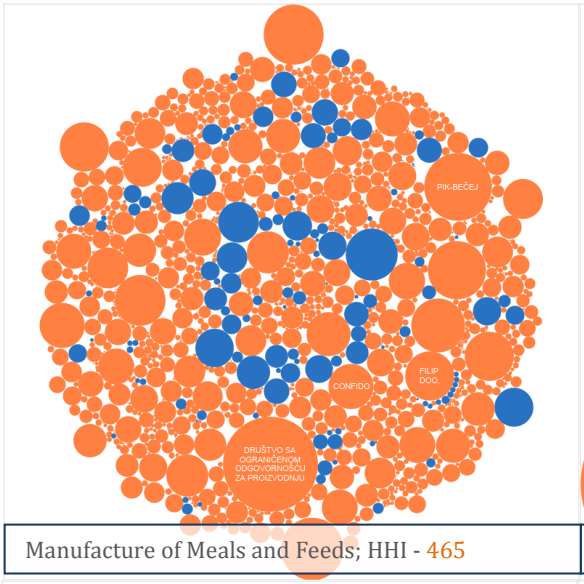
In fact, the Industry of Motor Vehicles and related industries experienced just this with the Fiat investment. In 2008, the Republic of Serbia and FIAT Group Automobiles established a joint-venture company, FIAT Automobili Srbija (FAS) in Kragujevac in central Serbia. The government of Serbia also improved nearby road and railway infrastructure and helped FIAT establish the 300,000 square-meter Grosnica supplier park. The investment has contributed to a greater use of supply parts from the Western Balkans. After modernizing the plant, FIAT's Kragujevac factory now sources many of its parts from other foreign tier 1 suppliers that have also established facilities in Serbia, including Johnson Controls, Magnetti Marelli, Grupo Proma, Draexlmaier, and HT&L. Two Serbian companies, Gomma Line and Promotor Irva, respectively supply the FIAT plant with rubber door linings and jacks. In addition, one Croatian company, AD Plastik, provides plastic parts for FIAT's Kragujevac operations from its plant in central Serbia (Serbia Investment and Export Agency (SIEPA), (2011), Automotive Profile Serbia; Mateja Milenkovic, Export Promotion Advisor, SIEPA, Personal Communication, August 2013)

On the other hand, competitive industries can be considered very suitable for SME development. These industries signify an absence of entry barriers or the presence of low and manageable barriers that an average firm can surpass. Of course, such industries may contain large enterprises, but the market is large enough for many participants and new potential firms. Relative to highly-concentrated industries, these sectors are characterized by easier entry, primarily because of lower fixed costs. The structure of selected less concentrated and competitive industries is shown in the bubble figures below. The size of the bubbles is determined by firms' operating revenues, while the color represents the

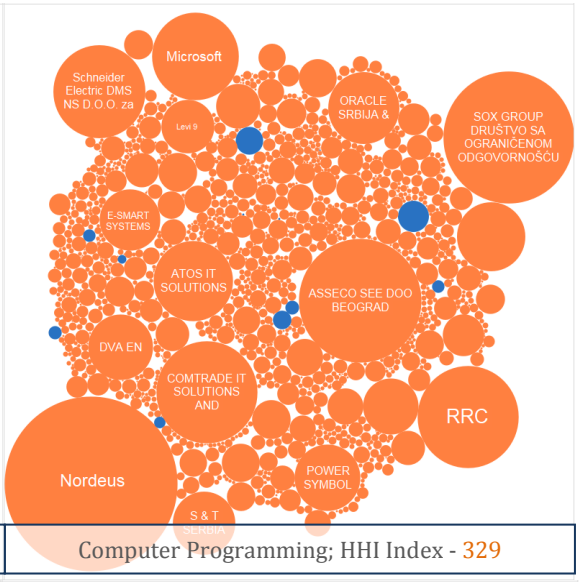
firm's connection with the state. As in the previous figure, if a percentage of the company is state-owned, then it is considered connected with the state and therefore colored blue. On the other hand, orange bubbles indicate a company is entirely privately owned.

The top left box illustrates the Computer Programming, with an HHI index of 329; the top right box is the Manufacture of Prepared Meals and Feeds with an HHI index of 465. Non Perennial Crops are shown in the bottom left corner, with an HHI index of only 65 and the structure of Manufacture of Plastic Products is presented in the bottom right corner with an HHI index of 460.

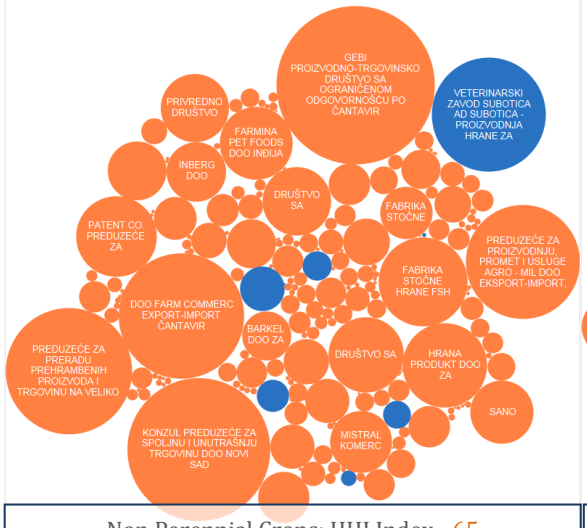
Figure 5.3 Structure of low concentrated industries



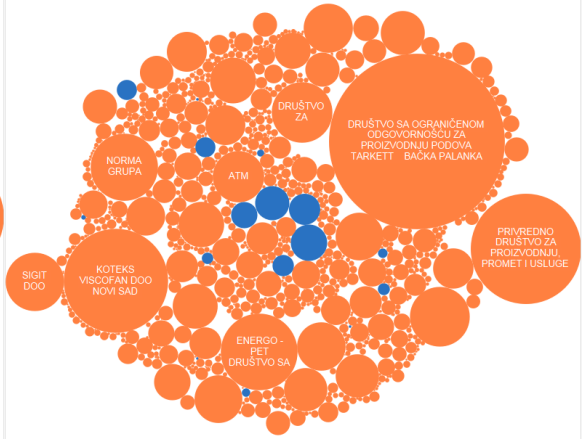
Manufacture of Meals and Feeds; HHI - 465



Computer Programming; HHI Index - 329



Non Perennial Crops; HHI Index - 65



Manufacture of Plastic Products; HHI Index - 460

Still, **low concentrated tradable industries are less developed, compared to non-tradable, but there is a room for further improvement and growth, primarily based on exploiting the exhibited export competitiveness.** These sectors stay far behind the non-tradable sectors in terms of exhibited performance. None of the less concentrated tradable industries is among the top ten best performing industries in Serbia's economy. The highest ranking is obtained by the Manufacture of Plastic Products, which is ranked 15th for overall performance. However, relatively high and increasing export competitiveness indicates that these sectors possess resources adequate to produce and sell products on foreign markets, while their market share is increasing and their market position is strengthening. There are 11, both tradable and SME friendly industries, that have produced internationally competitive products in post-crisis period, while their overall performance, in terms of dynamics, comprehensiveness and sustainability, was decent and above average for Serbia's economy. In addition, 10 more industries with similar structural characteristics were competitive on foreign markets. It should be restated that only manufacture, agriculture and mining are considered tradable industries, while services are considered untradeable, due to unreliable and unavailable data. In addition, Computer Programing, which ranked 5th in overall performance, also represents a tradable and fast-growing industry that is among the less concentrated.

CASE STUDY:
Fabricated Metal Products

Introduction

CEVES has identified 18 industries in the Serbian economy that, in spite of general obstacles in the business environment, insufficient macroeconomic stability, and a lack of financial resources, posses potential to foster further economic growth. Those industries exhibit strong export competitiveness and growth capabilities and can be considered the most promising, the most suitable and the most attractive industries for firm development.

In order to support the development of these industries and even enhance their performance and competitiveness, we must disclose and understand the factors, both industry-level and firm-level, that determine their success and international activities. The creation of a sound knowledge foundation about industry's main characteristics, such as structure, performance, competitiveness, hidden potentials, critical success factors, strengths, weaknesses, opportunities and threats, is necessary in order to define adequate policies and create proper measures whose effective implementation would enhance the growth and development of an industry.

The main goal of this case study is to provide a sound knowledge about the performance and competitiveness of a selected industry, and to determine the reasons explaining that performance and competitiveness, by focusing on the identification and understanding of critical success factors (particularly industry-specific). The identification and understanding of hidden potentials and factors is the first step in the process of the creation of required industry-specific knowledge, which can provide essential information to key stakeholders and policymakers in order for industry to prosper.

CEVES weighed several criteria in selecting a sector to examine in greater detail:

- Quadrant in combined final analysis: Building on the results of the analysis described above, CEVES wished to select a sector with demonstrable potential for export competitiveness, i.e. a sector located in the first or second quadrants in the analysis. It also did not wish to select a sector with already outstanding demonstrated performance, as high-performing sectors do not stand to benefit as much from an analysis such as this.

- Degree of industry concentration: Given CEVES' belief that SMEs and potential new market entrants hold the key to increased exports and economic growth in Serbia, the organization also wished to select an industry it defined as demonstrating 'low concentration' according to the HHI Index (index result between 1 and 1,499).

- SLDP priority: Of a shortlist of five sectors created based on the above criteria,[5] USAID SLDP selected this particular sector in order to complement its work supporting the Vojvodina Metal Cluster.[6]

[5] The other shortlisted sectors were: Electrical Equipment, Bodies and Parts for Motor Vehicles, Plastic Products, and Perennial Crops

[6] For more information, see: vmc.rs

Considering the industry selection criteria, the manufacture of Fabricated Metal Products (FMP) was selected. Generally, that industry consists of a relatively large number of small and medium enterprises, with a relatively high share of exporters among them. The Fabricated Metal Sector had the highest number of companies of all sectors in the first quadrant and a HHI of only 150. Furthermore, the industry exhibited an improvement in export competitiveness, but with a high potential for further enhancement. The Fabricated Metal Products sector is located in the first quadrant and ranks 13th in terms of competitiveness and 15th in terms of industry performance out of 53 tradable industries.

The **first section** of case study will give an overview of a Fabricated Metal products industry. It will define the Fabricated Metal Products industry and briefly describe coverage, general characteristics of this industry and global trends. At the end of a first section, focus will be narrowed to the structure, trends, and characteristics of FMP industry in Serbia. The **second section** of this case study will provide a deeper look into the performance and export competitiveness of this industry. Therefore, together, first two sections will provide a comprehensive and holistic picture of FMP industry in Serbia's economy, with a closer look at its structure, trends, performance and competitiveness. **Third section** will

discuss about the possibilities for further performance and competitiveness enhancement. This section will identify the main levers and opportunities for development and internationalization of this sector and it will uncover the characteristics of these opportunities in greater detail. **Final section** will identify and discuss concrete factors of company's competitiveness, which should be addressed with adequate support and policy design. Our analysis has identified five such factors: product quality, product price, delivery time, innovation capacity and access to buyers. Identifying challenges regarding these factors will focus the spotlight on which particular areas are most important for Serbian exporters to overcome in order to be more competitive abroad. By identifying where the gaps exist, it can point policymakers and experts at where the constraints in a given industry may be. Case study will end with a **SWOT matrix** - a comprehensive and systematic view on the characteristics, both industry-specific and general, which impact the factors of success and thereby determine the export competitiveness of the industry.

Industry overview

Definition, structure and characteristics

Broadly, the Fabricated Metal Products (FMP) industry involves the transformation of metals into intermediate and final products using one or a combination of three processes – fabrication, preparation, and finishing – that can also encompass a host of other techniques such as forging, stamping, bending, forming, welding, machining and assembly (FMR, P.2-3). Companies in the sector purchase raw ferrous and nonferrous metals (e.g. carbon, aluminium, steel, titanium, brass, copper), generally the primary inputs in fabricated metal production, in either raw or semi-finished directly form primary producers or large-scale distribution companies and sell them to a range of industrial customers (ibid). In 2013, the overall size of the global fabricated metal products industry was approximately $2 trillion (FMR, 1).

In the NACE 2 classification system, the following sub-sectors are considered fabricated metal products:

Table 6.1 Fabricated Metal Products Sub-Sectors According to NACE 2 Classification

Category	Sub-sector
25.1	Manufacture of structural metal products
25.2	Manufacture of tanks, reservoirs and containers of metal
25.3	Manufacture of steam generators
25.4	Manufacture of weapons and ammunition
25.5	Forging, pressing, stamping and roll-forming of metal and powder metallurgy
25.6	Treatment and coating of metals and machining
25.7	Manufacture of cutlery, tools and general hardware
25.9	Manufacture of other fabricated metal products

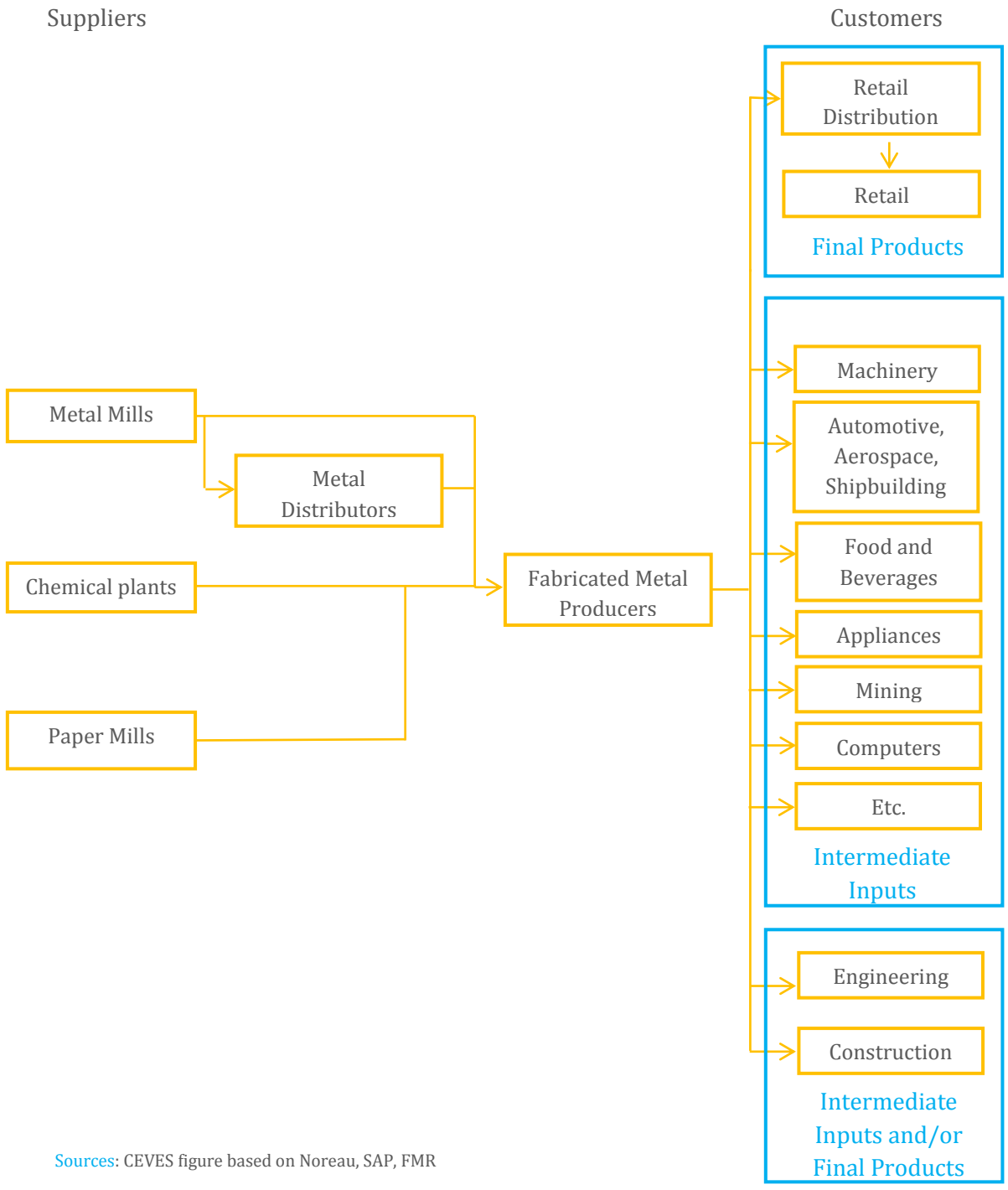
Source: Eurostat

The industry is home to both large and small companies alike, but SMEs constitute the vast majority of companies in the fabricated metal sector. For example, the largest 50 companies in the US account for only 20% of the sector's total revenue (FMR, P.2). In Serbia, the 50 largest companies generate slightly above 50% of the sector's total revenue. Still, considering the size of Serbia's economy, and the general concentration of industries, this share represents a good indicator of industry's diversification. Often, smaller companies that manufacture products with more unique specifications rely on one or a few customers, reducing their bargaining power and placing them at the risk of customer concentration. It is not uncommon, therefore, for SMEs in the fabricated metals sector to become de facto subsidiaries of their customers (ibid, P.3). However, niche specialization does enable them to derive relatively higher profit margins (FWC, P.188).

The customers of the fabricated metal products industry span a wide range of profiles and industrial fields. Although some final products are used by everyday customers, the bulk of purchasers from this sector are industrial producers that use metal products as inputs in production of items such as machines, transportation vehicles (aircraft, motor vehicles, ships, etc.) and appliances. Fabricated metal component companies can also manufacture final products that are used by engineering and construction industries (ibid, P 3-4, SAP

P. 5). In other words, the sector is an important "feeder" industry for many industrial supply chains that support the wider economy (DTI, from RWC P.109). A broad overview of structure of the related product supply chains is outlined in following figure 6.1.

Figure 6.1 Fabricated Metal Products Overview



Sources: CEVES figure based on Noreau, SAP, FMR

Given the relative importance of industrial manufacturers and the breadth of industries sourcing fabricated metal products, it is unsurprising that demand for these products is primarily determined by the level of demand in the entire economy, or wider macroeconomic performance on the whole (FWC, P.103). However, even significant changes in particular customer sectors can have a significant impact on the activity of the sector. For example, increased automotive manufacturing or housing construction, owing to increased demand, can themselves generate significant demand for fabricated metal products.

Traditionally, the manufacture of fabricated metal products has been dominated by the most developed economies in the world – the United States, Canada, the European Union, and Japan. However, Chinese producers have in particular been notable challengers to producers in more developed countries. More and more customers have been switching to Chinese suppliers, and many producers have relocated some or all of their production to China (FWC, 14, 153). However, in some developed countries, production has been "moving back" from China to more developed markets (NIU CGS, P.4).

FMP in Serbia

The Industry of Fabricated Metal Products is a large and very diverse industry, in terms of the number of firms, its economic activity and regional distribution, respectively. This industry is an essential part of the metal industry and a very significant member of a wider metal sector. Fabricated Metal Products proved to be a resilient industry that managed to increase its value added and extent of activities in the last five years despite the negative impact of the global financial crisis. However, this industry has also experienced certain difficulties in the process of post-crisis recovery, primarily in the field of employment enhancement.

The FMP industry in Serbia is still in the process of recovering from the strike of the crisis that occurred in 2009. That recovery is generally characterized by "jobless growth". Revenues and value added of industry have slightly increased, but even that weak growth was more dynamic than the anaemic growth of the remaining tradable sectors in the post-crisis period. This development was not followed by necessary increases in the number of firms and employees. The number of firms has remained unchanged in the last 5 years and the number of formally employed has decreased. The phenomenon of "growth without jobs" (jobless growth) is not only a reflection of the negative impacts of the crisis and Serbia's delayed an inefficient transition, but rather of a broader malaise affecting many other European and middle income countries and industries at the beginning of 21st century.

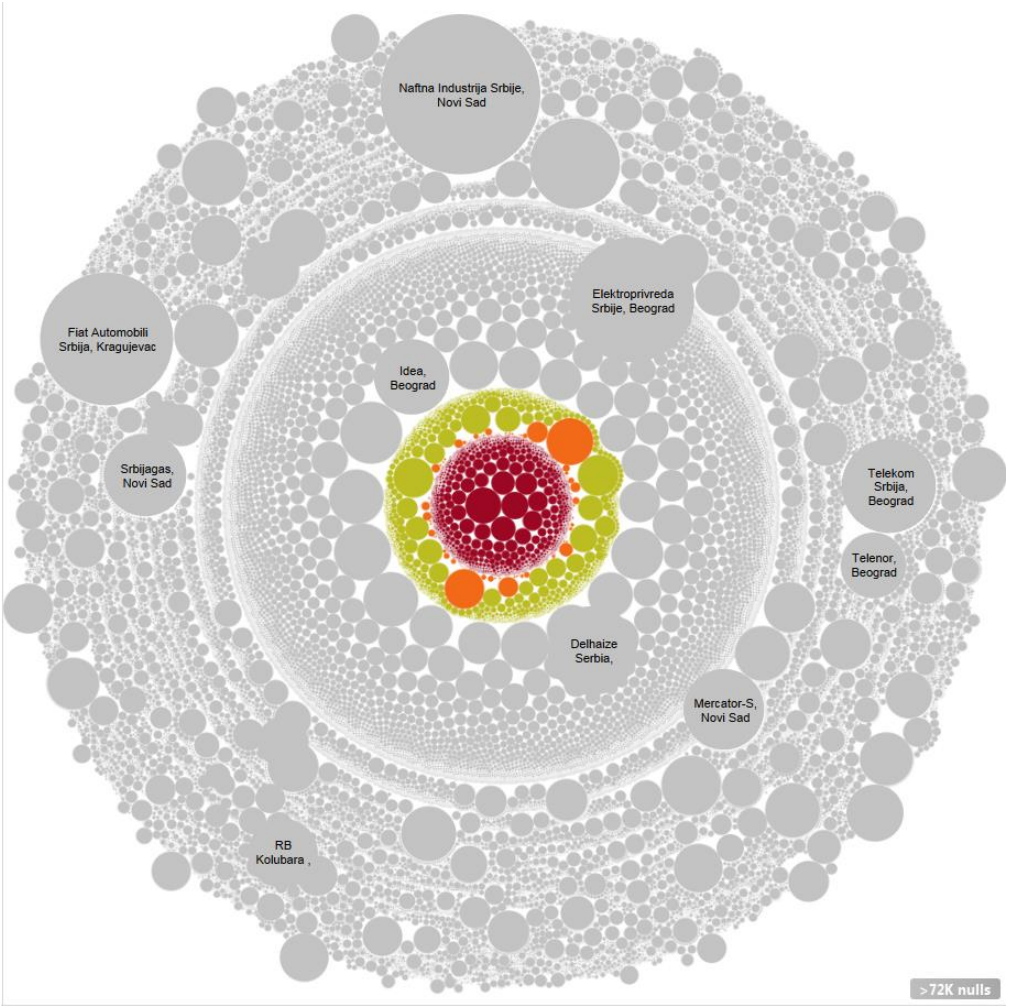
FMP is currently consisted of almost 8.000 firms and entrepreneurs, of which 2611 report their financial statements to SBRA on a regular basis. These "regularly reporting" firms will be the focus of our quantitative analysis, due to availability and reliability of financial data required for description and quantification of their activities and performance in the observed period.

These firms employed 35 thousand people in 2013 and contributed to value added of Serbia's economy with approximately EUR 372 million (5.6% of total VA of tradable economy). Total operating revenues of firms from the FMP industry reached EUR 1.488 million (4.7% of total revenues generated by tradable industries).

The Industry of Fabricated Metal Products is a leading industry of the metal sector, which also includes Manufacture of Iron and Steel, and Casting of Metals. It produces 75% of sector revenues, and employs 79% of employees. Such a dominant and significant position of the FMP within the metal sector is partly a reflection of a great number of firms within this industry and their international activities, as well as a consequence of the deteriorating performance of the Iron and Still industry, due to the decision of US Steel to leave the Serbian market. Observing the wider metal sector, which also includes industries that use metal as one of main inputs in their production process, it can be concluded that the FMP is still very significant.

Figure 6.2 presents a comprehensive graphical summarization of the main structural characteristics of FMP - extent, diversity, and significance in the metal sector and the economy. This figure, presented below, enables a deeper look into the structure of Serbia's economy and Metal Industry, and it clearly points out the broad significance of Fabricated Metal Products. Every firm that is both established and operates in Serbia is presented by one bubble. The size of each bubble is determined by the revenues of that particular firm. Firms are sorted and grouped depending on the industry they belong to. Firms from the FMP industry are located in the center of the economy and they are colored red. This industry is surrounded by the remaining firms from the metal Industry (colored orange), and these are encircled by firms from the wider metal sector (colored yellow). Other firms from Serbia's economy are presented by the grey color.

Figure 6.2 FMPI within whole Serbian economy

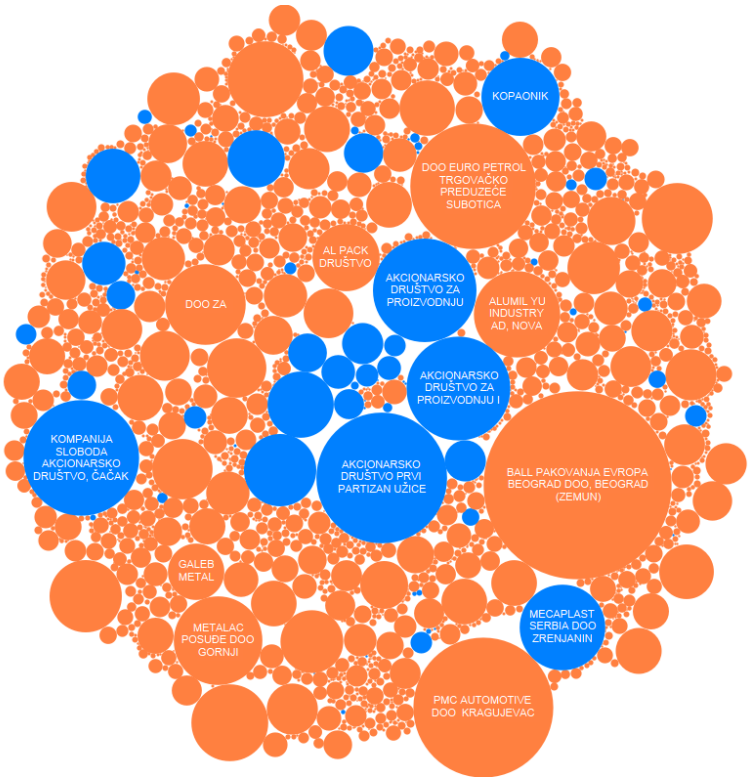


Source: SBRA (*note:* size of bubbles - firm's business revenue, color of bubbles - fabricated metal products industry (red color); narrow metal industry (orange color); wide metal sector (yellow color); the rest of Serbian economy (grey color))

The FMP industry is characterized by a great number of SMEs and undersized large companies, in terms of revenues. This industry also contains a few large state-owned companies, which are hindering the results and performance of this sector. Those state-owned companies proved to be less resilient, less successful, less profitable and less productive. The structure of the FMP industry is presented in the figure

below. As in previous figure, each bubble represents a single firm, while the size of the bubble is determined by the revenues of a particular company. The private sector is presented by the orange color, while state-owned or state-related firms, in terms of ownership structure, are colored blue.

Figure 6.3 FMP industry structure



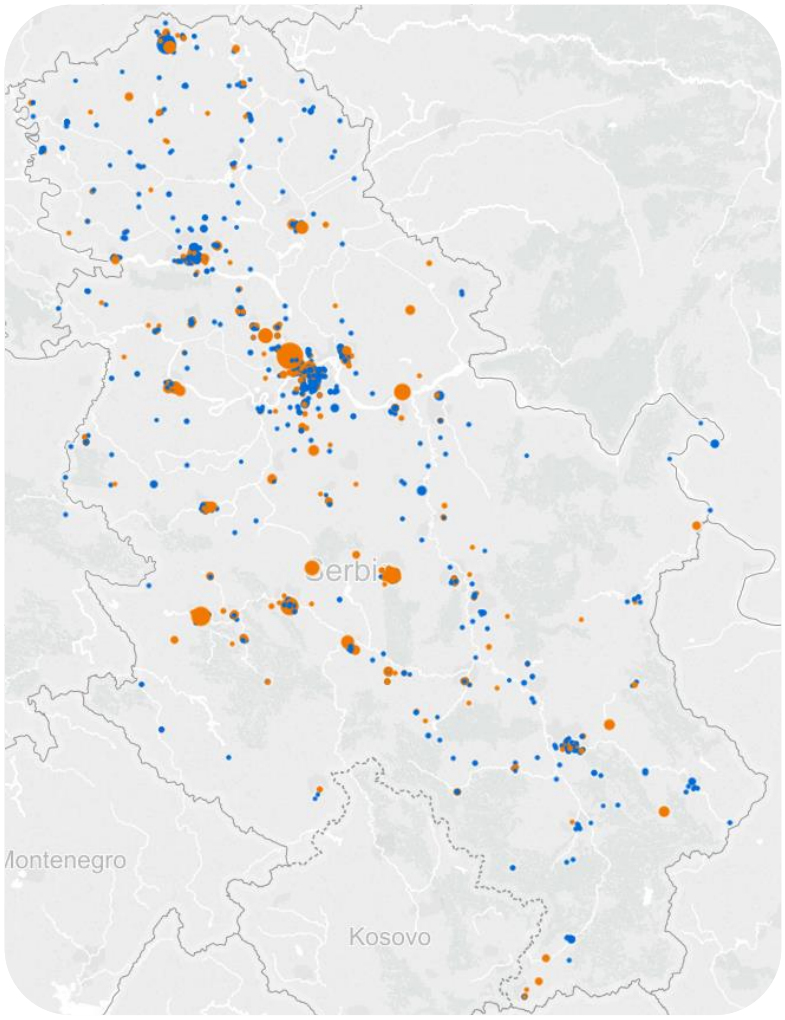
Source: SBRA (*note:* size of bubbles - firm's business revenues, color of bubbles – private sector (orange color); state-owned or state-related firms (blue color)).

The SME sector of the industry contributed to industry performance to a larger extent, than SMEs did on average in the whole economy. The industry itself, like the whole Serbian tradable sector, is composed mainly of SME companies (99%) - mostly micro (79%). However, there are also certain differences; the **employment** share of the industry's SMEs is 60%, about ten percentage points above that of the SMEs share in the whole tradable sector. Furthermore, **value added** produced by the

SMEs stood at 67%, which is approximately 26 percentage points above the tradable sector level. SMEs contributed to a great extent to the industry **revenue** generation, accounting for 76% of the industry's revenues.

Companies of this industry are relatively equally diversified across the territory of Serbia, without any particular regional concentration of firms. However, according to the value added produced, companies located in Sumadia and the western region, account for almost half of the total industry value added. The Belgrade region, as well as the region of Vojvodina, both produces 20.4% of value added, while southern and eastern Serbia account for only 12.7%. Moreover, it can be noted that a higher level of exporters is concentrated in Sumadia and southwestern Serbia, while the lowest level can be found in Vojvodina. Such indication can be noted on the figure 6.4 that shows the regional dispersion of firms from the FMP industry. In this figure, bubbles are colored orange and blue, distinguishing exporters from non-exporters, respectively. The size of each bubble, like in the previous figure, is determined by the firm's operating revenues.

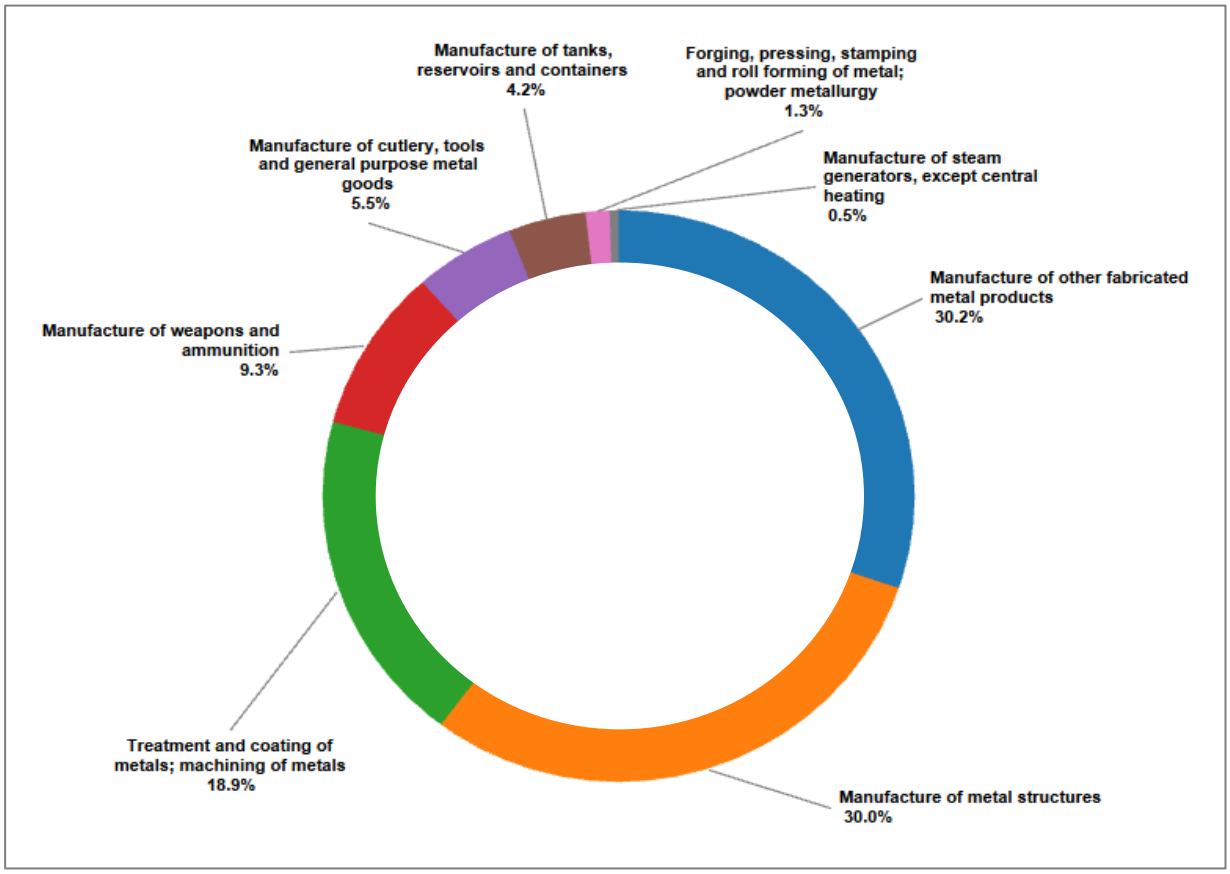
Figure 6.4 Regional dispersion of companies within FMP industry



Source: SBRA (*note:* size of bubbles - firm's business revenue, color of bubbles - exporter (orange color) vs. non-exporter (blue color))

Major subsectors of the FMP industry include Manufacture of Metal Structures, other fabricated metal products and Treatment and Coating of Metals (figure 6.5). Together, these three subsectors accounted for almost 80% of industry turnover.

Figure 6.5 Share of subsectors within industry according to their turnover



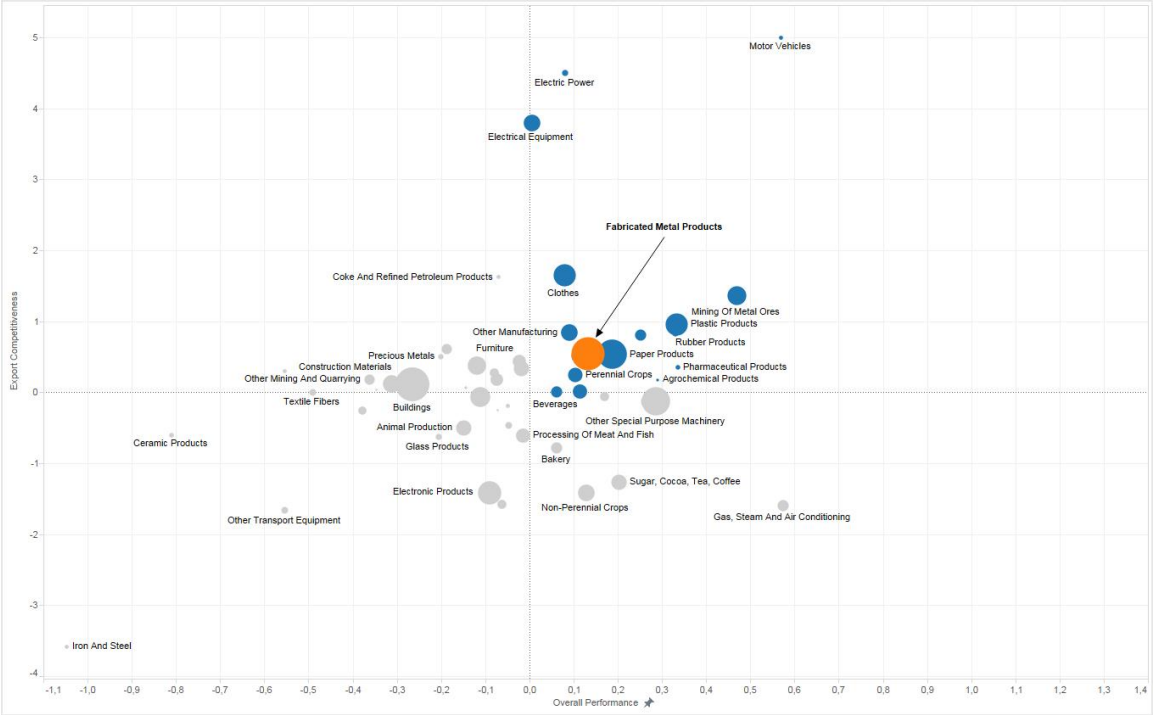
Source: SBRA, based on CEVES calculations

One of the best performing industries

The Industry of Fabricated Metal Products is one of the best performing industries in the Serbian economy, possessing adequate attributes and resources for firms to produce internationally competitive products while operating relatively sustainably and dynamically. The main characteristics, which determine the position of this industry in the performance-competitiveness matrix, are a great number of firms, a relatively solid overall performance and strong international competitiveness.

The FMP industry is located in the first quadrant of the performance-competitiveness matrix, which indicates that this industry has achieved both positive export competitiveness and overall performance in the five-year period, from the strike of the crisis in 2009 until 2013. This quadrant obviously represents the desirable and preferable location for every industry. Industries located in this quadrant can be considered the current stars of Serbia's economy. The exact position of the FMP industry within the performance-competitiveness matrix is shown in the figure below. The FMP industry is presented by an orange bubble, whose size is determined by the number of firms that operate in that industry. Other best performing industries, located in the first quadrant, are colored blue, while the remaining industries of the Serbian economy are colored grey.

Figure 6.6 Industry overall performance and export competitiveness



This section aims to quantify and present in-detail the main performance and competitiveness indicators of the FMP industry and therefore, to complement already established knowledge about the structure and general trends of this industry. Such a knowledge foundation will provide a holistic and comprehensive picture about the FMP industry, before proceeding to concrete recommendations and solutions, whose implementation would improve the performance and competitiveness of firms within this industry.

Before we proceed to a description of the determinants of performance and competitiveness, we present FMP Industry at a glance in the table below. This table provides a profile of the industry, depicting its extent, size, significance, vitality, international operations and key performance indicators. In addition, the table enables a comparison between the FMP and other tradable industries, and also provides information about the relative contribution of the FMP to the overall development of Serbia's tradable sectors.

Table 6.2 Fabricated Metal Sector in Serbia at a Glance

Quick facts	FMPI	All tradable sectors
Number of companies	1,903	22,305
Number of entrepreneurs	5,659	45.893
Submitting financial statements	354	3,336
Not submitting financial statements	5,305	42,557
Number of formally employed	34,963	431,587
Gross Value Added 2013 (mill EUR)	372.9	6,706.7
Revenue 2013 (mill EUR)	1,488	31,771
Growth after crisis (2009-2013) (%)	4.9	3.3
Success rate of companies (%)*	28.87	26.03
Average labor productivity 2013	882.2	1,027.1
Median profitability 2013	0.05	0.04
HHI index (level of concentration)	153	
Number of exporters	711	5,533
Export value (mill EUR)	471.7	10,192.4
Annual export growth rate (2009-2013) (%)	8.86	17.58
Number of penetrated foreign markets	84	106
Top export destinations	Russia, Germany, Bosnia and Herzegovina, Italy and USA	

Overall Performance

Overall performance of the FMP industry was positive and slightly above average for Serbia's economy. It can be concluded that this industry was performing relatively well, better than the majority of other industries in Serbia's economy. Still, in order for this industry to provide a more stable and predictive framework for firms' operations, it is desirable to additionally enhancement performance. Current performance is determined by the success rate, growth dynamics, profitability and productivity.

The potential of the industry is reflected in the presence of a healthy and large base of small and medium-sized enterprises that exhibited the capacity to push the development of the entire industry forward. The FMP industry is an SME friendly industry, dominated and led by small and medium enterprises. Even though Serbia, as most of the developing countries, suffers from "The Missing Middle" phenomena, the FMP industry succeeded in achieving strong overall performance that was characterized by a highly deconcentrated industry structure and dominance of SMEs. Its SME sector proved to be relatively more successful and productive, more resilient, more investment oriented, and had a greater access to finance than SMEs of tradable sector on average.

CEVES' success analysis uncovered that the FMP industry consist of relatively more successful firms, compared to the whole tradable sector. 29% of firms can be considered successful, as those firms managed to increase their revenues, generate employment and operate profitably from 2009 onwards. For the tradable sector as a whole, only 26% of firms were successful. Medium sized companies were most resilient, as accounting for 59.4% of successful companies (while 49.2% of medium sized firms were successful in the tradable sector as a whole).

The growth of FMP industry was modest, but still more dynamic than the growth of other tradable industries. The FMP industry managed to increase its revenues by 4.9% annually in post-crisis period, while the growth of the remaining tradable sector achieved only 3.3% annually. However, the average firm within FMP sector did not manage to recover and, at least maintain the level of its real revenues from 2009. In the post-crisis period, revenues of an average firm from this industry were decreasing by 2.3%. Still, this fall in revenues was less painful compared to the deterioration of an average firm in the economy, whose revenues were decreasing by 3.5% annually.

In terms of efficiency and effectiveness, the performance of the FMP industry was indistinguishable from other tradable industries. Profitability of the FMP, measured by EBITDA margin, exceeded the

profitability of remaining tradable industries, while productivity remained slightly lower. We should bear in mind that productivity of an industry is to a great extent determined by value added of the largest companies within an industry. These companies usually achieve the highest levels of productivity, since they benefit from a certain market power and economies of scale, scope and learning. However, the unique aspect of the FMP industry is that it is gradually nuanced, in terms of size, without huge companies that obtained monopoly or oligopoly power. Large companies from this industry are not comparable to the largest companies in Serbia's economy, in terms of the number of employees and revenues. Hence, the difference in productivity of the SMEs and large enterprises is not great.

Export Performance

The Industry of Fabricated Metal Products exhibited solid export performance with the ability to even advance its position on foreign markets. This industry exhibited permanent and stable growth of exports, based primarily on enhanced competitiveness, which enabled the improvement of its market share on foreign markets in the post-crisis period. This acquisition of a stronger market position was followed by a diversification in exports, in terms of geographical distribution. In addition, the growth of export was quicker than the growth of import demand, which resulted in a net surplus in trade, uncommon for Serbia's economy. **This industry can foster its development and augment international activities by building on its enhanced competitiveness, increasing strength on foreign markets and further diversifying exports.**

Export value of the FMP industry continually increased in the last five years, with an average annual growth rate of 9%, reaching EUR 471.7 million in 2013. The FMP industry represented 4.6% of total Serbian exports in 2013, but its share in the last five years was even higher. However, the extremely strong export growth of the Motor Vehicles industry reduced the contribution of this industry to the total value of export despite of its dynamic growth. Still, if we exclude Motor Vehicles from observation, it can be noted that the contribution of the FMP industry to Serbia's total exports is growing.

Products of the FMP industry became more competitive on foreign markets, which strongly and positively affected export performance and growth. One third of the total export growth was due to that improvement, which is a direct indicator of increasing export competitiveness of the industry. Export performance of the industry, apart from demonstrating competitive and comparative advantages, proved to be more dynamic than the tradable sector on average. The export position of most of the products has

been improved in most of the foreign markets.

Export was relatively diversified, without any dominant market destination for the industry's exporters. It is encouraging that most of the exports were oriented to both large and fast-growing markets. The FMP exporters penetrated as much as 84 foreign markets in the post-crisis period. The single most important market for Serbia's export is Russia, with a share of 10% in Serbia's total export. Such a low share of the most important market strongly confirms the exceptional geographical diversity of FMP export.

In contrast to the total trade balance of Serbia, the Industry of Fabricated Metal Products led by the Manufacture of Other Fabricated Metal Products and the Manufacture of Tanks, Reservoirs and Containers, exhibited trade surpluses through the whole post-crisis period. Other subsectors, apart from Manufacture of Cutlery and Tools, have also managed to reach at least an equal value of export and import in 2013, which is highly encouraging..

Potential for performance and competitiveness improvement

As presented in the previous section, the **FMP industry exhibited decent performance and a solid export competitiveness, which can be further improved.** This industry is located in the first, most desirable quadrant, indicating the possession of adequate resources and capacities to successfully compete with rivals, to improve its export position on foreign markets and at the same time be reasonably profitable, productive, dynamic and successful. However, the industry's position on the figure is in the lower left corner, indicating there is still room for improvement. The ultimate goal should be to move this industry to the upper right corner of the first quadrant, by enhancing both overall and export performance.

Improved export performance, based on enhanced competitiveness, represents the major lever of the FMP industry's development and growth. In order to increase the export performance of the industry, apart from **fostering exports of existing exporters,** it is also necessary to **broaden the base of exporters,** by enabling more companies to sell on the international market. Exporters are significantly more successful compared to non-exporters. On the one hand, this is due to the fact that a certain level of productivity and growth is required in order to become an exporter. On the other hand, after becoming one, export orientation of a company enables it to enhance its success. Directing sales to foreign markets has multiple positive effects on a company's success. For example, it opens up market space compared to the relatively saturated domestic market. Companies are given an opportunity to grow and expand their business, employ more people, and are

encouraged to innovate. Moreover, higher competition on foreign markets forces companies to enhance their productivity.

The main opportunities for export performance enhancement of the FMP industry are reallocation of resources towards more competitive subsectors; exploitation of attractive, available and insufficiently penetrated foreign markets; and further strengthening of the SME sector. The following section aims to uncover the characteristics of these opportunities in greater detail. The realization of these opportunities will enable an improvement of the industry's position towards the top right corner of the performance-competitiveness matrix. However, before proceeding to discussion about these characteristics, we will briefly describe and present the superior performance of exporters and point out the structural potential of the FMP industry, reflected in a large base of healthy and internationally oriented SMEs, which is atypical in terms of industries in Serbia's economy.

Exporters – industry's most resilient and successful part

Exporting firms were the main engine of growth and development of the FMP industry. This industry exhibited above average performance primarily due to the relatively large base of the exporters that prove to be its most resilient and most successful part. One third of the companies within the industry were exporters in 2013. Moreover, the majority of small and medium companies were able to become exporters; 83% of medium-sized and 68% of small companies succeeded in entering the foreign market. On the other hand, only 20% of micro firms managed to offer their products and services on foreign markets.

Exporters proved to be systematically more successful, productive and dynamic than exclusively domestically oriented companies. Half of the exporters are successful companies, while only every fifth non-exporter can be considered a successful firm. Exporters from the FMP industry have been growing by 11% annually after the strike of the crisis, measured by average increment of real revenues. On the other hand, companies that were exclusively oriented towards the domestic market have experienced a significant fall in their operations and activities, due to a 12% annual decrease in revenues. A similar trend can be observed with changes in employment. Exporters managed to slightly increase the average number of employees, while employment of non-exporters has collapsed after the strike of the crisis, falling by 22% annually. Furthermore, the average labor productivity was twice that of non-exporters. This higher productivity enabled the absorption of addition costs of entering the foreign markets and exploiting the opportunities gained by an international presence.

The superior performance of exporters enabled them a dominant contribution to the industry's employment, revenues and value created, even though exporters did not represent the majority of the total number of enterprises. They employed 72% of individuals working within the industry, created 78% of turnover and 80% of value added.

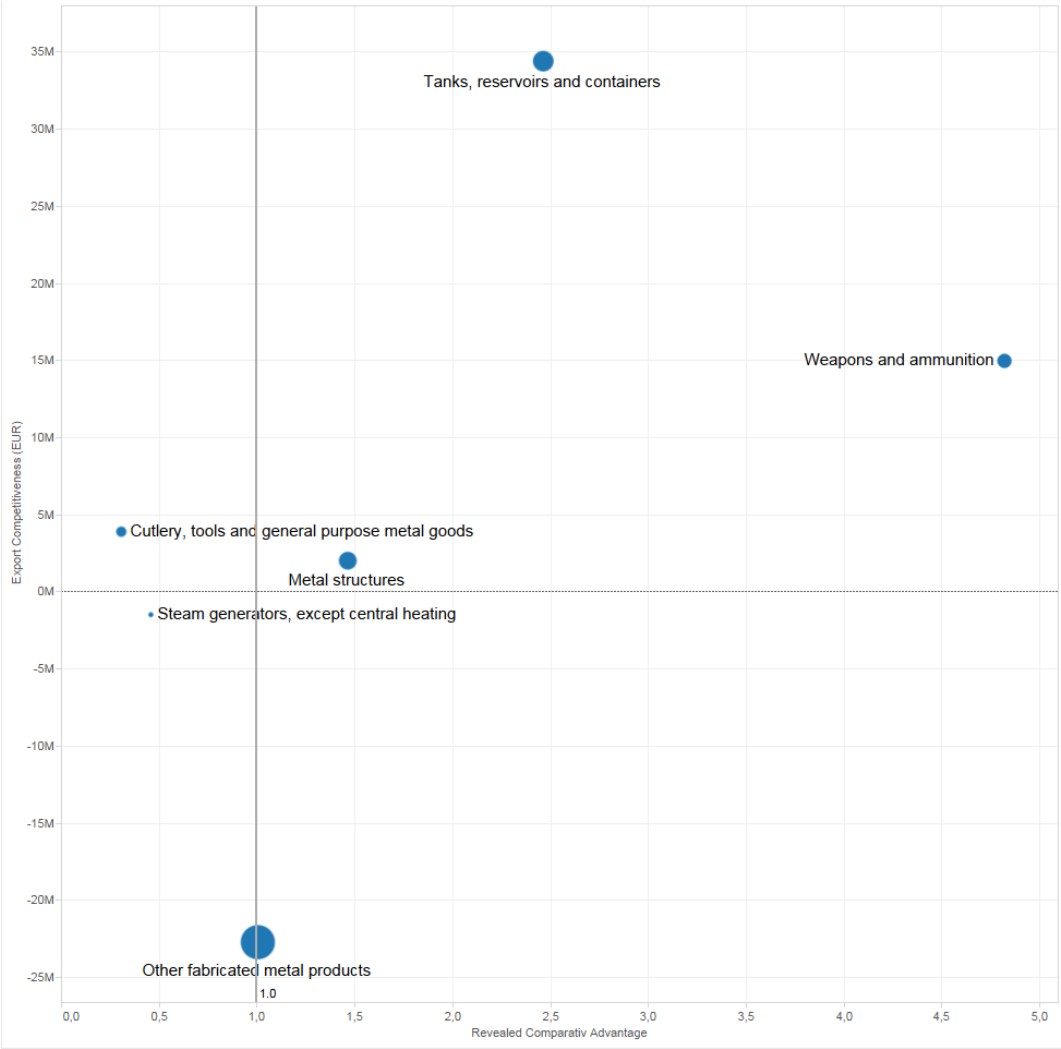
To summarize, the FMP industry is one of the best performing industries in Serbia's economy, but room for additional improvement exists, primarily through support directed towards a healthy SME sector and more importantly, its exporters. In next section, we will discuss three concrete actions and activities whose implementation would enable further development and internationalization of this promising industry.

Resource reallocation towards more competitive subsectors

A subsector structure analysis reveals the existence of a hidden potential for export performance improvement through reallocation of available resources and shifting investments from low competitive subsectors, which position on foreign markets is worsening, towards more competitive sectors, which position is strengthening and improving. The most massive sector, in terms of export value, was the least competitive and its export position was deteriorating. On the other hand the vast majority of other subsectors within the FMP industry were strengthening their export position through competitiveness enhancement.

Figure 6.7 clearly indicates a contrast between each subsector's export performances and therefore gives a better insight into the hidden potential and the need for effective and efficient reallocation of resources. The two most important characteristics of export performance are intersected in the figure: the strength of a subsector's current export position, measured by revealed comparative advantage, and the ability of a subsector to improve its position on existing and new foreign markets, measured by the competitiveness effect. By observing this figure, the strength and significance of a subsector's current position can be concluded and to what extent that position has improved or worsened. Each bubble represents a subsector and the size is determined by the value of its exports.

Figure 6.7 Revealed comparative advantage vs export competitiveness of industry products



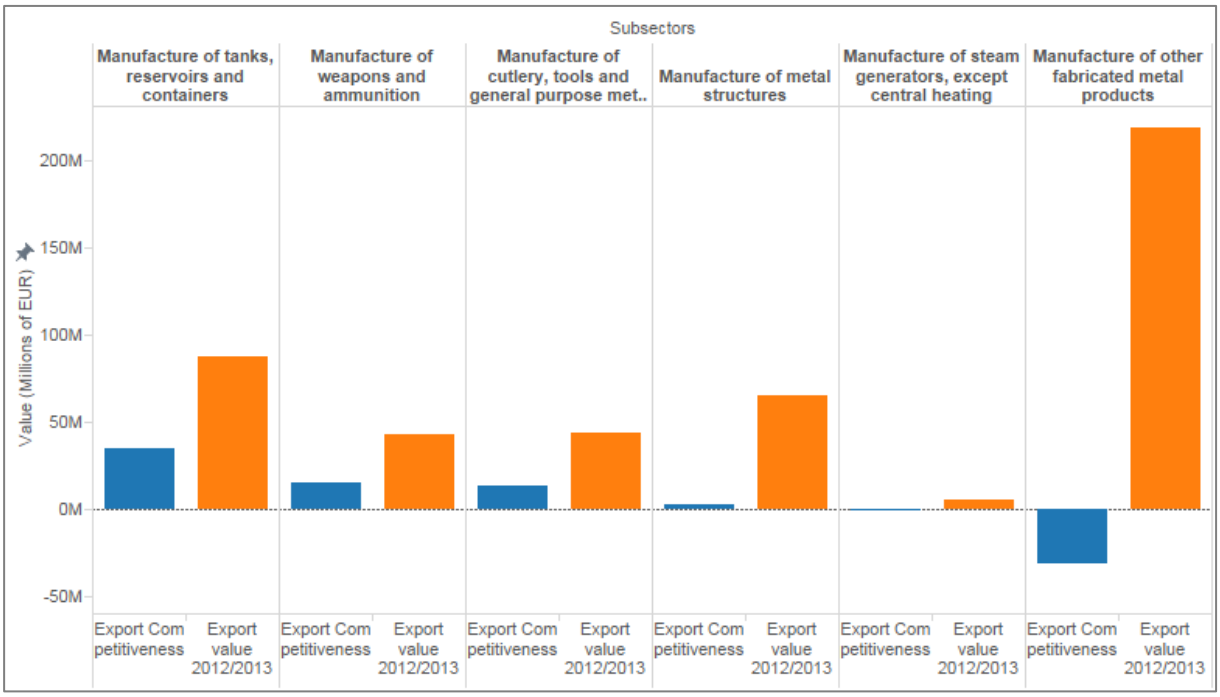
Source: UN Comtrade database, based on CEVES calculations

The majority of the subsectors demonstrated export competitiveness and improved their positions on foreign markets in the last five years. The best performing subsectors are located in the first quadrant and they are considered to be the industry's export stars. They already hold a strong export position, which has

been continuously improving in the post-crisis period. The Manufacture of Tanks, Reservoirs and Containers, - the second largest sub-sector - has improved its export position, surpassing other sub-sectors. On the other hand, subsectors located in second quadrant exhibit an export potential that has not been realized. However, since their competitiveness is positive, it is expected that their position on foreign markets will progressively improve and that, with adequate support, these sectors will move to the first quadrant.

Even though the industry as a whole improved its export position, there are some subsectors that were not able to follow this trend. The greatest loss in competitiveness was experienced by the Manufacture of Other Fabricated Metal Products. Even though that subsector represents the largest portion of the industry's exports (47.4%), its competitiveness on the foreign markets was the lowest (Figure 6.8). Its export position worsened because it was unable to grow at the same rate as its competitors. Moreover, this subsector exhibited lower export growth than the growth of import demand of foreign markets. Since that subsector accounts for a high share of the industry's total value of exports, its underperformance has significantly influenced the overall industry competitiveness. However, the positive performance of other subsectors was high enough to outweigh this subsector's poor performance.

Figure 6.8 Export performance of subsectors[7]



Source: CEVES calculations based on UN Comtrade data base

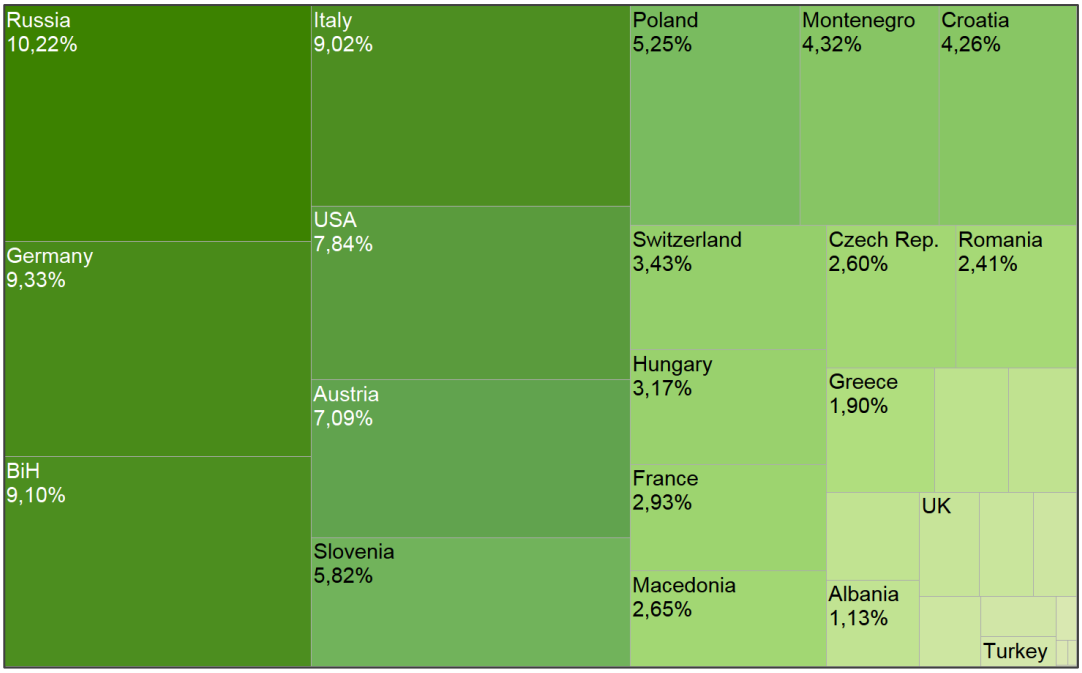
[7] Negative value of export competitiveness indicates the worsening of market share of foreign destinations.

Entering New Foreign Markets

The export of the FMP industry is diversified, directed to 84 foreign markets, without any dominant market destination. **However, there is considerable room for exploitation of attractive and currently insufficiently penetrated foreign markets, including countries from the EU 27 such as the Czech Republic or the Netherlands, but also China and Turkey.**

Analysis of the industry's export destinations identified the EU and Russia as leading foreign markets. Figure 6.9 shows export destinations in 2013. The share of total exports of the top 10 destinations last year was 72%. However, there is no particular geographical concentration of exports in terms of continents penetrated. As it can be noted from the figure, the top five destinations represent two countries from the EU (Germany and Italy), two outside of the EU (Russia and USA) and one from the region (Bosnia and Herzegovina). Although the Russian market represents a top market destination, most of the industry experts noted that cooperation with Russian companies is hampered by high transportation costs and administrative barriers.

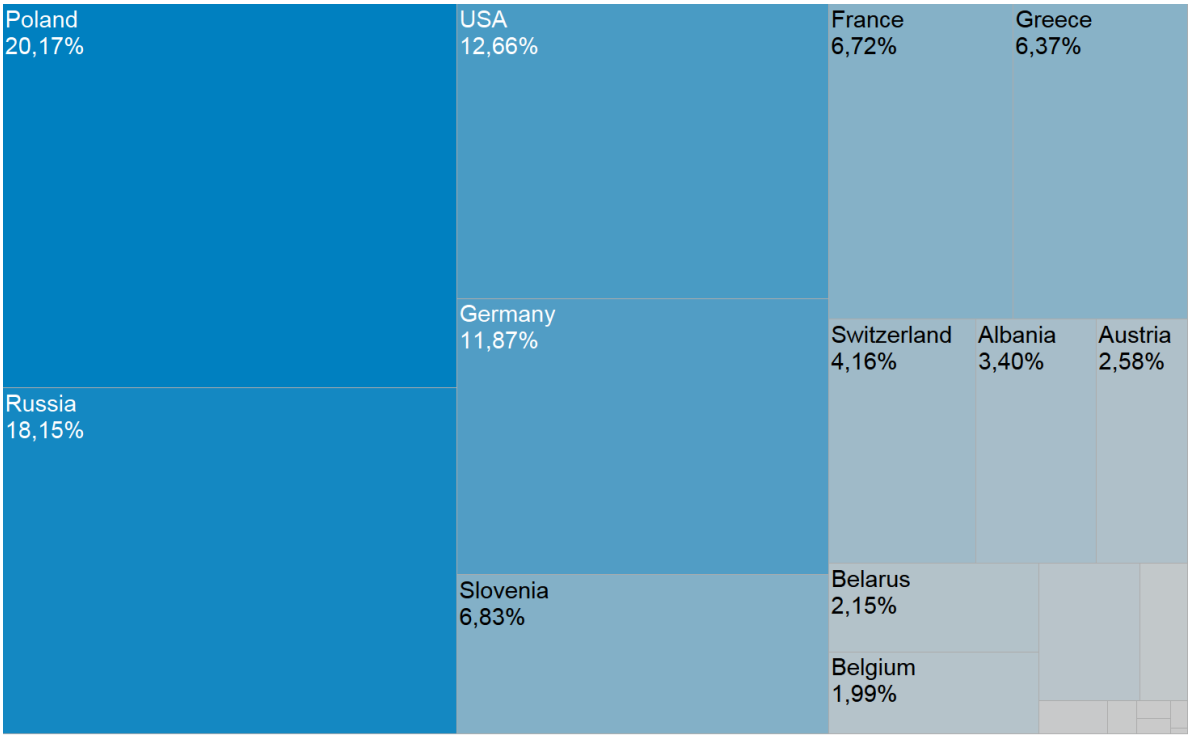
Figure 6.9 The share of exports destinations in total industry export (2012/2013)



Source: CEVES calculations based on UN Comtrade data base

The FMP industry has systematically improved its market position on a majority of geographical markets by growing faster than its competitors and increasing its market share. The greatest improvement in export competitiveness this industry realized was in the Polish market (Figure 6.10). This destination is followed by the Russian market and further by the US and the German as well. These top 4 destinations represent 63% of all positive export competitiveness. The most significant loss in export competitiveness *occurred* in the Italian market.

Figure 6.10 Share of export destination in industry export competitiveness



Source: CEVES calculations based on UN Comtrade data base

Serbia exported fabricated metal products mostly to markets with a high growth in import demand, but there is still room for additional improvement by better market targeting. Apart from the identification of dominant export destinations for Serbia, it is important to determine world demand trends as well. CEVES' analysis uncovered that Serbia directed its exports to the markets with

increasing import demand. Germany, Russia, USA and Poland are markets with the highest export competitiveness. On the other hand, markets like China, Turkey, the Czech Republic and the Netherlands had a high growth of import demand, but these foreign markets have yet to be fully exploited. Despite the high demand, Serbia was either losing its competitive position, or hardly maintaining it in these destinations.

SME sector strengthening

In order to increase exports of existing exporters and broaden the base of exporters, it is of particular importance to support the systematic growth of the SME sector in terms of revenues and number of employees. Growth of this sector will enable sustainable, consistent and continuous operation of these firms on global markets, while also filling the existing gap in the FMP industry structure caused by the lack of real large companies.

SMEs face a number of obstacles when entering or retaining their position on foreign markets. They often suffer from a discontinuity in product placement, and are therefore unable to invest and grow regularly. They lack the financial resources for developing innovative technologies, improving production processes, marketing and brand recognition. Furthermore, they suffer from less strategic planning, a lack of capable managers and an inadequate governance structure. These represent obstacles that make the process of internationalization more difficult and unsustainable. **Much of these difficulties are associated with the size of the firm (Altomonte, Aquilante and Ottaviano, 2012).** This is to be expected, because there are economies of scale in international operations, which are rarely achieved by small companies. Entry barriers have been increasing with the strengthening of competition in global markets. In order to operate competitively in the global market, firms need innovative ideas, modern technologies, brand recognition, complex organizational and governance structures, and capable managers. These are more difficult to achieve for small firms. Still, there are many obstacles that are not always correlated to size and are equally important.

Measures of support for small firms should clearly and explicitly target their productivity and growth (Bruegel, P.49)**.** Growth does not occur unless smallness is complemented with other support mechanisms. The key question for SME policy should not be how to help small firms survive, but rather how to make small firms adopt the right attitudes towards innovation, finance, human resources, management and ownership, promoting not only their survival but also their growth (Altomonte, Aquilante and Ottaviano, 2012). Firms' attitudes are not incontrovertible but can be positively influenced by effectively tailored policies.

Key factors for determining a company's export performance

The FMP industry is a resilient, geographically diversified, lowly concentrated and SME friendly industry. This industry is one of the best performing in Serbia's economy – its overall performance was slightly above average and it exhibited strong export performance. Still, this industry possesses a room for additional improvement. The greatest potential of this industry lies in its relatively large basis of exporters, particularly SMEs, which proved to be very dynamic, productive and profitable. In order to increase the export performance of the industry, apart from fostering exports of existing exporters, it is also necessary to broaden the base of exporters, by enabling more companies to sell on the international market. Policies directed towards the growth and strengthening of SMEs in this sector, as well as resource reallocation and new market penetration, would enable a better and more stable export performance.

The question that arises is which concrete factors of company's competitiveness should be addressed with adequate support and policy design. **We have identified five critical factors of success: product quality, product price, delivery time, innovation capacity and access to buyers.** Identifying challenges regarding these factors will focus the spotlight on which particular areas are most important for Serbian exporters to overcome in order to be more competitive abroad. By identifying where the gaps exist, it can point policymakers and experts at where the constraints in a given industry may be. These factors as well as the measures and activities whose implementation would improve the quality of these factors, will be discussed in the following sections.

Critical Factors of Success

Each factor is determined by a number of barriers that are inherent primarily to SMEs of the industry. In order to reach the critical level of growth and success needed for entering and retaining position on the foreign markets, it is necessary to remove the most significant obstacles.

Product Quality

Producers in the industry manufacture according to two models: made-to-stock (MTS), which emphasizes producing relatively standardized products as efficiently and in the greatest number possible; and made-to-order (MTO), which emphasizes making fewer components but made to the precise and often changing specifications demanded by customers (SAP, P. 5). The former can be broadly associated with a relatively small group of larger companies and the latter is primarily composed of a large number of smaller businesses.

Numerous studies indicate that the most important factor of success is the quality

of the product produced. Product quality most frequently represents a specific and demanded requirement, which cannot be negotiated. Principally, that includes maintaining the consistency in quality and reliability. In the case of MTO products, this more precisely refers to the ability of a manufacturer to produce to the exact (and often frequently changing) specifications demanded by customers (SAP, P.10). In a survey of European metal companies, this was always highlighted as the single most important factor in determining quality (FWC, P.122).

Lack of quality standards and certificates represent one of the major impediments to accessing foreign buyers. Industry experts noted that approximately 70% of companies possess at least one of the required certificates (most frequently ISO9001). However, this barely meets a third of the required standards by foreign buyers. Moreover, without having new contracts (re)signed, companies often do not renew certificates. It should be noted that CEVES's comprehensive survey of 1.000 SME determined that only 30% of firms from the FMP industry possess a quality certificate. The difference between experts' opinion and firms' answers is probably a consequence of a lower visibility and proactivity of micro and domestically - oriented firms, which CEVES's survey has successfully covered.

Poor quality of raw materials and intermediate goods are frequently cited problems that influence the product quality. Being affected by the discontinuity in production, companies are prevented from acquiring good quality inputs of a good price. Therefore, according to opinions of industry experts, they are obliged to purchase raw material of lower quality. Furthermore, there is a lack of domestic intermediate goods producers. Altogether, these issues lower the average level of quality of Serbian products.

Furthermore, the quality of labor, an insufficient number of highly specialized workers, and the lack of middle management that should improve the production process by improving coordination between workers and engineers, lead to problems in organizing the production process. Middle management is frequently not skilled enough to organize and run the process, or completely missing.

Finding adequate skilled labor is a problem common to the fabricated metal products industry, and demographic and educational trends indicate that it will become an even greater obstacle as time passes. Companies in the fabricated metals production sectors primarily employ semi-skilled labor (FMR, P.5). However, businesses are continuously demanding more from their workforce as they try to reduce workforce size in response to cost-cutting pressures arising mainly from competition from countries abundant in competitively priced labor (Noreau, P.3). This has become increasingly difficult,

however, as companies have for quite a long time, been finding it harder and harder to recruit relatively younger talented workers into a sector that is not perceived as attractive by many top graduates. This is also partly reflected in the demographic breakdown of the sector, which is dominated by relatively older workers (NIU CGS, P.6-7).

Product Price

The price of the product is almost equally as important as the quality. The industry is characterized by a large number of potential suppliers, so it is not surprising that customers often cite price as an important factor of success when considering which fabricated metal producer to purchase from (FWC P.120-121). This has driven established producers to attempt to reduce production costs.

Although fabricated metal production involves energy-intensive and labor-intensive manufacturing, the main determinant of cost on the supply side is usually the price of metal, the primary input into production. In a 2006 survey of metalworking companies in the EU, businesses noted that raw material costs accounted for anywhere between 45% and 70% of turnover (FWC, P.110). This is particularly challenging to fabricated metal producers for two reasons. First, the prices of metal inputs can vary considerably from year to year. Global steel prices can change even up to 25% in the course of a single year (FMR, P.3). Second, because there are relatively few suppliers and many smaller buyers of raw metals, purchasers of raw materials are in a difficult bargaining position vis-à-vis their suppliers (FWC, P.9). Energy costs and labor expenditures also account for significant portions of fabricated metal companies' production costs (FMR, P.7).

The price of raw material and intermediate goods is the single most important factor that determines product price. Unfortunately, owing to low bargaining power vis-à-vis suppliers, input price is not easily negotiable. SMEs of the industry are particularly affected by their subordinate position in relation to the suppliers. Companies association into clusters could provide a higher bargaining power.

One of the main challenges that further influence product price is productivity. The majority of SMEs have low productivity based on obsolete technology. Regardless of inexpensive labor that lowers the cost of production; obsolete technology prevents the efficient use of labour input. Moreover, as already mentioned, adequate skilled labor is a problem common to the fabricated metal products industry.

Transportation and logistics are factors which influence product price. Poor railway infrastructure and limited use of the Danube River are constraining factors that make transport more difficult and costly (Singidunum, 2012). In addition,

transportation costs for SMEs are relatively higher due to the small quantity of exported products or uncontentious export activities.

Delivery Time / Distribution

Delivery time is a specific requirement that is also the quality measure -- *on time in full*. That implies providing the entire quantity agreed upon in the contract in a timely manner, without partial delays in delivery. Being able to provide delivery on time in full is a direct indicator of reliability that influences the stability and durability of cooperation with foreign buyers.

This factor of success is particularly important for producers who are part of just-in-time or just-in-sequence manufacturing systems that always seek to minimize inventory stock and produce within very specific and relatively "tight" timeframes (SAP, P.9). This puts increased pressure on geographic location, transportation infrastructure, and relationships with distributors.

Innovative Capacity

In a similar vein to product quality, an important factor of success is the ability of companies to continuously innovate in an industry in which customer and regulatory demands constantly change and in which technological change and competition are part of the landscape. Having adequate financial and human resources are crucially important in this regard.

The lack of SME innovation is a cumulative consequence of discontinuity in production, lack of financing, and a lack of innovation management capacity, which make the vicious circle hard to break. Without continuity in placement, a certain and predictable source of finance is missing. Consequentially, there are no resources necessary for innovation. Lack of innovation further prolong and increases uncertainty and discontinuity in sales. Furthermore, experts denote that SMEs are generally disinterested in science and research, which is related to the absence of innovation management capacity.

Even though FMPI companies had a higher opportunity of using bank loans to finance investments, industry experts underline that the credit considerably impeded business for the majority of companies. The problem is twofold. On the one hand, the interest rates are too high for an industry that is characterized by moderate profit margins, reducing the possibility of a cost-effective use of credit. On the other hand, SME companies seem to have less strategic financial planning that leads to poor estimates and forecasts of financial flows. When it comes to making decisions on additional debt, 60% of SMEs stated that that decision is exclusively in the jurisdiction of the firm owner. Only 27.3% of SME's owners do consult financial advisors regarding this matter.

Marketing / Access to Buyers

The primary sales channels for fabricated metal product manufacturers are direct contacts with distributors and end-customers (FMR, P.9). Direct contact with potential customers is particularly important for MTO producers, as it enables buyers and suppliers to define the precise specifications of potential products. Therefore, tradeshow participation and individual business-to-business meetings are important sales channels. Internet marketing is another potentially important channel (ibid).

SME visibility is one of the major challenges regarding entering foreign markets. Even though most of the companies export or aspire to do so, little has been done in order to increase visibility on foreign markets (on a larger scale). According to the survey, 39% of companies do not invest any share of revenues in advertising, promotion and branding. Out of those who do invest, as much as 95% invest only up to 10% of revenues.

SME association into clusters is a valuable way of increasing visibility of SMEs. However, some experts point out that there is considerable lack of a culture of association. Furthermore, once they join a cluster they do not exploit all the benefits, and the realization of potential synergy becomes more difficult. Given the dominance of SMEs and the importance of having close relationships with clients and potential clients, it only appears logical that smaller companies that have access to potential niche customers would have greater opportunities for sales.

In addition, the FMP industry is characterized by some general impediments that hinder company development and affect the all success factors to some extent. One of the most important generic obstacles refers to the quality of corporate governance. During firm evolution and growth into a bigger entity, discrepancy between owner's capacity and lack of any management structure imposes a significant obstacle to firm development. The owner's management approach usually focuses on short-term objectives, without being able to consider longer-term business development. Unfortunately, some industry experts pointed out that the existence of the black market largely affects the market distortion and loyal competition.

SMEs seem to plan strategically in a less structured and more informal manner than bigger companies. CEVES' survey indicates that the majority of the FMPI SME companies wish to expand their business operations and grow into bigger companies. Furthermore, the majority of the companies do have a development and growth plan, based on certain predictions and financial data. However, only 18.6% of them have it as a formal document. Moreover, the decision-making process regarding

investment planning is mostly reserved to the companies' owner.

Comprehensive overview of industry's strengths, weaknesses, opportunities and threats

In summary, the overall keys to competitive performance are keeping operating costs as low as possible while maintaining high product quality and encouraging continual innovation. It is also important to have a technically skilled workforce in order to make this possible. It is also crucial for companies that rely on MTO manufacturing to maintain very close relationships with their customers so as to stay abreast of often rapidly changing product development trends (SAP, P.10-11).

Building on knowledge provided and established in this research, presented in the table below, a high level strengths-weaknesses-opportunities-threats (SWOT) analysis of the Fabricated Metal Products industry in Serbia. This matrix provides knowledge about the most important strengths on which FMP industry should build its competitiveness and performance, but also presents opportunities which should be seized, in order for FMP industry to enhance and prolong its growth and development. On the other hand, policies and activities should target the weaknesses of this industry, which are obstructing its further development, so that their influence is eliminated or minimized. Knowledge produced by this case study should serve as a starting point for the follow-up project, which would prioritize and concretize recommendations and propose actions whose implementation would improve the business environment of FMP industry in Serbia.

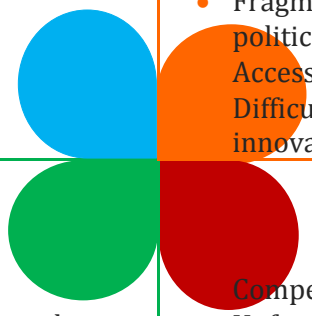
Table 6.3 SWOT analysis of FMP industry in Serbia

Strengths

- Metal products are "interchangeable" between industries and are not dependent on any one sector alone
- Specialization (common among SMEs) allows for higher margins
- Long industrial tradition; good value in terms of skill/cost
- Producers flexible to adjust to buyer requirements
- Demonstrated export competitiveness
- Demonstrated solid domestic performance
- SME friendly industry
- Strong base of healthy MSMEs
- Relatively high share of exporters

Weaknesses

- Prolonged economic slowdown in largest traditional demand markets
- Oscillating raw material prices
- Difficulty in finding adequately-skilled labor
- Skills gap both in engineering and in middle operational management competence
- Industry generally characterized by "thin" margins
- Low worker productivity
- Obsolete machinery (30 years old on average)
- Lack of facilities in Serbia for "final product testing"
- Domestic certification bodies not up to international standards
- Poor transport infrastructure
- Cumbersome business environment
- Poor IP Protection discourages innovation
- Low level of cooperation both within industry and with government
- Low level of product development
- SME Specific
- Low bargaining power vis-à-vis suppliers
- Low bargaining power vis-à-vis buyers
- Specialization implies customer concentration
- Fragmented nature of companies equates to less political clout (the invisible sector)
- Access to finance difficult, hence…
- Difficult to invest in process and technological innovation



Opportunities

- Increased demand in developing markets
- Serbia logical outsourcing choice from EU markets (geographic proximity, previous experience, etc.)
- New metal alloys allow for increasingly sophisticated final products.
- Addition of non-metal substances to final products
- Industry consolidation
- Geographic proximity to EU market, other fast-growing markets
- Potential for collaboration/information sharing
- Resources reallocation, from low competitive towards high competitive subsectors
- SME sector strengthening
- Available fast growing markets, which are not currently penetrated by FMP exporters

Threats

- Competition from developing countries
- Unfavorable demographic & educational trends deprive sector of skilled labor
- Rising energy prices
- Substitution of metal with other materials (e.g. plastic, ceramics)
- Product lifecycles shrinking over time (especially in MTO
- Frequent change of regulations and political influences

Sources: CEVES analysis based on NIU CGS, Noreau, FMR, FWC, Eurostat, Singidunum, SIPPO

CONCLUSION

Building on previous work for USAID, CEVES in this report assesses and analyses the export competitiveness and industrial performance of sectors in order to identify the industries whose firms may be able to enhance its growth, significantly increase exports and, therefore, serve as the engine of Serbian economic growth. More broadly, CEVES argues that the analysis herein should serve as an analytical tool for policymakers to select the sectors whose development should form the backbone of a wider export development strategy.

This report took a close look at the nature of economic growth realized since the beginning of transition in 2000 up until the onset of the financial crisis in 2008. It showed that, while impressive, it relied too heavily on consumption and demand, and not enough on the growth of tradable sectors. The strike of the crisis also revealed that Serbia's hitherto growth was not inclusive, not based on innovation, and, most importantly, that it was not sustainable.

To re-ignite growth that is more beneficial to its citizens and more maintainable in the long run, policymakers must turn their focus to systematically developing tradable industries. Serbia already has a vast potential to successfully adopt the export-led growth model, a fact reiterated by numerous studies and perhaps borne out by the recent rise in exports over the past few years. This report not only argues in favor of export-led growth, but it goes one important step further: it assists in identifying which industries may serve as the cornerstones of an overarching export promotion strategy that would guide the application of this model.

The most promising industries and the most suitable industries for firm development in Serbia's economy are those that possess adequate attributes and provide resources to firms in order for them to produce internationally competitive products while operating productively, profitably and dynamically. This report identified 18 industries that exhibit strong export competitiveness and growth capabilities. These industries can be considered the most promising, suitable and attractive for firm development.

In addition, it also highlighted industries that face certain obstacles and limitations, but that have potential themselves to become more perspective by improving performance and competitiveness. There are 15 industries that are competitive on foreign markets, but face some obstacles and limitations in their overall operations, and 7 industries whose overall performance is strong, but whose products are not competitive on foreign markets. In addition, industries' concentration was assessed in

order to illustrate which sectors are open for new entries and ideas, regardless of initial capital and firm size, and which industries are open only for investors with large amounts of capital.

Policy should be directed at supporting industries with demonstrated success as well as those that may hold untapped potential. While there are numerous sectors with many prosperous firms that are performing well, businesses in other industries find themselves facing obstacles and limitations. The government should support the former, but it must also target the latter group's further development rather than leaving firms to themselves to try to overcome obstacles to fulfilling their potential. Policymakers should use this information base to improve targeting of these industries and to proactively propose systematic, well-designed, custom-made policies and solutions in order to eliminate obstacles to promote entrepreneurship and investment, thereby enhancing competitiveness and further growth.

In order to adequately define and later implement a set of policies, whose implementation would support and enhance the competitiveness and development of promising SME friendly industries, it is necessary for decision-makers to understand the capacities, strengths, and advantages of those industries. Only in this way will it be possible to tailor a strategy and precisely target the industries whose development is needed in order to best grow the private sector, promote entrepreneurship, and attract the investment required to enhance competitiveness and increase Serbia's exports. We should bear in mind that Serbian economy, as every other, is very diverse (and its SMEs especially so) and should not be subject to simple, one-size-fits-all approaches.

Therefore, CEVES conducted a case study that examines the industry of Fabricated Metal Products in detail. The Industry of Fabricated Metal Products is a large and very diverse industry, in terms of the number of firms, its economic activity and regional distribution, respectively. This industry is an essential part of the metal industry and a very significant member of a wider metal sector. The Industry of Fabricated Metal Products is identified as one of the most promising industries in the Serbian economy, possessing adequate attributes and resources for firms to produce internationally competitive products while operating relatively sustainably and dynamically.

This case study provided a sound knowledge about the performance and competitiveness of a FMP industry, and determined the reasons explaining that performance and competitiveness, by focusing on the identification and understanding of critical success factors (particularly industry-specific). CEVES has determined that the main opportunities for export competitiveness and overall performance enhancement of the FMP industry lie in the process of SME strengthening, reallocation of resources from low competitive towards high competitive subsectors, and penetration of available, but insufficiently exploited foreign markets. In addition, CEVES has identified and discussed five critical factors of success - product quality, product price, delivery time, innovation capacity and access to

buyers, which together determine the export position and competitiveness of firms within this industry. This case study is the first step in the process of the creation of required industry-specific knowledge, which can provide essential information to key stakeholders and policymakers in order for industry to prosper.

CEVES's subsequent projects will aim to take a closer look at the firms that are the lifeblood of industries, in order to identify the main internal and external determinants of firm competitiveness and success. In this way, it will not only identify groups of firms capable of driving Serbian economy forward, but it will also direct policymakers' and experts' focus to the precise factors that hinder or raise firms' chances of success, enabling leaders to design policy interventions to address the specific elements of the business environment holding back the growth of Serbia's economy. Therefore, already established systematic and comprehensive knowledge about ability of industries to internationalize its activities, operate dynamically and sustainably, and contribute to the economic recovery and growth, will be complemented with information about firm-level factors of success. Together, that sound knowledge foundation about Serbia's real sector should serve as a well-rounded and powerful analytical tool for policymakers.

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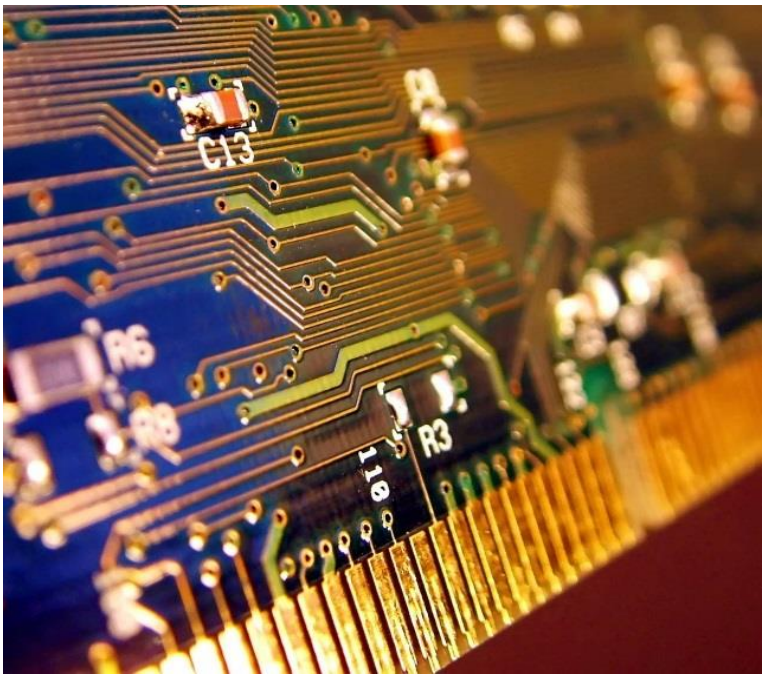

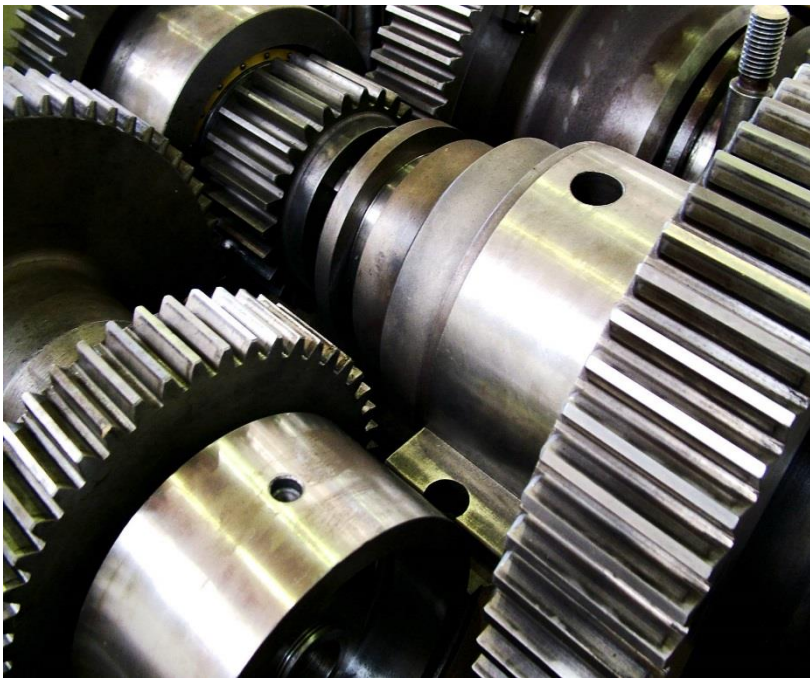

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