Mihail Arandarenko
University of Belgrade
Faculty of Economics
Department for Economic Theory and
Analysis

Dragan Aleksić
University of Belgrade
Faculty of Economics
Department for Economic Theory and
Analysis

Dragan Lončar
University of Belgrade
Faculty of Economics
Department of Business Economics and
Management

EXPANSION OF DIRECT INVESTMENT AND RESILIENCE OF SERBIAN LABOUR MARKET: A REGIONAL AND SECTORAL PERSPECTIVE*

Ekspanzija direktnih investicija i otpornost srpskog tržišta rada sa regionalnog i sektorskog aspekta

Abstract

In recent years, Serbia has established itself as a leading destination for FDI thanks to its generous policy aimed at attracting direct investment. In this paper we look at the labour market effects of the policy of incentivised direct investment, first from a sectoral and regional perspective, and then by taking a holistic view at its impact on the overall labour market and economic development. We find that this policy has contributed to overall sectoral rebalancing of the labour market by increasing manufacturing jobs. It has also contributed to regional labour market rebalancing, most notably in improving the quality of employment in less developed regions and in stabilizing the shares of regional wage funds. Still, labour market, educational and infrastructure cleavages between regions remain very large. The transformational potential of Serbian labour market is far from being fully exploited, and Serbia still needs to sustain high level of investment in manufacturing jobs while at the same time supporting the gradual shift toward high-technology investment.

Keywords: *direct investment, FDI, labour market, regional differences, manufacturing, incentives*

Sažetak

Zahvaljujući politici velikodušnih podsticaja usmerenih ka privlačenju direktnih investicija, Srbija je poslednjih godina postala jedna od vodećih destinacija za SDI. U ovom radu bavimo se efektima koje je politika podsticaja direktnih investicija imala na tržište rada, najpre sa sektorskog i regionalnog aspekta, a zatim i sagledavanjem celine njenog uticaja na tržište rada i na ekonomski razvoj. Naši rezultati pokazuju da je politika podsticaja doprinela ukupnom sektorskom rebalansiranju tržišta rada povećanjem zaposlenosti u proizvodnji. Takođe, ova politika doprinela je rebalansiranju regionalnih tržišta rada, naročito poboljšanju kvaliteta zaposlenosti u manje razvijenim regionima i u stabilizaciji udela regionalnih platnih fondova. Ipak, međuregionalne obrazovne i infrastrukturne razlike, kao i razlike u tržištima rada, i dalje ostaju veoma velike. Transformacioni potencijal srpskog tržišta rada još uvek nije u potpunosti iskorišćen, zbog čega Srbija i dalje treba da zadrži visok nivo investicija u radna mesta u industriji, istovremeno podržavajući postepeno okretanje ka visokotehnološkim investicijama.

Ključne reči: *direktne investicije, SDI, tržište rada, regionalne razlike, industrija, podsticaji*

Introduction and brief overview of trends

The half-decade period preceding the pandemic shock that hit Serbia in March 2020 was characterized by moderate rates of economic growth and by stable growth in employment and activity of the population. Between 2015 and 2019 the total employment of working age population as measured by Labour Force Survey increased from 2,574,000 to 2,900,000, or by some 325,000 persons. Over the same period, registered employment measured by Survey on registered employment (combining data from the Central Register of Compulsory Social Insurance and the Statistical Business Register) increased from 1,987,000 to 2,173,000 persons. The dynamics of average formal wage followed a somewhat different path – it was quite subdued during the period of fiscal consolidation 2015-2017, reflecting the reduction in public sector wages and freeze or slow adjustment in the minimum wage, and then picked up in 2018 and 2019, when both restrictions were removed. Despite being hard hit by the pandemic in 2020, as the rest of the region and indeed the world, Serbia's GDP decline of 1.1% was among the lowest in Europe. In 2020, Serbia even managed to increase its formal employment and average wage, while total employment declined only marginally, reflecting significant decrease in informal employment.

One of the factors believed to have contributed to these favourable labour market trends has certainly been the government policy of supporting direct investment, especially FDI. Introduced relatively early in 2000s, its latest major overhaul was in 2016 with the adoption of Law on Investment and Decree on Terms and Conditions for Attracting Direct Investment. These pieces of legislation provide enabling environment for investment and contain a set of generous regionally and sectorially differentiated incentives for direct investment.

In recent years, Serbia managed to establish itself as the leading destination for FDI in the Western Balkans and South Eastern Europe. Furthermore, some relevant global business observers identify Serbia as the leading European and global destination in terms of FDI-induced job creation (IBM Global Location Trends for 2016-2019) and amount of FDI per capita (fDi Intelligence in 2019). After strong expansion in the period 2015-2019, the amount of FDI

held rather steady in 2020. While it is estimated that due to pandemic the global amount of FDI dropped sharply by 42% in 2020 according to UNCTAD Investment Trends Monitor, in Serbia the drop was more moderate, from 3.8 billion USD in 2019 to around 3 billion in 2020, which is still above the five-year average for the period 2015-2019.

While there is little controversy within expert circles about the positive gross short-term impact of the government policy of generous support for direct investment (often in analyses reduced to its FDI component which is indeed dominant both in value and job creation terms), its net and long term effects have been often questioned by the critics on various grounds. Most analyses focus on the evaluation of key aspects of impact of FDI (including those not directly subsidized) rather than of all, or only those subsidized, direct investment. This is also in accord with a widely shared notion that FDI are special for emerging and developing countries because they bring missing capital and new sources of financing, strengthen links with global value chains and help improve existing and create new skills of the labour force, ultimately leading to higher growth rates and living standard.

The inflow of foreign direct investment in Serbia can be divided into several periods. First, in the 1990s, political instability, international sanctions and hyperinflation deterred foreign capital from Serbia. As a result, FDI inflow was marginal with only a couple of major foreign investment deals, like the sale of Telekom in 1997 [13].

Second, in the first decade of the 2000s, annual FDI inflows rose sharply due to political stabilization and mass privatisation, to peak in 2006 at all-time high of about 5 billion US dollars. This episode was then followed by a reverse trend until the end of the decade, with the exception of 2008 when FDI growth was driven mainly by the large investments of Gazprom. Despite the negative trend in the years that preceded the economic crisis, the FDI inward stock increased from only 1 billion US dollars in 2000 to 20 billion US dollars in 2010 or as much as 20 times. Besides absolute growth, Serbia also increased its share in total inward foreign direct investment stock in Southeast Europe from 7% to 10% [7]. However, despite positive developments during the 2000s, Estrin and Uvalic found that FDI into Serbia, and the Western Balkans in

general, were lower than can be explained by the economic characteristics of the region. In other words, controlling for different factors they found that Western Balkans *per se*, with its unstable political heritage, had a negative effect on FDI.

When it comes to the structure of FDI Estrin & Uvalic [7] found out that almost three-quarters of inward FDI stock in 2010 were allocated in Services, while only 20% went to Manufacturing. The structure of FDI gradually changed according to Kastratović [8] who analysed the structure of cumulative foreign direct investment inflows by branches of activity in 2004-2013. The author found that FDI were mostly allocated in Financial and insurance activities (25%), Manufacturing (24%) and Wholesale and retail trade; repair of motor vehicles and motorcycles (16%). Looking at the aggregate level, Services declined from 75% to 69% while Manufacturing increased from 20% to 24%. The steady increase in the share of Manufacturing and more lately in Construction alongside with the overall rise in FDI and subsidized direct investment marked the period 2015-2020.

After the onset of the 2008 economic crisis, which underlined the weakness of growth strategy based on expansion of domestic demand and premature deindustrialization, one of the strategic goals of economic policy, including the policy of supporting direct investment and attracting FDI, was to change the economic structure in the direction of a greater share of employment in manufacturing and modern services at the expense of employment in agriculture. In 2011, approximately one in five workers aged 15-64 was employed in agriculture, one in four in industry, while about 54% of all workers were employed in services. During the ten-year period, changes in the structure of the Serbian economy have indeed taken place in the desired direction. Thus, employment in agriculture decreased to 13.4%, while the share of employment in industry (inclusive of construction) and services increased to 28.8% and 57.8%, respectively. Most importantly, the trend of rapid decline in manufacturing and industrial employment from the previous decade was stopped and slightly reversed.

World Bank [15] provides perhaps the most detailed account of the contribution of FDI to Serbia's growth and employment dynamics. While it finds that domestic private firms are the backbone of the Serbian economy, employing over half of the formal private labour force and exhibiting the highest recent productivity growth, a significant role is ascribed to FDI as well.

The World Bank's synthesis report [15] argues that while FDI firms have definitely created new jobs, many of them were in less productive and lower value-added firms, leading to a decrease in average productivity of these firms as a group. While the largest impact on jobs and growth materializes through long-term linkages between foreign firms and domestic suppliers or corporate clients that maximize knowledge spillovers, current schemes still primarily incentivize job creation. Overall conclusion is that after successfully addressing the problem of high unemployment Serbia now above all needs incentives aimed at productivity growth through fostering growth in higher value-added industries and creating spillovers [15].

In the rest of this paper we primarily attempt to describe and assess immediate impact of government-subsidized schemes supporting direct investment as well as of FDI in general on labour market outcomes in sectoral (Section 2) and regional (Section 3) perspective. In Section 4 we take a general look at the evolution of structural characteristics of the labour market in the past decade and discuss the overall impact of policy of attracting direct investment on these outcomes within the broader institutional and developmental context of Serbia. Section 5 concludes.

Overview of sectoral and regional distribution of subsidized direct investments in the period 2016-2020

The descriptive analysis of direct investments for which there is an incentive agreement covers the period after the establishment of the current regulation and administration mechanism, from the beginning of 2016 till October 5, 2020. The subject of the analysis is the data on total direct investments, related incentives funded by the state through its development agency, the number of contracts and jobs created as a result of these investments as well as their time, sectoral and regional distribution.

The total value of investments over the whole period amounts to a little over 2.5 billion euros, around a fifth of that amount being subsidized by the state through its flagship investment programme coordinated by the Development Agency of Serbia (abbreviated RAS in Serbian).

As shown in Figure 1, in the sub-period from 2016 to 2018, the amount of total direct investment stagnated, while the share of financial incentives held steady at above 30% of total investment. The following two years were marked by a spike in direct investment, and a much slower increase in incentives. Direct investments increased from 216 million euros a year to 1,163 million, which is an increase of 5.4 times, while incentive funds increased only 1.8 times. It is remarkable that the largest amount of investment was recorded in 2020, even though the records for that year were available only for the first 10 months. Although in all likelihood most of investment agreements were negotiated before the start of the pandemic, these investments certainly acted as an important counterbalance to the pandemic-induced recession and contributed to the resilience in the formal private-sector labour market in 2020.

The number of signed contracts during the observed period was approximately 20 per year, with the exception of 40 contracts during 2019, as can be seen in Figure 2.

A significant percentage of direct investments with concluded incentive contracts are foreign direct investments, which account for 73% of total signed contracts, compared to 27% of contracts signed with domestic investors. Regarding the sectoral distribution, the largest five groups of sectors dominate with over 72% of shares

Figure 1: Total investment supported and incentives disbursed through the RAS direct investment programme, 2016-2020
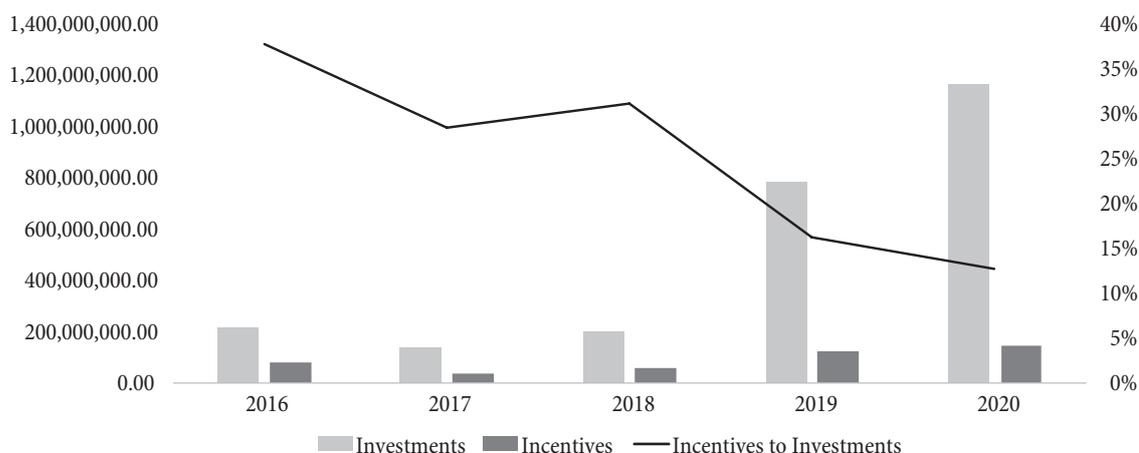
Source: Own calculations based on Ministry of Economy data

Figure 2: Total number of contracts through the RAS direct investment programme, 2016-2020
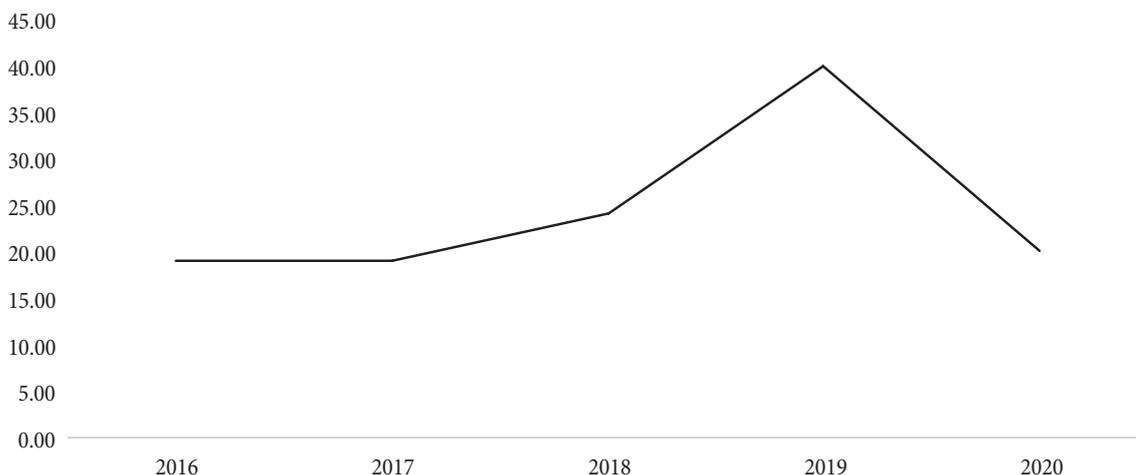
Source: Own calculations based on Ministry of Economy data

in the number of concluded contract. Signed contracts are relatively evenly distributed by region, with most of them concluded in Šumadija and West Serbia (29%) and South and East Serbia (29%), a bit less in Vojvodina (25%) and Belgrade (22%).

With regard to sectoral and sub-sectoral structure of investment, all five most represented branches of activity belong to Manufacturing sector. According to the share of total investments, the first 2 activity branches make up 73% of all listed investments, while the first 5 areas represent a share of 86%.

In the case of allocated incentive funds, the distribution does not differ significantly from the distribution of the share of total investments. The first 5 areas cover more than 79% of the total incentives share. Contrary to the number of contracts signed, two less developed region –

Šumadija and West Serbia and South and East Serbia, each received around 21% of total incentives, while most of the funds are allocated to Vojvodina (34%) and Belgrade (25%). An in-depth sectoral look at the cumulative distribution of investments by the number of contracts, total values and values of incentives is provided in Table 1. It should be noted that presented data consider only the top five sectors by three different categories.

Under the new regulation for supporting direct investment, between 2016 and October 2020 about 46,000 new jobs have been created. The largest number of newly created jobs was achieved in 2016 (see Figure 3). Manufacture of electrical equipment, motor vehicles, trailers and semi-trailers, repair and installation of machinery and equipment, production of electronic components, bearings, gears, electrical and electronic equipment for motor vehicles and

Table 1: Cumulative shares of signed contracts, investment values and incentives by sectors

Sector	% of contracts	% of cumulative investments	% of cumulative incentives
Manufacture of electrical equipment, motor vehicles, trailers and semi-trailers, repair and installation of machinery and equipment, production of electronic components, bearings, gears, electrical and electronic equipment for motor vehicles and other parts and accessories for motor vehicles	36	37	43
Manufacture of textiles, clothing, other apparel, leather and leather goods	12	-	6
Production of food products, processing and canning of meat, cultivation of cereals, legumes and oilseeds, bread, fresh pastries and cakes, processing of tea and coffee, production of rusks, biscuits, permanent pastries and cakes, juices and fruits and vegetables	12	5	6
Hotels and similar accommodation	7	-	-
Production of rubber and plastic products, vehicle tires, retreading of vehicle tires	5	36	20
Repair and maintenance of aircraft	-	4	-
Manufacture of chemicals and chemical products, manufacture of detergents, soaps, cleaners and polishes	-	4	-
Production of lighting equipment	-	-	4

Source: Own calculations based on Ministry of Economy data

Figure 3: Newly created jobs through the RAS direct investment programme, 2016-2020
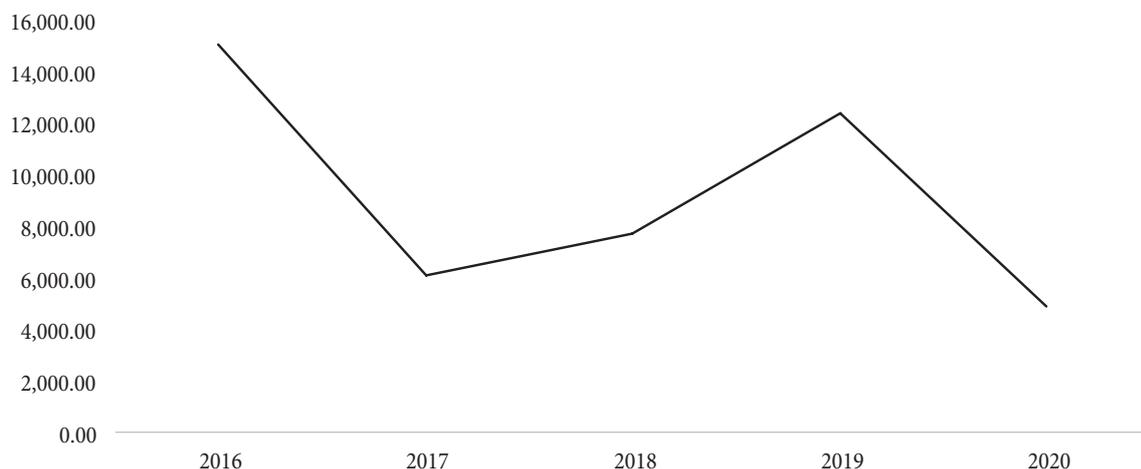
Source: Own calculations based on Ministry of Economy data

other parts and accessories for motor vehicles dominates in the number of added jobs with 59.63% of overall share, followed by the production of textiles, clothing, other clothing, leather and leather goods, whose share in the total added jobs is 10.97%. Important activity branches also include office-administrative and other auxiliary activities, followed by the production of rubber and plastic products, vehicle tires, retreading of tires for vehicles, which participate with 5.33% and 4.79%, respectively. Unlike incentives, the distribution of newly created jobs by regions offers a much more favourable picture from a regional perspective. The majority of jobs were created in two less developed regions – Šumadija and West Serbia and South and East Serbia (31% each), somewhat less in Vojvodina (21%) and only 18% in Belgrade.

From the above analysis, it can be concluded that the jobs created as a result of direct investments with concluded incentive contracts are unevenly distributed in favour of the two least developed regions - Šumadija and Western Serbia as well as Eastern and Southern Serbia.

Singling out the four most important activity branches from the standpoint of new employment creation as well as their cumulative value of investment, we have summarized in a somewhat different manner the four most important groups of activity branches in which

subsidized direct investments are channelled (see Table 2). We decided on these groups based on their share in the cumulative value of investments (the first three groups of sectors) and the cumulative number of newly created jobs (group D).

In total, these 4 groups account for about 80% of total investments and the same percentage of newly created jobs. Therefore, it makes sense to look at the potential impact of these investments in terms of cumulative growth of sectoral gross value added and sectoral registered employment, having in mind that these effects are conjectural rather than direct. Table 3 shows the cumulative changes in employment in the period 2015-2020 and 2015-2019 when it comes to GVA.

When it comes to the increase in registered employment, the best result was recorded in group A where employment increased from some 70,000 to about 110,000. Within the group itself, the largest growth was recorded in the Manufacture of motor vehicles, trailers and semi-trailers, where the initial number of employees of about 25,000 was doubled at the end of the observed period. It is interesting to say that in the observed groups of sectors, the cumulative employment growth drastically (A and B) and significantly (D) exceeded the national average of about 13%. The exception was the Food production

Table 2: Cumulative shares of investment values, created jobs and incentives by sectors

		Cumulative structure 2016-2020 (in %)		
		Investments	Created jobs	Incentives
A	Manufacture of electrical equipment, Manufacture of motor vehicles, trailers and semi-trailers, Repair and installation of machinery and equipment, Manufacture of computer, electronic and optical products and Manufacture of machinery and equipment n.e.c.	37.0	59.6	42.9
B	Manufacture of rubber and plastic products	36.2	4.8	19.6
C	Manufacture of food products	5.3	2.6	6.2
D	Manufacture of textiles, Manufacture of wearing apparel and Manufacture of leather and related products	2.2	11.0	5.8

Source: Own calculations based on Ministry of Economy data

Table 3: Cumulative growth of registered employment and gross value added by sectors

		Cumulative growth from 2016 (in %)	
		Employment (until 2020)	GVA (until 2019)
A	Manufacture of electrical equipment, Manufacture of motor vehicles, trailers and semi-trailers, Repair and installation of machinery and equipment, Manufacture of computer, electronic and optical products and Manufacture of machinery and equipment n.e.c.	55.8	2.2
B	Manufacture of rubber and plastic products	34.1	29.8
C	Manufacture of food products	12.0	-7.6
D	Manufacture of textiles, Manufacture of wearing apparel and Manufacture of leather and related products	17.9	4.0

Source: Own calculations based on Ministry of Economy data

sector, where the change in employment corresponds to the national average.

The results are quite different if we look at the growth of gross value added in these sectors because the cumulative increase in GVA in the observed sectors, with the exception of the Rubber and Plastics Production sector, is significantly lower than the national average of about 14%. Group A stands out as an outlier – although the registered employment increased by more than 1.5 times, the newly created value increased by only about 2%. Within this group, the production of motor vehicles, trailers and semi-trailers appears to be the main culprit, because it is the area within sector A that was the only one to record a cumulative drop in GVA, in the amount of as much as 20%. Given its importance within sector A, it is clear why this sector is characterized by very low GVA. Thus, for example, with the exception of this area, the GVA within sector A would increase to about 17%.

There are several explanations for the decline in GVA within the Manufacture of motor vehicles, trailers and semi-trailers. Most importantly, after the arrival of FIAT, which is by far the largest company in this field and therefore has a large weight in the branch's total value added, this area recorded a sharp rise that lasted until 2013, followed by a constant decline, and its production in 2019 was about 40% lower than at the 2013 maximum, while the number of employees changed by much less. Thus, the drop in GVA per employed is in all likelihood unrelated or only weakly related to the investment projects subsidized in the period under consideration. True, a large part of this group consists of foreign companies that largely import their inputs while in the country the final products are only assembled. According to data for 2017, foreign investors within this sector imported about 91% of inputs from abroad. Consequently, this way of organizing production creates little added value.

More generally, channelling foreign investment into below-average productivity sectors may seem like a bad move at first glance. However, the findings of an influential cross-sectional global study [12] indicate that the Manufacturing industry exhibits strong unconditional convergence of labour productivity. This is especially important in the case of Serbia, where productivity in the Manufacturing industry is three times lower than the EU 28 average in 2017. On the other hand, in the Services sector, productivity is "only" twice lower than the EU average [15].

Assessment of potential impact of direct investment incentive programmes on regional labour market outcomes

Large regional differences are one of the long-term defining characteristics of Serbian economy and they are also reflected in key labour market indicators – employment and unemployment rates as well as average wages. Among the four NUTS-2 regions, the Belgrade region is far ahead according to all indicators, followed by the region of Vojvodina and the region of Šumadija and Western Serbia, while the worst outcomes are typically found in the region of Southern and Eastern Serbia. The key labour market indicators since 2014 are presented in Table 4.

Table 4: Key labour market indicators for the population 15-64 by regions, 2014-2019

Region	Employment rate (in %)					
	2014	2015	2016	2017	2018	2019
Belgrade region	52.8	53	56.9	60.3	62.9	64.9
Region of Vojvodina	50.5	51.7	54.4	57.2	59.1	60.7
Šumadija and Western Serbia	52	53	55.8	57.2	58.1	59.8
Southern and Eastern Serbia	47	49.7	53.3	54.2	54.6	56.9
	Unemployment rate (in %)					
	2014	2015	2016	2017	2018	2019
Belgrade region	17.4	18.9	15.9	13.5	11	8.4
Region of Vojvodina	20.3	16.9	15.5	12.4	10.7	9.3
Šumadija and Western Serbia	19.2	17.8	15.7	14.6	14.9	12.5
Southern and Eastern Serbia	23.3	19.7	16.8	16.2	17.3	14.1

Source: LFS, SORS

The labour market indicators presented in Table 4 provide summary information on quantitative aspects of regional labour market trends. The growth in employment rates was significant in all regions, with employment in the most developed region of Belgrade growing slightly faster than three others. Trend in employment rates suggests that the Belgrade region slightly widened the gap between other less developed regions, however they converged a bit among themselves according to this indicator. When it comes to unemployment rates, no clear trend can be observed. Although the Belgrade region kept its leading position, the relative position of remaining three regions was not unanimously worsened. For example, the Vojvodina region even improved its relative position, Southern and Eastern Serbia kept its position unchanged, while only Šumadija and Western Serbia experienced some worsening.

However, the strongest indication of the stabilization or potential reduction in quantitative regional labour market differences are the LFS data on vulnerable employment. Vulnerable employment is statistical concept encompassing categories of employed persons outside of dependent (wage, salaried) employment, which are (statistically) considered inferior to wage employment. They include self-employed persons and contributing unpaid family members. Reduction in the rate of vulnerable employment should in principle indicate improved quality of employment. Recent trends in vulnerable employment in 4 regions are presented in Table 5.

From the presented statistics in Table 5, it is visible that the rates of vulnerable employment were reduced by some 3-4 percentage points in three less developed regions,

while this reduction for Belgrade was only 0.5 percent. It is also very important that the share of contributing family members whose employment is considered to be of the worst quality of all types of employment recorded a very strong decline. Thus, in recent years there has been clear inter-regional convergence in the quality of employment.

In addition to the number of employed, employment rates and quality of employment, it is important to take into account wages as the price aspect of the labour market. Instead of just looking at the average wage by region, however, better strategy is to take into account the number of wage earners in each region, that is, approximate the wage fund in each region over time. Thus it is instrumental to calculate wage fund as the product of the average net wage and the number of registered employees in each region. After calculating regional wage funds, these results are put in relation to the total national wage fund, which enables monitoring of trends in relative share of the wage fund for each of the four regions in the total wage fund. This simple procedure is presented step by step in Table 6.

Based on the data on the total wage fund per capita, reflecting employment and wage trends in formal regional labour markets, it can be concluded that regional labour market inequality has not changed significantly in the period under consideration; if anything there have been slight convergence, given that the two least developed regions of Central Serbia recorded some gains in their per capita wage fund shares (Šumadija and Western Serbia from 17.2% in 2014 to 17.9% in 2019, while the gain for Southern and Eastern Serbia was from 16.9% to 17.3%).

Table 5: Rates of vulnerable employment (VE) and share of contributing family members (CFM)
as % of total employment in 4 regions, 2015-2020

		2015	2016	2017	2018	2019	2020
Serbia	CFM	8.1%	8.0%	5.8%	5.6%	4.7%	4.6%
	VE	30.2%	31.7%	30.6%	28.2%	27.7%	27.0%
Belgrade region	CFM	0.9%	1.6%	1.3%	1.3%	1.1%	1.1%
	VE	15.7%	17.8%	17.8%	17.2%	16.6%	15.2%
Region of Vojvodina	CFM	4.6%	4.6%	3.2%	3.5%	2.9%	2.7%
	VE	25.7%	26.0%	24.3%	23.3%	21.9%	21.6%
Šumadija and Western Serbia	CFM	14.7%	14.6%	12.0%	11.7%	10.0%	9.7%
	VE	42.5%	44.2%	43.8%	39.9%	39.3%	39.2%
South and Eastern Serbia	CFM	11.6%	10.6%	5.8%	5.0%	4.4%	4.4%
	VE	35.1%	37.5%	35.7%	32.5%	33.2%	31.8%

Source: LFS

However, this was achieved entirely at the expense of the second most developed region, Vojvodina (its per capita share dropped from 23.2% to 22.1%), while the share of Belgrade as the most developed region remained unchanged (from 42.7% in 2014 to 42.8% in 2019).

Still, one may consider this apparent stabilization or very mild reversal of regional labour market differentials as a success, taking into account rapid widening of regional differences in the previous decade (e.g. [2]). Furthermore, if the starting reference year is moved back to 2011, then regional convergence in labour market outcomes becomes more visible. Using the same wage fund per capita approach a recent analysis found that the two more developed region decreased their share in total wage fund p.c., while the two less developed region significantly increased their share in 2019 in contrast to 2011 [1].

Impact of the policy of attracting direct investment on evolution of structural characteristics of Serbian labour market

One of the long standing and defining features of Serbian labour market has been its pronounced duality, reflecting overall economic duality often found among emerging and middle-income economies. At that stage of development, the labour market consists of two main sectors, both of significant and often similar size – the primary sector of relatively high wages and 'good', secure formal jobs, and the secondary sector of low wages or self-employment income and 'bad', insecure and often informal jobs. In Serbia specifically, the possibility of transition from the secondary to the primary sector is significantly limited and does not necessarily depend on the qualifications and

Table 6: Wage fund by region, 2014-2019

Region	2014	2015	2016	2017	2018*	2019
Net wages by region (in RSD)						
Belgrade region	55429	55551	57717	60142	60689	68140
Region of Vojvodina	43092	43050	44646	46215	47095	51965
Šumadija and Western Serbia	37504	37066	38315	40024	42963	46826
Southern and Eastern Serbia	38270	38088	39959	41402	44130	48260
Registered employment by region (in thousands)						
Belgrade region	559.2	670.3	669.8	691.6	718	742.1
Region of Vojvodina	443.4	506.6	511.3	524.6	545.9	550.8
Šumadija and Western Serbia	396.1	470.6	475.4	486.2	500.5	508.1
Southern and Eastern Serbia	299	342.2	353.2	360.3	366.7	372.2
Wage fund (in millions)						
Belgrade region	30998	37236	38661	41592	43575	50568
Region of Vojvodina	19107	21809	22828	24244	25707	28623
Šumadija and Western Serbia	14856	17442	18215	19458	21504	23790
Southern and Eastern Serbia	11441	13032	14115	14916	16183	17960
Mid-year population estimates (average in thousands)						
Belgrade region	1675	1680	1684	1687	1690	1694
Region of Vojvodina	1902	1892	1881	1872	1862	1852
Šumadija and Western Serbia	1988	1972	1957	1941	1925	1909
Southern and Eastern Serbia	1567	1552	1536	1521	1506	1490
Wage fund per capita						
Belgrade region	18506	22165	22959	24652	25781	29850
Region of Vojvodina	10046	11529	12134	12954	13807	15454
Šumadija and Western Serbia	7473	8844	9309	10024	11172	12465
Southern and Eastern Serbia	7301	8399	9188	9806	10748	12050
The share of the regional in the total wage fund per capita (in %)						
Belgrade region	42.7	43.5	42.8	42.9	41.9	42.8
Region of Vojvodina	23.2	22.6	22.6	22.6	22.4	22.1
Šumadija and Western Serbia	17.2	17.4	17.4	17.5	18.2	17.9
Southern and Eastern Serbia	16.9	16.5	17.1	17.1	17.5	17.3

* Change in methodology in the calculation of wages (without affecting the results at this level of data aggregation)
Source: SORS.

potential productivity of those found (or 'stuck') in the secondary sector [3]. This is further aggravated by specific configuration of labour market institutions, privileging insiders at the expense of outsiders.

It is thus instrumental to take a view at the longer-term dynamics of key cleavages delineating primary from secondary labour market in Serbia. In Table 7, they are presented for years 2010 and 2020.

Looking at the structures of employment, a couple of them show stubborn stability over the past decade (public – private and secure – insecure jobs), however in most cases they have shifted in desirable directions. There is less informal, agricultural and vulnerable jobs, and within vulnerable jobs the share of unpaid family work declined the most. In the rest of this section we consider what has been the role of policy of attracting direct investment in rebalancing the above dual employment structures and then return to discuss the policy's role in addressing regional and sectoral labour market cleavages.

The jobs created thanks to supported direct investments and overall expansion of FDI in principle move the balance of labour market structures in all the right directions – in favour of formal, non-agricultural, waged, paid and secure jobs. It is straightforward in a situation when new workers come from the ranks of unemployed. As Madžar [10] put it, in a country with high unemployment, all newly created jobs due to FDI are in first approximation a pure macroeconomic gain. Actually, some of the gains are not visible in overall labour force statistics but are in a way even more transformational than those facilitating transition from unemployment to employment. If, for example, an unpaid contributing family worker in agriculture gets a job in manufacturing thanks to a subsidized direct investment, Labour Force Survey will not record any increase in employment. However, thanks to this job-to-

job transition the four structures in the middle of Table 7 will all change in favour of (statistically) superior forms of employment, and odds are that this would be the case with the job security status as well – since there is a rule that subsidized employers have to employ certain minimum percentage of workers on indefinite contracts. On the other hand, statistics on registered employment will indeed record one more employed person; and the corresponding wage fund will increase as well.

The treatment of public sector employment as superior to employment in private sector deserves a separate explanation. It is derived from statistics on wages and job characteristics in two sectors and is connected to the fact that all jobs in public sector are salaried, while this is not the case with private sector. While public sector employment is uniformly salaried and formal, private sector employment is a mix of modern and traditional, including subsistence farming and other informal jobs. Furthermore, within the subset of dependent employment, wages are higher in public sector, even after accounting for higher educational attainment there [14].

Expansion of dependent employment in private sector due to subsidized direct investments has the tendency both to reduce the share of vulnerable employment and to drive wages in private sector up. Even if incentivised direct investments are concentrated in low-wage branches, their wages tend to be higher than specific branch average – often due to the in-built agreement with RAS to have base wages at least 20% above the minimum wage. As a systematic effect, entry of more firms in any sector drives within-sector competition for labour which tends to increase wages.

However, there is relatively widely shared criticism that FDI in Serbia do not actually diminish regional differences (e.g. [11]), and that their concentration in low-wage sectors is not what Serbia needs to successfully gets out of the

Table 7: Duality of Serbian labour market in 2010 and 2020

Employment structures	Share in total employment in % (population 15+)	
	2010	2020
Public – Private	25:75	25:75
Formal – Informal	80:20	84:16
Non-agricultural – Agricultural	78:22	85:15
Standard (waged) – Vulnerable	67:33	73:27
Paid – Unpaid work	92:8	95:5
Secure (permanent) – Insecure jobs	57:43	58:42

Source: KILM database of SORS for 2010, LFS for 2020 and own estimates

middle-income trap. The descriptive evidence related to labour market outcomes presented in two preceding sections does not confirm these two strands of criticism, but does not conclusively reject them either. Nevertheless, while the policy of subsidizing direct investment might not be of much help, it is clearly not the root cause of inter-regional and inter-sectoral labour market differentials, since in Serbia they were already large and further widening at the time the policy was introduced in 2005 (e.g. [2]).

One of the plausible root causes for expanding regional and sectoral labour market differences was suggested in the study on labour costs and labour taxes in the Western Balkans by Arandarenko and Vukojevic [5]. The reform of labour taxation system in 2001 burdened low-wage firms and sectors in Serbia (which also tend to be concentrated in less developed regions) with very high effective tax rates, rendering them less competitive in regional and global markets. The opposite was true for high-wage activities, such as financial sector, ITC or energy sector. This privileged position for the high-capital, high-wage sectors was fortified by Serbia's race to the bottom in the statutory corporate income tax rate which was reduced to 10%, one of the lowest in the world, until it was uniformly increased to 15% in 2015. This neoliberal-inspired reform of direct taxation was at least a contributory factor to the long and severe decline in employment recorded in the period 2001-2006, despite the high and uninterrupted GDP growth that Serbia recorded at that time. The further deep drop in employment in the period marked by the impact of economic crisis 2009-2012 could also be partially ascribed to the labour-unfriendly features of Serbian tax and benefit system which remain largely unreformed to this day.

The scheme for attracting direct investment through subsidies was meant to revert the socially and economically dangerous destruction of jobs and to address rising unemployment by prioritizing job creation and tying the subsidy amount practically exclusively to the number of new jobs created. Another key feature of the incentive system has been progressive scheme paying higher subsidies per worker to investments based in less developed regions. Thus, the entire direct investment incentive scheme appears to have been designed with the key purpose to correct for the labour market distortions caused by the

inadequate system of direct taxation disfavouring labour-intensive and low-wage branches and firms, as well as the underdeveloped regions where they are naturally prevalent. It was, and we believe remains so to this day, the second best solution to promote employment creation and its structural transformation in the absence of comprehensive reform of the income (labour and corporate) taxation system and of active industrial policy.

Our perception of policy of attracting direct investment as correcting rather than aggravating labour market distortions gets its indirect confirmation in a relatively favourable assessments of its net effects [16] and of its maximum leakage potential [6]. The World Bank's impact evaluation found that between 2006 and 2015 the scheme "Attracting Direct Investment", the predecessor and close relative of the current incentive programme, created a total of 11,616 additional jobs that would probably not have been created without it. The gross effect is almost three times larger, standing at over 30,000 jobs. The wage subsidy per net additional job created was slightly above €2,000 annually for the duration of the program, or 30 percent of total employment costs to a firm for each additional job, which is comparable to the costs per job created by such programs in other countries. Bojović and Obradović [6], using stochastic frontier analysis, were interested in the efficiency of the subsidy programme as well as of its maximum potential for leakage. They estimated that during the same 10-year period (2006-2015) the Government overspent up to 21.1 % on subsidies for direct investment, which is some 9 million EUR per year (or around 0.0003% of average annual GDP).

In other words, although almost exclusive focus on job creation (Bojović and Obradović [6] find that the weight of the number of jobs as opposed to the value of investment in the implemented subsidy programmes was over 50:1) does not maximize growth and productivity enhancing effects of subsidized investment, their risk of deadweight – that is, supporting projects that would have been realized even without subsidies – is not high. This is precisely because the labour-intensive low-wage investment faces an uphill struggle if left solely to market forces, given the features of the tax system.

When it comes to regional distribution of investments, labour supply skill bottlenecks are another problem

worth discussing. Over the past two decades educational structure of the working age population has relatively rapidly improved, thanks both to inflow of smaller new, better educated cohorts and outflow of larger old, much less educated cohorts. Interestingly, a recent research found out that some relative skill gains come also from Serbian net negative external migration balance [9]. However, these on average higher skills are unevenly distributed across Serbian NUTS-2 regions and even more so across counties and municipalities. Table 8, depicting numbers of medium- and high-skilled employed persons across four NUTS-2 regions in 2015 and 2020, illustrates both points.

Rising overall educational level of employed labour force is evident from the fact that for Serbia as a whole, the ratio of high- to medium-skilled workers increased from 43.3:100 to 45.6:100 over the past 6 years. However, across regions the skill distribution remains very uneven, with 40% of all high-skilled workers located in the region of Belgrade which hardly comprises 25% of total population. While in 2020 in the Belgrade region the ratio of high-skill to medium-skill workers was above 4:5, in all three remaining regions that ratio was well below 2:5, indicating potential critical shortage of many high-skilled occupations. Of course, that shortage itself outside of the Belgrade region is largely a consequence of the vicious circle of lack of good-job opportunities and outmigration caused by it.

Even if not high-tech or high-wage, foreign direct investment has the power to stabilize and in some cases revert the outmigration tendencies. A recent study attempting to predict patterns of internal migration in Serbia [4] found out that some unexpected positive reversals in net migration can be explained as a consequence of inflow of direct investments, in municipalities such as Doljevac, Stara Pazova, Dimitrovgrad etc. In Doljevac, for example, following a direct investment, the share of registered

employment in total population rose more than threefold between 2010 and 2016 while the average net salary rose over 38%, and population grew by 2%, after a long period of continuous decline.

Finally, with over 80% of supported projects in the past five or six years belonging to manufacturing, most of which tend to be labour-intensive, and with the unemployment rate recently sinking below double-digit levels, the World Bank advised that 'authorities should now consider realigning incentive programs to go beyond just job creation to take into account ways to facilitate domestic linkages and technology spillovers' [15]. While it is a worthy general advice, small and medium-scale labour-intensive manufacturing projects can still go a long way in improving economic fortunes and the lives of people in smaller underdeveloped and devastated municipalities, as long as they are located directly there or within a commuting distance. Skill and infrastructure bottlenecks there hardly allow for more ambitious approach.

Still, it would be very important for Serbia's labour market and overall economic development to keep the current momentum in direct investment, ideally gradually moving toward higher-end manufacturing and high technology industries. Returning to Rodrik's point on unconditional convergence as an empirical feature of manufacturing expansion, such industries are integrated into global production networks and facilitate technology transfer and absorption. Even when they produce for the home market, they operate under competitive threat from abroad, which forces them to remain efficient [12]. This is not the case with many activities belonging to agriculture, traditional nontradable services, and informal sector. These activities in Serbia still comprise around a third of total employed labour force, a far higher share than that found in high-income economies. The unemployment rate

Table 8: Medium- and high-skilled employed workers in Serbia (in 000's), 2015 and 2020

2015					
	Total	Belgrade	Vojvodina	Šumadija and Western Serbia	South and Eastern Serbia
Medium-skilled	1480,1	331,9	422,8	421,3	304,1
High-skilled	641,2	248,1	150,2	136,6	106,3
2020					
Medium-skilled	1674	381,8	476,6	479,7	336
High-skilled	761	312,8	180,2	147,8	120,2

Source: Labour Force Survey

might be relatively low, but the transformational potential of Serbian labour market is far from being exhausted.

Concluding remarks

In recent years, Serbia has established itself as the leading destination for FDI in the Western Balkans and South Eastern Europe. This can be ascribed to its generous policy of attracting direct investment with financial incentives as well as engaging individually with strategic investors in certain major projects. While evaluations show that the direct investment programmes have definitely created new jobs, many of them were in labour intensive but less productive and lower value-added firms, leading to a decrease in average productivity of these firms as a group. A related criticism is that foreign firms remain relatively dis-embedded from local value chains. It has been proposed that, with the unemployment rate falling recently to single-digit levels, the policy should be reformed to foster growth in higher value-added industries and create stronger spillovers [15].

In our analysis, we look in more detail at the labour market effects of the policy of incentivised direct investment, first from a sectoral and regional perspective, and then by taking a holistic view at the overall labour market and developmental impact. We find indications that this policy has contributed to overall sectoral rebalancing of Serbian labour market by increasing manufacturing jobs. This impact is strongest in activity branches with the largest inflow of subsidized direct investment. At the same time, the policy of attracting direct investment has contributed in some aspects to regional rebalancing of Serbian labour market, most notably in improving the quality of employment in less developed regions and in stabilizing the shares of regional wage funds. At the municipal level, in some cases it can be directly linked with the positive turnarounds in net migration patterns and other socio-economic indicators. We also draw our conclusions from a couple of recent relatively positive evaluations of net impact and financial efficiency of incentivized direct investment. We argue that the scheme for attracting direct investment was created as the second best solution to promote employment creation and its structural transformation in the absence of comprehensive reform of the income (labour and corporate) taxation system and of comprehensive industrial policy.

Still, secular cleavages between regions remain very large. While the overall educational structure of the working age population has been steadily improving in the past decade, the ratio of high-skilled to medium-skilled employed workers in the Belgrade region is still more than twice larger than in any of the three other regions. On the other hand, the reservoir of vulnerable employment in these three regions is still more than twice larger than in the Belgrade region and the unemployment rate remains well into double-digit territory in both regions of Central Serbia. These simple facts suggest that the transformational potential of Serbian labour market is far from being fully exploited, and that Serbia still needs both further investments in manufacturing jobs and a more ambitious shift toward high-technology investment. Sustaining a high level of private direct investment while gradually shifting the bulk of incentivised investment to sectors requiring high skills as these skills are being created should be the best recipe for unconditional convergence and Serbia's eventual exit from the middle-income trap.

References

1. Aleksić, D., Arandarenko, M., & Ognjanov, G. (2020). *Ex Post Analysis of the National Employment Strategy for the Period 2011-2020.* Belgrade: Foundation for the Advancement of Economics.

2. Arandarenko, M. ed. (2006). *Mapa tržišta rada Srbije.* Beograd: CEVES.

3. Arandarenko, M. (2018). Izazovi tržišta rada i zaposlenosti u Srbiji u XXI veku. In Kostić, A. (Ed.). *Ekonomija: Zaposlenost i rad u Srbiji u XXI veku* (pp. 17–42). Srpska akademija nauka i umetnosti i Ekonomski fakultet u Beogradu.

4. Arandarenko, M., Corrente, S., Jandrić, M., & Stamenković, M. (2020). Multiple criteria decision aiding as a prediction tool for migration potential of regions. *European Journal of Operational Research*, *284*(3), 1154–1166.

5. Arandarenko, M., & Vukojevic, V. (2008). Labor costs and labor taxes in the Western Balkans. In C. Bredenkamp, M. Gragnolati & V. Ramljak (Eds), *Enhancing Efficiency and Equity: Challenges and reform opportunities facing health and pension systems in the Western Balkans* (pp. 119–158). Washington, DC: World Bank.

6. Bojović, V., & Obradović, F. (2018). Efficiency analysis of subsidies for investments using stochastic frontier analysis: Case of Serbia. In E. Horská, Z. Kapsdorferová, & M. Hallová (Eds.), *International Scientific Days 2018, Towards Productive,*

Sustainable and Resilient Global Agriculture and Food Systems (pp. 2546–2566). Prague: Wolters Kluwer ČR.

7. Estrin, S., & Uvalic, M. (2014). FDI into transition economies: Are the Balkans different? *Economics of Transition*, *22*(2), 281–312.

8. Kastratović, R. (2016). Uticaj stranih direktnih investicija na privredni i društveni razvoj Srbije. *Bankarstvo*, *45*(4), 70–93.

9. Leitner, S. (2021). *Net Migration and its Skill Composition in the Western Balkan Countries between 2010 and 2019: Results from a Cohort Approach* (wiiw Policy Note/Policy Report No. 47). Vienna: The Vienna Institute for International Economic Studies.

10. Madžar, Lj. (2016). Strane investicije u ekonomskoj politici Srbije. In R. Kovačević, & G. Rikalović, (Eds), *Strane direktne investicije i privredni rast u Srbiji* (pp. 11–34). Beograd: Naučno društvo ekonomista Srbije sa Akademijom ekonomskih nauka i Ekonomski fakultet u Beogradu.

11. Rapaić, S. (2016). *Uloga stranih direktnih investicija u lokalnom ekonomskom razvoju u Republici Srbiji (2001–2013)* (PhD Thesis). Belgrade: Faculty of Political Sciences, University of Belgrade.

12. Rodrik, D. (2013). Unconditional convergence in manufacturing. *The Quarterly Journal of Economics*, *128*(1), 165–204.

13. Uvalic, M. (2010). *Serbia's Transition. Towards a Better Future*. Basingstoke: Palgrave Macmillan.

14. Vladisavljević, M. (2019). *Ekonometrijska analiza premije zarada javnog sektora u Srbiji u uslovima fiskalne konsolidacije* (PhD Thesis). Belgrade: Faculty of Economics, University of Belgrade.

15. World Bank. (2020a). Serbia's new growth agenda: Forging a new future. *The Serbia Country Economic Memorandum 2.0 (CEM)*. Washington, DC: World Bank.

16. World Bank. (2020b). Reforming state aid for growth: New growth agenda. *The Serbia Country Economic Memorandum 2.0 (CEM)*. Washington, DC: World Bank.

Mihail Arandarenko

is a Full Professor at the Faculty of Economics, University of Belgrade, and a Chairman of the Board of the Foundation for the Advancement of Economics (FREN). He is a national labour market expert for Serbia within the European Commission's European Centre of Expertise in the field of labour low, employment and labour market policy. He obtained his PhD degree in 1998 from the University of Belgrade. In 1999-2000 he was a postdoctoral Fellow at the Collegium Budapest – Institute for Advanced Study, in 2000-2001 Research Fellow at the Central European University and the Hungarian Academy of Science, in 2014-2015 Visiting Senior Fellow at the London School of Economics, and in 2019 Visiting Professor at the City University of New York. His research areas include labour markets, employment policy, industrial relations and social policy. He received various international grants for labour market research and has been a consultant throughout South Eastern Europe for leading international organisations and agencies, including the European Commission, the World Bank, the UNDP, the ILO, the OECD, the USAID, etc.

Dragan Aleksić

is a Assistant professor at the Faculty of Economics, University of Belgrade, where he teaches courses in Labour Economics and Principles of Economics. He graduated in 2008 from the Faculty of Economics, University of Belgrade, earned Master's degree in Economic Analysis and Policy in 2014 and PhD in Economics in 2020 at same institution. His primary fields of interest refer to the labour market, minimum wage, active labour market policies and vulnerable groups in the labour market. He authored many scientific papers published and presented in domestic and international journals and conferences.

Dragan Lončar

graduated from the Faculty of Economics in 2001, completing a Master course in Management Studies at the University of Cambridge in 2003 and acquiring a PhD title at the Faculty of Economics in 2007. He was awarded a Fulbright scholarship (2008/2009) for postdoctoral research in financial management at the University of Chicago (Booth Business School). He has been a CFA (Chartered Financial Analyst) charterholder since 2013. Currently, he works as a full-time professor at the Faculty of Economics and Business in Belgrade. He is the associate dean for finance and organisation at the Faculty of Economics in Belgrade. Furthermore, he is the director of the consulting firm Peterhof Consulting. He is also a member of the Cambridge Society and Fulbright Association in Serbia.He has rich consulting experience as the executive director of a growing consulting firm Peterhof Consulting, having had consulting assignments with leading Serbian and foreign companies. Additionally, he has experience of participating in World Bank, IFC, IRD, OSCE and EU funded projects in Serbia, concerning regional development, renewable energy sources, refugee solutions, corporate governance, and business ethics.