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NOT ALL JOBS ARE CREATED EQUAL: HOW NOT TO MISREAD THE LABOUR FORCE STATISTICS IN SERBIA

Nisu svi poslovi jednaki: kako ne čitati pogrešno statistiku radne snage u Srbiji

Abstract

In this paper we will closely examine a well-publicised attempt to proclaim the recent recovery in employment as revealed by the Labour Force Survey "an illusion" and to discard the Serbian LFS data as "unreliable", and "suspicious". We will present and assess all the main arguments of the LFS's denialists: comparative evidence on employment elasticity with respect to growth, major shifts in employment since 2008, as well as the alleged inconsistencies between the employment trend and trends in social security contribution revenues and personal consumption. We will demonstrate that all the main claims of the denialists are methodologically irrelevant and based on incorrect calculations and distortion of facts and terminology. We will continue to explain the development of the LFS, its international and European standards, and emphasise the growing significance of the LFS that extends far beyond its contribution to macroeconomic statistics.

Keywords: *Labour force survey, employment, national accounts, Serbia*

Sažetak

U ovom članku bliže razmatramo jedan široko publikovan pokušaj da se nedavni oporavak zaposlenosti na osnovu podataka Ankete o radnoj snazi predstavi kao „iluzija", a sami anketni podaci odbace kao „nepouzdani", i „sumnjivi'". Predstavljamo i pretresamo sve glavne argumente poricatelja ARS – uporedne podatke o elastičnosti zaposlenosti u odnosu na rast, velike promene u zaposlenosti od 2008. godine, kao i navodnu nekonzistenost između trenda zaposlenosti i trendova u prihodima od doprinosa za socijalno osiguranje i u ličnoj potrošnji. Pokazujemo da su sve osnovne tvrdnje poricatelja metodološki irelevantne i zasnovane na netačnim računicama i iskrivljavanju podataka i terminologije. Nastavljamo sa pregledom razvoja ARS i njenih međunarodnih i evropskih standarda. Ukazujemo na rastući značaj ARS koji je daleko obuhvatniji od njenog doprinosa makroekonomskoj statistici.

Ključne reči: *Anketa o radnoj snazi, zaposlenost, nacionalni računi, Srbija*

Introduction

In their paper Petrović et al. [9] put forward a number of strong claims related to labour force statistics in Serbia. Basically, they resolutely deny the reliability and usefulness of the Labour Force Survey (LFS) data produced by the Statistical Office of the Republic of Serbia (SORS). Since Mr Petrović is the Chairman of the Fiscal Council, and his co-authors are engaged with the same institution, the paper, presented at the 2016 Kopaonik Business Forum, has received a fair share of public attention and has furthermore been posted on the official website of the Fiscal Council, among only a handful of research papers, with the general aim to stimulate academic discussion.

Although Petrović et al. make passing references to our recent paper co-authored with Kovačević [2], they still appear to apply the same simplistic and erroneous approach and make the same type of unfounded and essentially populist claims in the interpretation of labour market trends we have criticised in our paper[1]. Such claims, coming from an influential public body such as the Fiscal Council and its Chairman, cannot be ignored and should be repudiated. This is the first and more immediate reason to write this paper.

Another reason is, in our opinion, even more important. We want to support a more informed debate on labour market trends and labour market statistics in Serbia. Unlike the denialists, we see no reason to doubt that the LFS data are generally reliable and indeed indispensable for the purposes for which they are primarily being collected, while recognizing that there is room for further improvement. The limitations and methodological changes in the LFS need to be well understood and taken into account when analysing general and especially structural trends in the labour market activity of the population. Moreover, recent attacks on the Labour Force Survey and the "controversy" caused by these attacks have diverted the public and expert attention from the deeper and more important issues related to the understanding of root causes of the poor performance and the seemingly counterintuitive dynamics of the Serbian labour market. Owing to its design, the LFS – unlike any other survey or data source – does reveal the fundamental and multidimensional duality of the Serbian labour market. This duality has emerged both as a result of various historical and structural factors, and as a result of institutional misconfigurations and grave policy mistakes. The duality of the Serbian labour market can be observed either by conducting a structural analysis at a certain time point or, even more effectively, by looking at the labour market flows by structures over time, inclusive of the use of transition matrices.

Finally, based on international standards and comparative experience, we shall briefly discuss the current state of development of the LFS and labour force statistics in Serbia, especially when it comes to the integration of the LFS and other sources of labour statistics into the system of national accounts – an issue surprisingly misunderstood by Petrović et al. who, instead of their nature, blame the quality of the LFS data for their alleged inconsistency with other macroeconomic indicators.

After the Introduction, the rest of the paper is structured as follows. In Section 2 we will discuss the first of the arguments against the reliability of the Serbian LFS data put forward by Petrović et al. which is based on comparative evidence from Central and Eastern Europe. In Section 3 we shall tackle their argument related to the improbability of large swings in employment since 2008. In Section 4 we will demonstrate that their calculations, showing stark inconsistencies between the formal employment trends and social security contribution collection trends, and also between the total employment trends and trends in private consumption, are incorrect. In Section 5 we will provide evidence that the expectations of Petrović et al. regarding the LFS are unrealistic, and show that there are well-established pathways to integrate employment statistics into the system of national accounts, but which include procedures that are far more complex than Petrović et al. envisage. In Section 6 we shall briefly explain the primary purpose and growing importance of the LFS, both generally and in the context of Europe 2020 Strategy and the Serbian Employment Strategy. Section 7 concludes the paper.

1 Actually, our criticism in Arandarenko et al. [2] was mostly aimed at the repeated claims made since 2013 in the Quarterly Monitor and in media appearances of the QM's Editor-in-chief, Mr Arsić, that the Labour Force Survey data were not to be trusted because they had been showing strong increase in employment despite the stagnation of the GDP, and that these had also been incongruent with other macroeconomic trends.

Section 2: Comparative evidence

Petrović et al. begin their argument by looking at comparative evidence, comparing the cumulative GDP and employment growth in 13 Central and Eastern European countries in 2013 and 2014, with 2012 as the base year. They find that the employment growth of over 14% in Serbia was by far the greatest among the comparator countries – twice as large as in the next comparable CEE country, and that, at the same time, the Serbian GDP growth was below average. Furthermore, they calculate the elasticity of employment with respect to the GDP in the same period and obtain the elasticity value of 19.9, which is, according to them, far outside the theoretical boundaries, which range from 0 to 1.

It might be said that this, perhaps, was not the best way for Petrović et al. to start the argument they wanted to make, since they based it on an erroneous rationale. First, they calculated the employment growth to be 14% by comparing the incomparable, taking the employment numbers from their misconstrued Table 3 [9, p. 63], in which they put together the originally released annual employment data for 2012 and 2013 and the (upwardly) revised data for 2014 – which have been produced by the SORS to ensure forward comparability with the 2015 and later data, not the backward comparability. In doing so, they have inflated the employment growth in the 2012-2014 period from around 8.5% to 14%, and at the same time computed the employment elasticity of growth of 19.9, instead of the correct 12.4.

Since this mistaken series has been repeatedly used in their paper (from which it has unfortunately spread to some of the media), to avoid any further confusion, in the left panel of Table 1 below we have presented their misconstrued employment series for the 2008-2015 period, while the right panel of Table 1 illustrates the correct employment series with comparable data for the same period, with the breaking point in 2014. The year 2014, which was marked by the introduction of the quarterly LFS survey, was the last year of the original series started in 2008. At the same time, its revised data (revised in order to be aligned with the continuous LFS survey introduced in 2015) are the start of the new comparable series for the period from 2014 onwards.

But is it not true that 12.4 is still far beyond "any possible range" of employment elasticity, as claimed by Petrović et al. for their (mistakenly measured) elasticity of 19.9? We believe that it is not. Actually, possible boundaries for the employment elasticity of growth are between minus infinity and plus infinity. According to the most basic definition applied by Petrović et al., employment elasticity is the percentage change in the number of employed persons in an economy, compared with a percentage change in economic output, measured by the gross domestic product. Islam [5] has demonstrated that year-over-year employment elasticities calculated using this method tend to exhibit a great deal of instability. As we have extensively discussed in our recent paper [2], based on seminal contribution of Kapsos [6], this instability is one of the key weaknesses of the simplest form of employment elasticity of growth. Countries with a GDP growth close to zero may exhibit large swings in employment elasticities arising from relatively small changes in the underlying variables. In that case even a relatively modest change in

Table 1: Employment of adult population in Serbia, 2008-2015

Incorrect series, per Petrović et al.		Correct comparable series		
Year	Employment	Year	Employment - old series	Employment - new series
2008	2,821,724	2008	2,821,724	
2009	2,616,437	2009	2,616,437	
2010	2,396,244	2010	2,396,244	
2011	2,253,209	2011	2,253,209	
2012	2,228,343	2012	2,228,343	
2013	2,310,718	2013	2,310,718	
2014	2,544,188	2014	2,421,270	2,544,188
2015	2,558,426	2015		2,558,426

Source: Statistical Office of the Republic of Serbia, the LFS.

employment (in either direction) can push the absolute value of employment elasticity into double or even triple digit territory. Let us take a simple example. Let us assume that the GDP growth rate in country A is 1%, and 0.1% in country B, while in both countries the employment growth rate is 5%. Employment elasticity of growth is 5 in country A, while in country B it is 50. According to the logic that Petrović et al. applied in their paper, the employment elasticity of growth in country A is high but possible, while it is impossible in country B. This reasoning is clearly wrong, because in reality both countries face unusual (relatively rare) but quite possible phenomenon of similar proportions – a strong increase in employment which is not related to the GDP movements.

We would like to clarify at the very beginning that no amount of comparative evidence, relevant or not, can prove that any set of data on employment or any other labour market indicator in a specific country is statistically incorrect. That could be proven definitely only by dissecting the very survey from which the data were obtained– analysing, for example, the questionnaire design, sample design and sample weights applied, interview techniques, data entry procedures, logical control and the like. Petrović et al. make no effort in that direction whatsoever. What they offer is a sort of indirect, "circumstantial" evidence.

Nevertheless, the case against the plausibility of the Serbian data based on comparative evidence is especially weak. Among the thirteen countries chosen, Serbia has the highest employment elasticity of growth in the two-year 2012-2014 period which was selected by Petrović et al. precisely because, at that time, employment grew "suspiciously" fast. Extend that period one or two or three years backwards and Serbian employment elasticity will retract closer to "normal", average values, and some other country would certainly replace Serbia as an outlier. Should the labour force survey of that other country become suddenly "unreliable"? We believe that it would not.

Section 3: Large swings of employment and inconsistency with the macroeconomic data

In addition to the discordant employment and GDP trends in the 2013-2014 period, Petrović et al. observe large swings in employment since 2008 as another indication that the official labour market data are unreliable in the long run. Petrović et al. point out the fact that immediately prior to the latest increase in employment, from 2008 to 2012 Serbia experienced a "non-convincing episode" of an "enormous" decrease in employment of almost 600,000 people which, again, was not observed in other CEE countries, and which is also inconsistent with the fluctuations of all related macroeconomic indicators in Serbia.

We have already shown [2] that in the long-term perspective these two subsequent episodes of the dynamics of employment in Serbia in a way cancel each other out – the latter could be seen as a "regression towards the mean", while the former could be seen as a "departure from the mean", as a specific response of the labour market to the economic crisis that suddenly afflicted Serbia in 2008.

But let us address the issue of the "enormously" large swings in the total LFS employment which have not been adequately reflected in other macroeconomic indicators. Petrović et al. make every effort to persuade the reader that these swings were impossible to happen, and especially concentrate on the 2008-2012 episode of sharp employment decline. They hypothesise that the cumulative drop of almost 600,000 "employees" had to have happened almost entirely in the private sector, which at the start of the crisis comprised of about 2 million workers, while the rest of approximately 800,000 was employed in the public sector, and that employment in the public sector must have remained pretty stable throughout the crisis. Thus, it would mean that the private sector "laid off" almost a third of its employees when faced with a not-so-deep recession. Since this is highly unlikely, they conclude that these were actually "grave errors" in the estimates of employment numbers made by the SORS, indicating that there is a systemic problem in the SORS's monitoring of employment [9, p. 64].

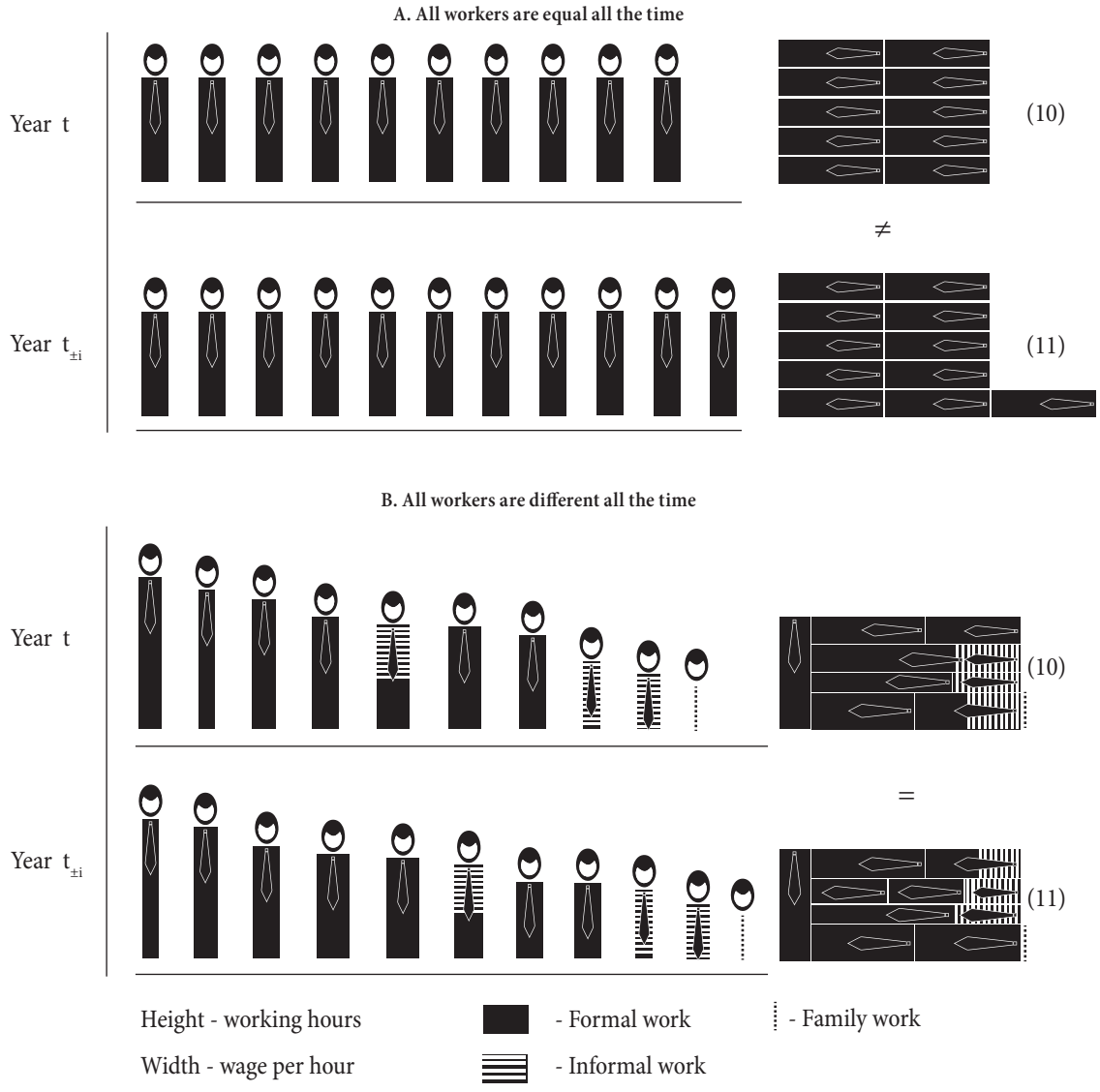
In this instance, Petrović et al. use flawed terminology and in doing so distort the facts in order to make their argument more convincing. They incorrectly speak of "employees" instead of "employed" (persons), and furthermore of "laid off employees" instead of, for example, "employment drop" – since many, or rather most, jobs in Serbia simply disappeared without the

alleged layoffs. Actually, according to the LFS data, the total employment loss in the formal sector throughout the entire 2008-2012 period was approximately 325,000, which was proportionally smaller compared to the drop in the total employment. Within these formal jobs lost, many were based on fixed-term or temporary employment contracts that expired in their own right, service contracts completed and not renewed, and permanent jobs that were bound to disappear because of the effects of transition and privatisation (including those in the public sector as defined by the LFS) rather than on the account of the crisis. At the same time, the informal employment, self-employment and employment of unpaid helpers in family businesses (these are all partially overlapping categories belonging to the secondary, less productive segments of employment), all recorded an above average decline.

In fact, Petrović et al. treat all employed persons in the economy as equally productive, and their labour input equally intensive in terms of working hours. Petrović et al. are in no way interested in structural characteristics of jobs – either in their totality, or only in the characteristics of the vanished or newly created jobs. This approach is very simplistic and far from the labour market reality – especially from a complex reality of a middle income country with a pronounced labour market duality and relatively large informal employment, such as Serbia.

Since we shall have to repeat this argument in the following sections, to make our point clearer, in Figure

Figure 1: Two approaches to the interpretation of labour force statistics



1 we have constructed two simple hypothetical labour market situations to reflect our alternative approaches to the labour market statistics.

The upper panel describes the way Petrović et al. essentially approach the LFS employment trends in their paper. Let us assume that in Year t there are 10 workers employed in the economy, and that in Year t+1 there are 11 employed workers. Since they are all equally productive, they invest the same amount of work and receive the same wage, the employment increase of 10% automatically translates into 10% increase in output and wages, and inevitably leads to – among other things – growth of the GDP, personal consumption and fiscal revenues from labour taxes. If the GDP, personal consumption and collected labour taxes stagnate, or grow insufficiently, then the labour force statistics are inaccurate.

The lower panel – purely hypothetical and simplifying as it is – shows a much more complex and lifelike situation. In Year t there are again 10 workers employed in the economy, and in Year t+1 there are 11 workers, the same as in the upper panel. However, in this case all workers are different – they may work different hours (reflected in their height) and receive different hourly wages (reflected in their width), presumably on the basis of their skills and experience. Some of them – contributing family workers – actually do not receive wages at all, and are thus represented with a vertical line instead of a rectangle. Working hours and wages of individual workers are not constant either – they vary from year to year. Thus, although the change in the total number of employed persons is included in the equation, depending on the changes in the number of working hours and the hourly wages (and the count of unpaid family members), the GDP, personal consumption and collected labour taxes might increase in Year t+1, but in uncertain proportions. It should be noted that the collected labour taxes and, to a degree, the recorded GDP also depend on the share of informal employment and that – to further complicate things – some persons can be formal workers, counted only as such by the LFS, but at the same time still involved in undeclared work and receiving envelope wages.

Crucially, as illustrated in our example in the lower panel, the abovementioned macroeconomic aggregates do not have to increase at all, if the downward adjustments in hours worked and wages (total or formal) are strong enough to offset the increase in employment. In our hypothetical example, the total surface areas of individual workers' wages reflecting the total wage bill in the economy in Year t and in Year t+1 are exactly the same. Within this framework, the LFS employment trends cannot be validated or dismissed on the basis of the trends in macro indicators, unless at least the wages and hours worked are also taken into account.

Section 4: Alleged inconsistencies between the employment trends and trends in revenues from social security contribution and personal consumption

To further support their claim, Petrović et al. attempt to prove that the employment increase in the 2012-2015 period is inconsistent with the amount of social security contributions collected by the tax authorities. According to the authors, formal employment, as reported by the LFS, grew by 12.1% in the three-year period, the average salary grew by 6.5%, and thus the total nominal wage bill implied by the LFS has increased by 19.3%. However, the social security contributions collected in 2015 were only 7.5% higher than in 2012. Finally, they deduced the average salary growth from the growth of social contributions and reached to an estimate of the actual increase in formal employment of 0.95% in the 2012-2015 period, instead of 12.1%, as reported by the LFS.

The abovementioned procedure is completely incorrect for a number of reasons. Firstly, Petrović et al. apply the average wage obtained from the establishment survey RAD conducted by the SORS (they do not disclose sources other than the Ministry of Finance; yet we have deduced the true source by applying the corresponding annual data on average wages from the RAD survey) and multiply it by the number of formally employed persons according to the LFS to impute the formal LFS wage bill. Such a procedure is methodologically flawed since it involves multiplying the LFS employment by the RAD wage, without even attempting to make any adjustments for the obvious stark differences between the two populations they cover. The

coverage of formal employment in the LFS differs from the RAD survey in several important aspects. To begin with, there are fundamental differences related to the units of observation: the RAD survey counts (the majority of) formal jobs, while the LFS counts employed persons – including those who can be multiple job holders. Most importantly, unlike the LFS, the RAD survey does not include formal self-employment in agriculture (farmers with registered agricultural households and their family members with paid social security contributions), formal jobs in the army and the police, as well as persons formally employed on the basis of temporary and service contracts. Most of the formal jobs that the LFS counts and RAD does not are of lower quality and belong to the secondary, lower-paid segment of the formal sector. Since their increase in this recent employment recovery has been above average, ignoring the differences in the composition and size of formal employment within the two very different surveys inevitably leads to biased results. Although in this single instance they do differentiate between the formal and informal employment, Petrović et al. do not allow for any differences within the formal employment, thus essentially remaining inside the framework of homogenous workers and jobs that we have illustrated in the upper panel of Figure 1 in Section 3.

Furthermore, returning to Table 1 in Section 2, Petrović et al. again compare the incomparable by using two different sets of the LFS data on employment – as the base point of 2012 they use data from the old LFS employment series that ended in 2014, while for 2015 they use data which are based on the new continuous survey, conducted for the first time in 2015. Since the revised employment numbers for 2014 are more than 100,000 higher than the originally published ones, it is clear that if the 2012 survey had been conducted in the way it was done in 2015, the estimated absolute number of employed persons in 2012 would have been significantly higher, and the difference in employment between the two data points much smaller.

At this point we should emphasise that any revision of the LFS data to account for the fundamental methodological changes introduced in 2015 would almost certainly not introduce a significant change to the labour market trends in the 2008-2014 period, which are the main subject of criticism of Petrović et al. It would mostly affect the absolute numbers, but would not erase either the episode of intensive employment decline in the 2008-2012 period, or the following episode of strong employment recovery from 2013 onwards. [2]

Thirdly, and most fundamentally, the Labour Force Survey in its generic form is designed in such a manner that it cannot provide a direct link between the LFS employment data and any macroeconomic outcome expressed in monetary terms which is a part of national accounts. The reason is simple – the LFS is a household survey and a part of demographic statistics, and as such it is primarily concerned with quantities of the labour supplied and utilised, rather than with wages as prices of labour. Consequently, it is not intended to provide precise weights needed to translate employment into labour productivity trends, or self-reported wage ranges into the labour share, or, for that matter, the change in employment into the change in revenues from labour taxation.

As a minor point, Petrović et al. make an extensive effort to refute our proposition [2] that the observed reduction in average working hours between 2012 and 2014 recorded in the LFS – indicating a relatively slower growth in the total "fund of labour" compared to the number of the employed – might partially explain the slower growth in revenues from social contributions. The authors consider it erroneous, since "the increase in the share of part-time employment would also simultaneously decrease the average salary" [9, p. 65]. Again, they appear to be oblivious to the fact that the RAD based wage (related to the subset of formal jobs which are the least susceptible to part-time work) cannot be simply imposed on the entirety of the LFS formal employment. They even go on to hypothesise that the increase in part-time employment would have the opposite effect because of the existence of minimum social security contribution base at the level of 35% of the average wage. In reality, it is not possible to isolate any firm willing to employ low-wage part-time workers and to face an exorbitantly high labour tax wedge. The minimum base serves as a deterrent for low-wage part-time work, rather than as a labour tax revenue-boosting institution. Therefore, low-

wage part-time jobs paying less than the minimum base salary are always informal.

Nevertheless, we hope that we have convincingly shown that imposing the average wage from the RAD survey – which has its own limitations and significant biases that cannot be discussed here (for extensive elaboration, please see [1]) – to the LFS employment data is methodologically and practically incorrect.

To avoid repetition, we shall only briefly address the arguments of Petrović et al. related to the allegedly divergent trends between employment and private consumption from 2012 to 2015. The authors apply the same repertoire of flawed calculations and comparisons of the incomparable data. They took the real private consumption from macroeconomic accounts and found that it has decreased by 2.5% between 2012 and 2015. Then, using the already described incorrect calculation of the increase in employment and incorrect imputation of the average wage from the RAD survey to the LFS employment, they calculated that the total wage bill increased by 10% in real terms during the same period and concluded that the two numbers cannot be reconciled. This approach is even more erroneous because it is clear that the RAD average wage should be much higher than the (hypothetical, since it cannot be calculated) economy-wide LFS average wage – if for no other reason, then because of almost 10% of unpaid family workers within the LFS employment.

Furthermore, in a country with a very low employment rate, a modest labour share, and large number of families without employed persons or with low work intensity, patterns of private consumption significantly depend on the trends in the non-labour incomes. We have already shown elsewhere [2] that non-labour incomes of the population have followed a practically uniform downward trend during a prolonged period of time.

Finally, the passage of far-reaching changes in the Labour Law adopted in 2014 must have left its mark on wage trends – negatively affecting both private consumption and collection of labour taxes. Although the Fiscal Council was expected and was well-equipped to make such calculations owing to their potential impact on public revenues, it has been completely silent on this matter.

Nevertheless, our back-of-the-envelope estimates point to the one-off reduction by 2-3% in the average formal wage in the economy as a cumulative consequence of such changes in the Labour Law that could be expressed in monetary terms. These include the reduction of seniority premium from 0.5% to 0.4% per year of service and the introduction of the eligibility for premium only for tenure with the current employer; the removal of mandatory pay premium for shift work of 26%; the extension of the shorter work week from 32 to 36 hours; the relaxation of rules related to compensation hours (implying less overtime pay); the reduction of maximum allowed days of annual paid leave from 7 to 5; the change in the rules for calculation of paid annual leave; the change in the rules governing severance payments, and several other regulations. Apart from the direct impact that the changes in the Labour Law exerted on the average wage in the economy, there must have been an indirect negative impact on private consumption as a consequence of reduction in job security – or at least because of the widespread perception of increased job insecurity.

Section 5: The LFS and macroeconomic accounts

Thus far we have demonstrated that the calculations and comparisons made by Petrović et al. with the aim to prove that the LFS trends cannot be reconciled with the trends in the GDP, collection of labour taxes or personal consumption, are all irreparably flawed. In this Section we move on to show that, more generally, the LFS (being it this current Serbian LFS or indeed LFS) cannot be put to the verification or falsification test by comparing its trends to the trends in the GDP, labour taxes collection or personal consumption.

Historically, modern employment statistics was born in 1915 in the United States, but it was derived from an enterprise survey (Current Employment Statistics) – counting only non-farm payroll jobs – rather than from a population survey. Specific population-based concepts of the labour force, employment, and unemployment were developed in the later stages of the Great Depression, since mass unemployment in the early 1930s increased the need for a reliable statistics of jobless persons. This population-

based approach implemented in the Current Population Survey was to become the basis for the development of modern labour force surveys.

The key difference between the LFS data and macroeconomic data that form the core national accounts is that while the former count indivisible persons, the latter are typically expressed in perfectly divisible monetary units. Simply put, the former are unweighted, the latter are weighted. Consequently, the former belong to the social and demographic statistics, the latter to macroeconomic statistics.

Owing to these fundamental reasons, employment and population have traditionally been considered as mere auxiliary variables in national accounts, aimed to calculate ratios such as value added, output, or labour costs per inhabitant or per employed person. The efforts to fully integrate the labour force statistics into macroeconomic statistics and system of national accounts – which is an ongoing process – have a long and complex history which we do not have the intention to explore here[2]. For the specific purpose of this paper, it is important to note that there is not a single country, even among the most developed ones, in which the LFS employment statistics are included in the system of national accounts without complex adjustments and imputations. Quite the opposite, there are certain, especially smaller, OECD member-countries which do not make much use of the LFS data in their national accounts, relying mostly on their various comprehensive administrative and census records.

Why is this so? In the first place, because without weights (such as working hours and wages), it is not possible to ensure satisfying consistency between the employment statistics and macroeconomic statistics in national accounts. At one point in time or over time, they can only be placed in a certain relation, so that, for example, it could be said that the labour productivity is on the increase if employment grows at a slower pace than the GDP, or if employment drops despite the growth in the GDP. Or, it could be said that the quality of jobs deteriorates and the value added per employed person decreases, if employment grows faster (or drops slower) than the GDP. However, what is crucial is that the LFS is not designed to provide weights which are precise enough to be applied without extensive modifications. Most importantly, wages in the LFS are self-reported and it is well-known that many interviewees refuse to disclose their income, and many among those who accept to do it, tend to under-declare the full amount. In terms of our example in the lower panel of Figure 1, we can roughly estimate the height (hours worked) of employed workers, but their width cannot be reliably estimated – and without that dimension the total surface area (right section of the lower panel in Figure 1) representing the LFS-based wage bill in the economy, remains unknown.

But there are many more conceptual and practical complications related to the integration of the LFS employment into the system of national accounts. Such accounts necessarily involve a merger of data from different sources. According to Eurostat[3], national accounts often integrate information on employment from many sources, and all of them, including the LFS, are assessed and the best way of their integration is subsequently decided upon. Most countries use the LFS data as the main, but not the single source of data on employment. However, some countries make very minor use of the LFS in their national accounts. Various pieces of information are combined to provide the most complete and consistent estimates – thus the estimates in the integrated national accounts typically differ from the results of individual basic sources. In national accounts, employment figures must be consistent with other variables such as output and compensation of employees, and adjustments are necessary to ensure consistency between these variables.

Let us briefly have a look at Germany as a typical example of a large developed economy with powerful macroeconomic statistics. According to German Federal Statistical Office, in accordance with the European System of Accounts based on the ILO definition, national accounts consider that persons in employment comprise all the

2 For example, it was none other than Angus Maddison during his stint at the OECD in the 1970s who pushed for the introduction of more nuanced measures of "labour slack" instead of simple unemployment rates [8]. Maddison explained the relatively slow pace of integration of the labour force statistics into the system of national accounts by the fact that "labour statisticians are much less used to data merger and imputations of this kind than are the national accountants" [7].

3 http://ec.europa.eu/eurostat/cache/metadata/EN/employ_esms.htm

persons who perform a gainful activity as employees, as self-employed or as contributing family workers or who work pursuant to an employment contract. On the other hand, in addition to the LFS, approximately 60 individual statistical sources obtained through different reporting channels are currently evaluated for the purpose of calculation of employment statistics that are included in the national accounts. Most are official statistics designed for various subsectors of the economy (agriculture and forestry, fisheries, industry, services) or other branch-specific employment data reported by enterprises and their establishments (for example, in the field of postal/telecommunications, railways, or the financial system). The continuous data reports from the private sector are supplemented by yearly personnel data from public employers, monthly reports of the Federal Ministry of Defence on the number of staff of the armed forces and information on the number of persons engaged in voluntary civilian or social services. Additional data sources are the employment statistics of the Federal Employment Agency, which are based on the reports submitted to the social security funds, the business register of official statistics, the quarterly surveys of earnings and the microcensus with the labour force survey integrated in it. The "original" LFS employment and this macroeconomically "harmonised" employment typically differ by some 2.5 million persons – and interestingly enough, in favour of the latter[4].

In countries where employment estimations for national accounts are well-developed based on comprehensive administrative records and establishment surveys on jobs, they are used primarily to follow employment in the context of the overall economic development and cyclical trends, while the LFS, with its large number of variables, is mainly utilised to analyse the situation of specific sections of the population, for interdisciplinary research, and for international comparisons[5].

Our elaboration of these basic background pieces of information on the nature, linkages and differences between the LFS employment statistics and employment estimates for national accounts has been necessary to understand how absurd is the appeal of Petrović et al. addressed to the SORS to revise its LFS statistics so as to fit in better with the macroeconomic trends. They also express a hypocritical concern that "economic policy does not have at its disposal some of the most basic economic indicators – how many people are actually employed in Serbia and what are the actual trends in the labour market". But fortunately, "budget projections of contributions and income tax, as well as consumption projections… are still being developed without the inclusion of suspicious trends from the official labour statistics". Petrović et al. even take a step further and confidently predict that "the actual employment trends will probably be stagnant in the medium term… " [9, pp. 66-67, emphasis added].

This entire dramatic construct has been created out of the fact that Petrović et al. apparently do not understand the fundamental difference between the two very different types of economic statistics – population statistics and macroeconomic statistics, and between the original data on employment in the LFS and the employment counts constructed to ensure consistency within the system of national accounts. Outside of the system of national accounts, the original LFS data should never be adjusted or revised to correspond better to the macro trends, and the request put forward by Petrović et al. to the SORS to act in such way is equivalent to exerting pressure on the SORS to forge the LFS statistics.

Furthermore, why would any Ministry of Finance make projections of labour tax revenues primarily based on the sheer number of the LFS employed persons if the weighted census-like data of superior quality from the Tax Administration are readily available? Similar reasoning is also applicable for the private consumption projections. In both instances, however, the LFS data should be used as an auxiliary source of information, but mostly to be able to encompass the informal sector for which no other data are available – for example, to assess the potential for the increase in revenues due to formalisation or to try to adjust the consumption projections for the estimated trends in informal wages.

In general, in Serbia, as in most other small middle-income countries, the integration of the LFS and other employment statistics into the system of national

4 https://www.destatis.de/EN/FactsFigures/NationalEconomyEnvironment/LabourMarket/Methodology/EmploymentAccounts.html.

5 http://ec.europa.eu/eurostat/cache/metadata/EN/employ_esms.htm.

accounts and creation of harmonised short and medium-term projections is a rather inexact science and involves quite a fair amount of heuristic reasoning. Certainly, this situation could be improved, but not, as Petrović et al. suggest, by stretching or cutting the LFS data to fit the macroeconomic Procrustean bed. Instead, more use should be made of job-based employment statistics, which contain additional, although still incomplete, information on wages in the economy. These statistics primarily comprise the recently created CROSO database, but also the improved establishment-based RAD survey.

Section 6: Why is the LFS indispensable?

In the previous sections we have mostly focused on what the LFS cannot be expected to fully deliver. For example, the LFS cannot typically provide on its own the labour market statistics that can be – inclusive of both quantities and prices (wages) – inserted into the system of national accounts without adjustments and augmentation from other sources. However, this by no means translates to a statement that the LFS, as the key source on the size, structure, characteristics and attachment of the adult population to the labour market, should not be an important input to the system of national accounts.

However, the LFS is much more than that. As formulated by the Eurostat, national accounts are perceived as more suitable to measure employment levels, employment growth and industry breakdowns, while the LFS is more adequate to measure participation in the labour market (i.e. employment rates, activity rates, flows between employment and unemployment, etc.), demographic or social breakdowns (e.g. by age, gender or educational attainment) and it is more suitable for socio-demographic studies[6]. National accounts calculate labour productivity, but do not take into account variables such as unemployment or employment rates. Therefore, the approaches to employment taken by the LFS and by the national accounts complement each other: the former concentrates on the demographic and social aspect of employment, while the latter is focused on labour as an input to processes of production, income generation and income distribution. In this Section we shall focus on the indispensable role of the LFS as the key source of labour market statistics, standing at the juxtaposition of economic and social dimensions of life.

Labour force surveys are conducted in most countries around the world. Although there are guiding principles developed by the International Labour Office and its International Conference of Labour Statisticians (ICLS), they are in many aspects quite diverse (questionnaire, frequency, definitions, variables, sampling design, data collection mode, etc.). However, they all share certain common features – they are household surveys and they are mostly targeted to collecting data on the labour circumstances of the respondents.

In the European Union, the labour force survey is a long-standing survey, in many countries going back to the 1950s or the 1960s. At the time, labour force surveys were developed independently by individual countries. The first steps towards an EU-LFS were made in 1960 within the then European Community. The concepts and definitions used in the following decades were those adopted in 1982 at the 13th International Conference of Labour Statisticians. In the early 1990s, the EU legislation was first used to further assure the internal comparability of the EU-LFS. EU regulations in the field of statistics are applied so as to standardise the survey design, the survey characteristics and methods. The most important is the Council Regulation 577/1998 which has placed the key pillars of today's EU-LFS. It has stipulated that the LFS should be a continuous quarterly survey and has also introduced an output harmonisation approach[7]. Furthermore, the European Statistics Code of Practice requires that the LFS statistics are consistent internally, over time and are comparable between regions and countries.

The EU-LFS currently covers thirty-three participating countries: the 28 Member States of the EU, three EFTA countries (Iceland, Norway and Switzerland), and two candidate countries, Turkey and the FYROM. Each quarter

6 http://ec.europa.eu/eurostat/cache/metadata/EN/employ_esms.htm

7 Output harmonisation means that while inputs, such as survey questionnaires, can differ between individual countries, they all need to lead to a uniform and fully harmonised set of outputs – tabulations and indicators.

around 1.8 million interviews are conducted throughout the participating countries to obtain the data for around 100 variables. The national statistical offices design national questionnaires, draw the sample, conduct interviews and send results to the Eurostat in accordance with a common coding scheme established by the Commission Regulation (EC) 377/2008. Eurostat is in charge of monitoring the implementation of the Regulation (EC) 577/98, providing assistance to the national statistical offices, promoting harmonised concepts and methods, and disseminating comparable national and European labour market statistics. Due to the abundance of information and the large sample size, the EU-LFS is also an important source for other European statistics such as the Education statistics or the Regional statistics.

Over time, the EU-LFS has proven to be the only standard statistical source of information able to capture rapid and deep structural changes in the EU labour market, such as the increased participation of women, new forms and types of employment, changes in sectorial structures of employment, skill mismatches, emergence of mass unemployment in some countries, and the like. The EU-LFS is now universally recognised as an indispensable tool for monitoring labour market developments and for taking the appropriate policy measures.

The LFS has additionally gained importance and public prominence with the adoption of the Lisbon employment strategy, which set the target of reaching the employment rate of 70% among the working-age population (15-64 years of age) by 2010 as one of the key goals for the EU. In June 2010, the European Council adopted the Europe 2020 strategy for smart, sustainable and inclusive growth. Among the five headline targets, the first is to raise the employment rate for women and men aged 20 to 64 years to 75 % by 2020. EU Member States have all set their own national targets in the light of these headline targets while taking into account their baseline labour market and macroeconomic situation. The implementation of the strategy might be achieved, at least in part, through the promotion of flexible forms of employment, such as, for example, part-time work or work from home – which are expected to stimulate labour participation.

In Serbia, the LFS was introduced rather late, in 1995 (after a pilot survey in 1994). However, it was not before 2004 that its concepts and definitions became fully aligned with those recommended by the 13th ICLS. Since 2004, the SORS has benefited from continuous support of the ILO in addressing various technical aspects of the survey – sample design, sampling errors and weights, rotating panel features, questionnaire design, statistical release etc. It has also established a cooperation with the Eurostat with the ultimate aim to join the EU-LFS.

Until 2008, the LFS was conducted once a year, in October, on a rather small sample of approximately 21,000 individuals. In 2008, the LFS became semi-annual (with rounds in April and October). At the same time, the survey questionnaire was significantly expanded, to facilitate fuller inclusion of informally employed, marginally attached, family helpers and similar categories which had previously not been fully accounted for among the employed. In 2014, the survey became quarterly (with rounds in February, May, August and November), and the sample size was expanded accordingly. In 2015, perhaps the most important change took place – the survey has become continuous, in accordance with Article 1 of the Council Regulation 577/1998. Since by 2010 all the EU-LFS participating countries (except Turkey) have introduced the continuous survey, this change could be considered as one of the decisive steps towards Serbia becoming a participating country of the EU-LFS.

Approximately in the past decade, the LFS in Serbia has also gained public recognition and has been, similar to its EU counterpart, used in the development of economic strategies and in policy creation. The National Employment Strategy 2011-2020 has set the goal to achieve the LFS employment rate of 61% for the working-age population by 2020, while most other indicators of achievement (such as those related to youth employment, gender equality etc.) in this strategy also come from the LFS.

Since the alignment with the ILO concepts and definitions in 2004, the LFS has been reliable enough both to reflect the trends in key national labour market indicators and for the purpose of international comparisons. The two largest methodological changes, in 2008 and 2015, have only improved this reliability. They both resulted

in significantly increased estimates of employment (compared to the results implied by the counterfactual, i.e. previous, methodology), which is a typical consequence of improvements in the LFS – where perhaps the biggest challenge is to correctly account for those marginally attached to the labour market. The SORS has revised the quarterly LFS data for 2014 to ensure forward comparability with the continuous quarterly data for 2015 and onwards, but has, similar to the 2008 change, decided against further revisions for the 2008-2013 period.

In the context of a rather derogatory criticism of the LFS put forward by Professor Petrović and his co-authors and their likeminded colleague Dr. Arsić, it should be acknowledged that the introduction of a continuous survey in 2015, the change in estimation procedures, and the subsequent revision of 2014 data – which they apparently perceive as the response of the SORS to their criticism, or want to create such an impression – are in no way related to it. As we have shown earlier, the introduction of a continuous survey in 2015 and the accompanying methodological changes were in alignment with the EU regulations and statistical code of practice and represent a major advancement which should lead to Serbian LFS becoming a part of the EU-LFS.

Conclusion

After a careful assessment of all key points of Petrović et al.'s criticism of the reliability of the LFS data, we can confidently reject these as factually incorrect and methodologically irrelevant. Petrović et al. use the weakest of arguments as shortcuts to support their very strong claims about the "illusory" increase of employment in the recent years. They deny any possibility for the employment trends to have a trajectory autonomous in relation to the GDP, driven either by the changing patterns of the labour supply, or by the structural and institutional changes in terms of labour demand. Instead, they straightforwardly derive their own alternative "true" employment trends, inclusive of projections until 2020, solely based on trends in macroeconomic indicators and from macro forecasts.

There is an intrinsic contradiction in this criticism, since in order to prove that the LFS data produced by the SORS are unreliable, Petrović et al. use other data also produced by the SORS and take them at face value without ever questioning their reliability. Indeed, they make no effort whatsoever to assess technical aspects of the LFS – for their verdict it is enough that the LFS trends are allegedly irreconcilable with the macro trends.

Such approach is a disservice rather than a contribution to an informed public debate on labour market statistics, but also on employment policy in Serbia. It is an extreme case of a blunt denial of any significance of employment as one of the key objectives of socio-economic development. According to this approach, abandoned a long time ago in the developed countries, there is no room for employment-centred economic strategies and policies. Since employment can grow only through economic growth, growth-enhancing policies are all that is necessary.

This delusion has certainly contributed to the socially painful course of Serbian economic transition, with intensive economic growth until 2008 accompanied by the equally intensive destruction of jobs. By now we should know better. Instead of offhandedly discarding them, we should look harder at the Labour Force Survey data, however imperfect they might be, in search for clues and hints that could help us understand the events in the labour market and the main forces that are driving people in and out of jobs.

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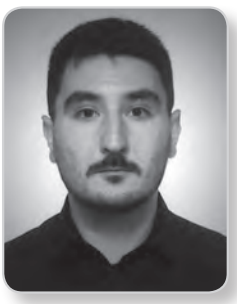

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