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Original Scientific Article

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MACROECONOMIC DEVELOPMENTS AND THE INFLUENCE OF INFLATION ON THE PERFORMANCE OF SMALL AND MEDIUM-SIZED ENTERPRISES AND ENTREPRENEURSHIP IN SERBIA*

ABSTRACT: Today, entrepreneurs and small businesses (SMEs) represent a driving force of the national economy, a key component of the innovation cycle, and knowledge transformation into new products and processes. The importance of this sector is well recognized due to its significant contribution to various socio-economic objectives, such as job creation, employment possibilities, poverty reduction, inclusive growth of the economy, social cohesion, and fostering entrepreneurship (innovations, ideas, skills). SMEs also increase competition among themselves, heat up the market scenario, and represent vital subcontractors to large enterprises (the "elephant and bee alliance"). At the same time, throughout recent history, this sector has shown exceptional toughness and resistance to crises, risks, uncertainty, and insecurity.

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Today, the global economy faces an exceptional moment of uncertainty. Geopolitical risks will be the key threat to the economic outlook for 2024. Rising geopolitical tensions and global financial risks, high inflation, tightening monetary and fiscal policies, labor shortages, high trade barriers, and slowing integration into global value chains all contribute to a more challenging business environment for SMEs. High and persistent inflation has become a clear and present danger for many countries around the world. The aim of this paper is to analyze how recent changes in the macroeconomic environment in Serbia, especially inflation, affect the dynamics and challenges of SME economic performance in the short and medium terms.

Keywords: SMEs, entrepreneurship, developing economies, macroeconomic development, inflation rate, economic growth.

INTRODUCTION

The roots of entrepreneurship run deep in history, offering invaluable lessons to today's entrepreneurs. Until the 15th-16th century (Renaissance era), there was no independence and autonomy of the economic sphere in relation to other spheres of social existence. The medieval world was static, and the bloody political and religious wars (such as the crusades, as a testimony of that time) were not conditioned by economic logic or the logic of capital movement, but were caused by primitive needs for plunder and extortion, as well as specific religious motives that brought different religious groups into open conflicts. In the Middle Ages, entrepreneurship did not play any role in the acquisition of political and economic power. It was a time when armies met on wide fields, under flags, swords, and spears, and the winner had the moral satisfaction and the right to collect taxes and use prisoners of war as labor force.

It took half a millennium for entrepreneurs (and combative managers) to appear on the scene today (instead of warriors and old military leaders) and compete with each other for a certain market niche, talk about (un)friendly takeovers of companies, joint stock companies, national and multinational companies. And the reasons are primarily of an economic nature. Thus, contemporary conditions represent a match between nations and individuals; a match in which the state of entrepreneurship has become the supporting principle of the global economy. In the time we live in, the complete triumph of the entrepreneurial principle and the global economy based on it transcends the framework and interests of nation-states and their economic structures.

Today, the main function of entrepreneurship is to "reform or revolutionize the production system", implementing innovative changes, creating new products or qualities, and conquering new markets by reorganizing market conditions. Entrepreneurs are innovators who bring "creative destruction" (Schumpeter, 1934). The strength of the national economy does not lie in the static conditions of its economy but in the dynamics of entrepreneurs who continuously revolutionize the economic structure endogenously, destroying the old and constantly creating a new one. This vision of Schumpeter is also echoed by Octave G  linier, a renowned French consultant who insisted, as early as the late 1970s, on the importance of what the entrepreneur could bring to the economy: "Countries, professions, firms that develop and innovate are those which practice entrepreneurship. Statistics of economic growth, international exchanges, patenting, licensing, and innovations for the past 30 years clearly establish this point: it is very costly to do without entrepreneurs" (G  linier 1978).

In this perspective, entrepreneurship represents a real engine of economic development. The concept of entrepreneurship is strongly associated, above all, with micro, small, and medium-sized enterprises (SMEs) which form a large part of economy businesses. These economic units are worldwide acknowledged as the key actors of socioeconomic development. In today's modern world, the SME sector has a crucial role in creating value-added, new jobs, economic growth, competitiveness, innovation, and solving the pandemic unemployment crisis. SMEs and entrepreneurship are accepted as "a key source of dynamism, innovation, and flexibility in advanced industrialized countries, as well as in emerging and developing economies" (OECD, 2006).

Only large companies are not sufficient or decisive for the economic well-being of a country. Discussions that have been ongoing for a long time, not only in theoretical spheres, point to an essential question: what is the combination of small, medium, and large enterprises that is able to best fulfill the economic and social goals of a country? In most industrial branches, even in the economy as a whole, there is a combination of company sizes. Small, medium, and large enterprises stand in both mutually competitive and complementary relationships.

Small business entities with large companies give a synergistic effect in the economy. The effectiveness of small businesses is largely the result of the economy of time - new technologies and products come from the laboratory to the market in a very short period of time. For smaller companies, a much shorter period of time is needed from innovation to commercialization, because in most cases they are focused on one market segment.

The dynamics of the activity and performance of these enterprises are influenced by many internal (e.g., management efficiency, technology, level of organization, profitability, etc.) and external factors (e.g., real GDP growth, inflation rate, unemployment rate, banking sector stability, etc.). Among the external factors that affect the growth of SMEs, an important role is played by the macroeconomic environment. All of these factors are necessary not only for business formation but also for business survival and expansion (Iwasaki et al., 2021).

THE ROLE OF SMEEs IN SERBIAN MACROECONOMIC CONTEXT

Micro, small, and medium-sized enterprises and entrepreneurs (SMEEs) play an important role in supporting the national economy. According to the latest available official data from 2021, this sector accounts for 99.9% of all economic entities in Serbia, employs 64.3% (almost 2/3) of employees, generates 66.2% of turnover, creates 59% of gross added value (GVA), and participates in exports with 37.2%, and in imports of the non-financial sector with 53.4%.

Table 1. Basic economic indicators (2021), non-financial sector (current prices)

Indicator	Entrepreneurs	Micro	Small	Medium	SMEEs	Large	Total	SMEE - Share in non-financial sector (%)
Number of enterprises	303.300	87.657	12.241	2.734	405.932	601	406.533	99,9
Number of employees	280.387	163.087	147.119	281.603	972.187	540.670	1.512.857	64,3
Turnover*	1.953.472	1.959.769	2.958.958	3.259.906	10.132.105	5.165.970	15.298.075	66,2
GVA*	530.258	323.119	581.814	736.861	2.172.052	1.509.122	3.681.174	59,0
Export*	23.969	168.366	269.348	449.059	910.741	1.536.056	2.446.797	37,2
Number of exporters	3.520	6.506	3.883	1.375	15.284	398	15.682	97,5
Import*	29.249	317.370	594.338	750.736	1.691.693	1.479.030	3.170.724	53,4
Number of importers	4.469	12.074	5.556	1.858	23.957	479	24.436	98,2

Source: SMEE Strategy in the Republic of Serbia for the period 2023-2027, Ministry of Economy, based on Statistical Office of the Republic of Serbia data

*) Unit: millions of dinars

In the period 2015-2019, the SMEE sector recorded a significant increase in the total number of enterprises, as well as the number of exporters and importers, growth in the number of employees, growth in the value of turnover, GVA, exports, and imports. The correlation between the indicators of the number of business entities increase, employment, and realized GVA indicates that the entrepreneurial sector had a clear tendency to grow in the observed period, which is also confirmed by the strong trend of investment in fixed assets. The fact that the share of exporters in the entire population of MSMEs and the share of exports in the total turnover decreased in that period shows that MSMEs based their development mostly on the growing demand in the domestic market.

From the beginning of the second quarter of 2020, an unstable period in the development of SMEs began due to the impact of the COVID-19 pandemic, which significantly changed the way the global economy functions, especially in the service sector (tourism, catering, and passenger transport), where a large number of SMEs operate. Timely measures to support both the economy (primarily SMEs) and households, implemented by the Government and the National Bank of Serbia (NBS), significantly contributed to mitigating the impact of the negative consequences of the pandemic.

During 2021, the SME sector showed clear signs of recovery and achieved visible progress in all key macroeconomic indicators. At the beginning of 2022, a new crisis caused by war conflicts in Ukraine occurred, which is expected to have probably even more pronounced negative impacts on the SMEE sector, primarily due to the rise in energy prices and inflation, the significant increase in financing costs, and demand in the domestic market.

The sectoral analysis indicates that the SMEE subjects mainly operate in four sectors: trade, processing industry, transport and storage, and professional, scientific, technical, and innovation activities, followed by construction and accommodation and food services. Within the sector of the processing industry, five sub-sectors mark the total operations of MSMEs, namely the food industry, textile industry, wood processing, rubber and plastic industry, and metal industry. The participation of high and medium-high technological complexity sectors in the structure of SMEs remained low and below the EU average, which is a structural characteristic that is slowly changing despite the strong development of the ICT sector. The average number of employees per economic entity in this sector has not changed much and is around 2.4 compared to 3.66 in the EU.

The majority of SMEE businesses are still concentrated in the Belgrade region and the region of Vojvodina. In terms of regional asymmetry, disproportions still exist between the Belgrade Region and the South and East

Serbia Region. The Belgrade region achieves an above-average real growth rate in relation to the average rates of the SMEE sector as a whole, as well as in relation to other regions, so there is a negative tendency to further deepen this gap. This regional disproportion of the SMEE sector development is a consequence of a large number of factors that determine the overall level of development of certain areas, which cannot be overcome solely by interventions at the level of the MSME sector. It is very important to provide additional support and assistance for SMEEs from less developed areas, in order to alleviate regional development disparities. In less developed areas, the SMEE sector contributes to local employment between 70-80% (e.g., 84.3% in Zaječar administrative district and 93.5% in Raška administrative district).

The share of women in the total number of entrepreneurs (2021), including registered entrepreneurs and persons who are simultaneously (co)owners and main representatives of companies, increased from 28.9% to 31.2%. Women's businesses continue to operate mostly in the service sector. Compared to the previous period (2011), the share of female entrepreneurs operating in the trade sector has significantly decreased (in the catering sector has also decreased somewhat), but the share of those operating in the IT sector and communication activities, real estate, and especially professional, scientific, technical, and innovation activities has notably increased. The share of women's businesses is quite uniform by region, with a slightly higher share of female entrepreneurs in the Belgrade region and the lowest participation in the region of Southern and Eastern Serbia.

The economy of the Republic of Serbia (and thus the SMEE sector) is characterized by a growing trend in the degree of innovation, although it still lags significantly behind the EU average. According to innovation performance, the Republic of Serbia is today in the group of moderate innovator countries but lags significantly behind the EU average and most European countries. In relation to neighboring countries, only Slovenia and Croatia have a better innovation performance than the Republic of Serbia, while Poland, Romania, and Bulgaria have weaker performance.³

The main weaknesses of this sector are reflected in:

- Excessive fragmentation of the sector,
- Low average economic strength and productivity;
- Sectoral concentration in activities with lower added value and lower technological complexity;

³ European innovation Scoreboard 2023

(<https://ec.europa.eu/research-and-innovation/en/statistics/performance-indicators/european-innovation-scoreboard/eis#>),

-
- Weak integration into value chains and mutual cooperation (involvement in supplier chains, clusters, business cooperation of interest);
 - Low level of application of more advanced technologies and more advanced forms of digitization and standards;
 - Insufficiently developed corporate management and business organization;
 - Insufficient dedication to the development of personnel, soft skills and knowledge;
 - Insufficient focus on export.⁴

In order to respond to these development challenges, the New SMEE Strategy (2023-2027) defines 6 strategic pillars: Improving the business environment; Improving access to funding sources; Continuous development of human resources; Strengthening the sustainability and competitiveness of SMEs; Improving access to new markets; Development and promotion of entrepreneurial spirit and encouragement of entrepreneurship of women, youth, and social entrepreneurship. Its accompanying Action Plan foresees 224 different measures.

CURRENT MACROECONOMIC DEVELOPMENTS IN SERBIA

After the global recession in 2020 caused by the COVID-19 pandemic, a new global earthquake caused by the war in Ukraine followed in early 2022. Businesses are faced with an accelerated increase in energy and food prices, supply chains are being interrupted, and company debts are growing at a record high as a result of previously taken favorable loans. Given that numerous countries are involved in the conflict in Ukraine, the consequences will be global and long-lasting.

The key external risks to growth in 2023 are the high degree of uncertainty about the end of the war in Ukraine, the unpredictability of energy input prices, and the risks of large shortages. Based on the WEF (World Economic Forum) survey, the five biggest risks in the next two years in Serbia relate to: (1) ecological damage caused by man (deterioration of protected areas, industrial accidents, oil spills, contamination with radioactive material, trade in wild and protected animals); (2) debt crises in major economies, Serbia's largest foreign trade partners; (3) employment crisis and lack of livelihood; (4) digital inequality; and (5) geopoliticization of strategic

⁴ SMEE Strategy in the Republic of Serbia for the period 2023-2027, Ministry of Economy, p.24.

resources (concentration, exploitation, or restriction of the mobility of goods, knowledge, services, or technologies that are crucial for human development, all in order to gain a certain geopolitical advantage).⁵

The key macroeconomic growth performances in 2022 and (projections for) 2023:

- The gross domestic product reached more than 60 billion EUR in 2022, with an expected growth rate of 2.5 percent in 2023.⁶ A return to pre-crisis economic growth rates of about 4% is expected in the medium term,
- The GDP per capita (standard of living) reached EUR 9.000,
- The service sector and personal consumption contributed the most to economic growth of 2.3% in 2022,
- Registered employment increased in 2021 by 2.6% and in 2022 by 1.6% (from 2.21 million to 2.31 million in 2022). Total formal employment in the period Q1-Q3 2023 amounted to 2.36 million persons and is higher by 2.6 % y/y (59.000 persons),
- The unemployment rate, after a short-term increase in 2021 (11%), continued its downward trend in 2022, and is again, like in 2019, at a record transitional minimum of 9.6 % (Q2 2023),
- The average net salary increased by 5.4% in 2021 and 2% in 2022 and reached an average amount of EUR 630
- The share of fixed investments in nominal GDP in 2022 has reached the level of around 24 %
- FDI inflow reached record levels of around 7% of GDP in 2021-2022. In 2022, FDI inflow amounted to EUR 4.4 bn (net inflow EUR 4.3 bn),
- In 2022, the current account deficit of EUR 4.2 bn (6.9% of GDP) was recorded. NBS CAD projection for 2023 remained unchanged (at 2,5% of GDP) due to strong export growth and lower energy import and has been revised upwards to 3.8% for 2024, primarily driven by a new investment cycle and the recovery of equipment and intermediates import.
- An intensive growth of goods export of 28.0% in 2022 was driven by manufacturing and mining sector. The service export growth in 2022 amounted to 42.1% and was driven by tourism and ICT services export. During the first half of 2023, an increase in goods export by 5.8% y/y was recorded as well as increase in services growth of 20.7% y/y.

⁵ Macroeconomic analyses and trends No.338, Serbian Chamber of Commerce and Economics Institute, Belgrade, march 2023, p.25.

⁶ NBS projections

- Goods imports increased by 34.1% in 2022, driven by intermediate products. Imports of services increased by 37.0% in 2022, driven by tourism and transport services. During the nine months of 2023, imports of goods decreased by 6.0% y/y, while the import of services increased by 15.2 y/y for the same period.
- In 2022, fiscal deficit was recorded in the amount of RSD 221.2 bn (3.2% of GDP). In nine months of 2023, consolidated budget surplus was recorded at the level of 0.3% of GDP. According to the revised Fiscal strategy, it is planned to reduce the share of the deficit in GDP to 2.8% in 2023,
- The dinar remained unchanged against the euro in 2022 and in 2023 (0.1% appreciation in ten months of 2023),
- During the Q3 2022, investment loans rose by 4.2% y-o-y, while the share of liquidity and current assets loans decreased to 46.7% due to maturity of guarantee scheme loans. Micro, small and medium-sized enterprises loans made 58.3% of total corporate loans at the end of 2022.
- Certain indicators of Serbia's external position worsened during 2021-2022. External debt increased by EUR 9.2 bn. (from EUR 30.8 bn in 2020 to EUR 40 bn at the end of September 2022). The share of public debt in GDP was reduced from 57.1% in 2021 to 55.7% of GDP in 2022.
- One of the biggest economic risks in 2022 is rising inflation. While 2021 ended with inflation growth of 7.9%, year-on-year price growth at the end of 2022 was doubled (15.1%).

Table 2. Basic macroeconomic indicators, 2020-2022

	2020	2021	2022
GDP (RSD, bn)	5.504	6.272	7.098
GDP (EUR, bn)	46.8	53.3	60.4
GDP per capita (EUR)	6.786	7.806	9.068
Economic Growth (GDP, ann.var.%)	-0.9	7.7	2.5
Domestic Demand (ann.var.%)	-0.9	7.7	3.6
Private Consumption ((ann.var.%)	-1.9	7.9	3.9
Government Consumption (ann.var.%)	2.8	4.1	0.4
Fixed Investment (ann.var.%)	-1.9	15.7	1.9
Exports (G&S, ann.var.%)	-4.2	20.5	16.6
Imports (G&S, ann.var.%)	-3.6	18.3	16.1
Industrial Production (ann.var.%)	0.4	6.1	1.6

Unemployment (% of active population, aop)	9.0	11.1	9.6
Fiscal Balance (% of GDP)	-8.0	-4.1	-3.2
Public Debt (% of GDP)	57.0	56.5	55.1
Inflation (CPI, ann.var.%, eop)	1.3	7.9	15.1
Current Account Balance (% of GDP)	-4.1	-4.2	-7.0
Merchandise Exports (EUR, bn)	16.1	21.1	26.9
Merchandise Imports (EUR, bn)	21.3	27.0	36.4
Foreign Direct Investment (EUR, bn)	3.2	4.5	5.1
External Debt (% of GDP)	65.8	68.4	69.3

Source: According to: Macroeconomic and Fiscal Data, Novembar 2023, Ministry of Finance; Serbia Economic Outlook, Focus Economics (<https://www.focus-economics.com/countries/serbia/> - visited on December, 3, 2023 at 17.04); Key macroeconomic indicators and indicators of Serbia's external position, National Bank of Serbia (<https://www.nbs.rs/>, visited on November 26, 2023 at 10.45)

In the group of macroeconomic indicators with a high degree of risk, inflationary pressures that affect all macroeconomic stabilizers, from the standard of living of the most vulnerable social groups (pensioners), to attracting investments, youth employment, social and social cohesion and reducing inequality, are highlighted. It should be noted that due to the trend of decreasing the number of working-age population, the dependency index is worsening.

MACROECONOMIC CHALLENGES – INFLATION RATE

After a decade of low inflation (2009-2019), the world was suddenly swept by a wave of "brutal inflation"⁷ that proved to be the biggest threat to global progress. The inflationary wave began in America and quickly spread to the rest of the world. As we have already mentioned, inflation cannot be seen outside the context of the conflict in Ukraine, which is largely the cause of the rise in prices and energy, even before February 2022. The conflict has exacerbated the search for alternative sources of gas supply, particularly in Europe, where tension and uncertainty over the past year have had a huge impact on inflationary expectations.

According to the EU Craft and SME Barometer⁸, The SME Business Climate Index (BCI) shows a slight recovery for the second half of 2023. This improvement is linked to the ability of micro, small and medium-sized

accessed on December 04, 2023 at 20.14.

⁸ The SME Business Climate Index and EU Craft and SME Barometer, Autumn 2023, SMEunited, Brussels, Belgium (<https://www.smeunited.eu/publications>)

enterprises (SMEs) to diversify supply chains, ensuring access to energy and improving energy efficiency. Moreover, the positive development of services, such as hospitality, contributed to a more positive outlook compared to the overall economy.

Inflation rates, which vary significantly among member countries, are influenced by various factors such as the "anatomy" and "physiology" of their economic structures, external influences beyond their control, as well as various adopted measures aimed at mitigating inflation. Member States with below-average inflation rates demonstrate their ability or effectiveness in controlling inflation better than countries with above-average inflation rates. Most of these countries are part of the Eurozone and benefit from strong monetary policy, while non-Eurozone countries may be further affected by the depreciation of their currencies.

BCI Index shows that EU SMEs were most affected during the pandemic lockdown period while the second (geopolitical) crisis, characterized by high energy prices and inflation, seems to have less impact on SMEs in comparison to larger entities. The service sector (personal services, tourism, events industry) has brought micro, small, and medium enterprises greater benefit from stronger internal demand.

The overall performance of EU SMEs during the first semester of 2023 does not differ much from the previous semester. Policy responses to energy shortage and inflation led to an improvement in the overall situation, but this improvement had a very limited impact on the SME specific indicators, which show a slight decrease for turnover and very limited increases for employment, investment, and orders. Negative figures continue for all these indicators. Only the result for prices has a clear downward trend and points to a reduction in the inflation dynamic. However, a high number of SMEs still report an ability to increase sales prices, indicating further upward pressure for inflation.⁹

Average annual inflation in Serbia (2022) was 11.9% and was conditioned by supply-side factors: the global energy crisis, cumulative consequences of the pandemic, and the drought that hit our region. Inflation was reduced in September 2023 both on a monthly and year-on-year basis. In August and September 2023, monthly inflation of 0.4% and 0.3%, and year-on-year inflation of 11.5% and 10.2% were registered. Thus, year-on-year inflation (as opposed to monthly inflation) has been steadily declining since April 2023.

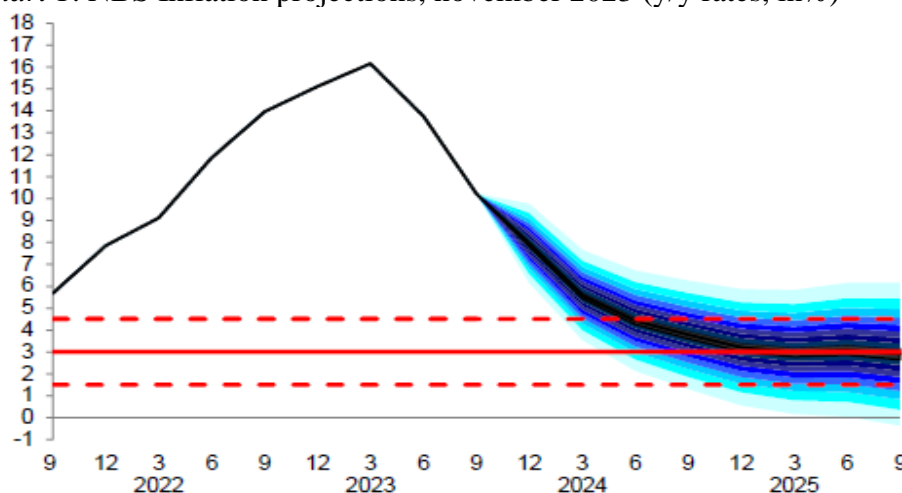
In August and September 2023, Serbia had higher year-on-year inflation than the average of the European Union and lower year-on-year inflation than only one member of the Union (Hungary). In August and

⁹ Ibidem, p.6.

September 2023, year-on-year inflation, according to the concept of the harmonized consumer price index, was 11.5% and 10.1% in Serbia - and 5.9% and 4.9% in the European Union (inflation of 14.2% and 12.2% was recorded in Hungary).

According to the new NBS projection, inflation is expected to fall to around 8% at the end of the year. The expected inflation towards the middle of next year should be within the target band, and then it will continue to slow down approaching the target midpoint at the end of 2024. Such movements will be aided primarily by the effects of past monetary policy tightening, subsiding global cost-push pressures, slowing of imported inflation, and subdued demand amid weaker global growth.¹⁰

Chart 1. NBS Inflation projections, november 2023 (y/y rates, in%)



Source: Macroeconomic Developments in Serbia- November 2023, NBS (www.nbs.rs)

The main cause of the downward inflationary path is the drop in the prices of stock exchange products - energy and food to the greatest extent. Oil prices have been declining throughout 2023 due to falling demand - as monetary restrictions discourage consumption and investment. Gas prices are well below 2022 peaks, partly due to huge inventories and partly due to increased supply from Norway and North Africa. Food prices eased slightly in 2023 due to reduced demand, which was quickly offset by reduced supply.

Some of the current European surveys regarding the effects of the rising inflation rate on their small businesses indicate a negative impact on their turnover (63%) and a decline in their weekly income (71%). When we break down the reasons for the impact of rising inflation, small businesses reported that the associated rising energy prices (42%), rising fuel prices

¹⁰ Inflation Report -November 2023, National Bank of Serbia (NBS), p. 11. (www.nbs.rs)

(31%), maintaining profits (33%), and a drop in customer demand (31%) are the most significant challenges that their businesses are facing in the current climate. All these aspects are even more challenging for micro-businesses (51%, 44%, 39% and 35% respectively).¹¹

A new report from Xero¹², the global small business platform, has revealed that 48% of U.S. small business owners have experienced an extreme or high impact from inflation on their cash flow over the past six months, and 44% expect inflation to continue to have a similar impact throughout the next six months. Due to the rising challenges and pressures, managing cash flow in a small business is a very strong or strong priority for 85% of owners.

According to some target surveys in Serbia¹³, small business owners expressed slight optimism regarding business prospects for the coming year. For small business owners, inflation is still at the top of the list of challenges, followed by rising interest rates, supply chain issues, and income. Inflation impacts every aspect of a small business (higher costs, higher revenue, falling demand, inventory management changes, supply chain disruption, rising interest rates, increased value for leased equipment), as well as personal decisions (freezing hiring or prohibiting overtime hours for employees, laying off staff, reducing shifts or assigning fewer weekly hours, delaying personnel decisions, such as awarding promotions or bonuses, requiring salaried employees to take on more responsibility).

CONCLUSIONS

Although a certain acceleration of economic activity is expected in the second half of this year, the results from the first half of the year indicate that the annual GDP growth in Serbia in 2023, according to the World Bank report, will be around two percent. When it comes to risks that can threaten Serbia's basic macroeconomic prospects this year, they include high inflation, but also a high level of public debt. The inflation rate has started to fall, but it is still among the highest in Europe. According to the expectations of the National Bank of Serbia, the return of inflation to the target band is expected in the middle of 2024.

¹¹Do Small Businesses Suffer the most from the rising inflation?, The Savanta UK Business Tracker, (<https://savanta.com/knowledge-centre>) accessed on December 05, 2023 at 13,14.

¹² Money Matters: The Impact of economic conditions on the cash flow of US small businesses, Xero's report, September 07, 2023 (<https://www.xero.com/us/media-releases/half-small-businesses-feel-impact-inflation-cash-flow/>)

¹³ Various surveys conducted by the Chamber of Commerce of Serbia, Economic Institute, National Bank of Serbia, Ipsos, Bloomberg, L.P., Forbes...

The basic macroeconomic prospects in 2023 and in the following period may be threatened by numerous risks. First, high inflation could remain present for an unexpectedly long time, so a further coordinated approach of fiscal and monetary policy may be needed to bring it down to the target level. High inflation has a negative impact on growth and diminishes the successes achieved in increasing living standards, especially for poorer citizens. Secondly, bearing in mind the high level of public debt in Serbia, it is of crucial importance to direct the scarce funds available for public investment into projects with high economic and social returns and achieve a balance between them and fiscal risks in the medium and long term.

The impact of inflation on small businesses is heterogeneous. One of the vital factors (decisions) is the ability to pass on higher costs to customers, which is very diverse across the SMEE business sector in Serbia. A sharp and uneven increase in prices has a very negative impact on the performance and structure of this sector. The pressure on the labor market can increase, acquisition activity may increase, so all this can adversely affect the competitiveness of the economy as a whole.

At any time, but especially during times of crisis and along the road of economic recovery, it is vital that SMEs dynamics are carefully measured and supported by effective programmatic decision-making. Small businesses do not have the purchasing power of big companies and invariably pay higher unit costs for energy. The industries most affected will be retail, distribution, hospitality, manufacturing, and food processing. On the national level, such measures could provide access to energy and goods at affordable prices, through, for example, a reduction in the VAT rate on gas and electricity. Therefore, even in "normal economic conditions", SMEs need policymakers' attention and specific support measures, first of all, anti-inflation measures that should be coordinated, targeted, and of a temporary nature.

REZIME

MAKROEKONOMSKA KRETANJA I UTICAJ INFLACIJE NA POSLOVANJE MALIH I SREDNJIH PREDUZEĆA I PREDUZETNIŠTVO U SRBIJI*

Preduzetnici i mala preduzeća (MSP) danas predstavljaju pokretačku snagu nacionalne ekonomije, ključnu komponentu ciklusa inovacija i transformacije znanja u nove proizvode i procese. Značaj ovog sektora je dobro prepoznat zbog njegovog značajnog doprinosa zadovoljavanju različitih socio-ekonomskih ciljeva, kao što su otvaranje radnih mesta i mogućnosti zapošljavanja, smanjenje siromaštva, inkluzivni rast privrede, socijalna

kohezija i podsticanje preduzetništva (inovacije, ideje, veštine). MSP takođe povećavaju konkurenciju među sobom, podgrevaju tržišni scenario i predstavljaju vitalne podizvođače velikim preduzećima (tzv. „savez slona i pčele“). Istovremeno, kroz noviju istoriju ovaj sektor je pokazao izuzetnu čvrstinu i otpornost na krize, rizike, neizvesnost i nesigurnost.

Danas se globalna ekonomija suočava sa izuzetnim trenutkom neizvesnosti. Geopolitički rizici će biti ključna pretnja u projekcijama ekonomskih kretanja za 2024. Rastuće geopolitičke tenzije i globalni finansijski rizici, visoka inflacija, pooštavanje monetarne i fiskalne politike, nedostatak radne snage, visoke trgovinske barijere i usporavanje integracije u globalne lance vrednosti doprinose izazovnijem poslovnom okruženju za MSPP sektor. Visoka i uporna inflacija postala je jasna i prisutna opasnost za mnoge zemlje širom sveta. Cilj ovog rada je da analizira kako dinamika makroekonomskog okruženja u Srbiji, a posebno inflacija, utiču na poslovne performanse ovog sektora u kratkom i srednjem roku.

Ključne reči: MSPP, preduzetništvo, ekonomije u razvoju, makroekonomski razvoj, stopa inflacije, ekonomski rast.

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MACROECONOMIC EFFECTS OF CONSUMER ETHNOCENTRISM IN BOSNIA AND HERZEGOVINA

ABSTRACT: The subject of research in the paper is the social phenomenon of consumer ethnocentrism, which is characterized by an emotional attachment to everything that belongs to the country where the consumer lives. The aim of the paper was to analyze the macroeconomic effects of consumer ethnocentrism in Bosnia and Herzegovina. Losses for the national economy in terms of employment, production, taxes, and contributions, as well as other social effects were analyzed with the assumption of substituting imports with domestic production of products in the processing industry in Bosnia and Herzegovina. Possible additional employment in manufacturing companies, and the effects of paid taxes and contributions for additional employment for pension and disability insurance, health insurance, and unemployment insurance funds in Bosnia and Herzegovina in the period from 2009 to 2013 were considered. The amounts of losses per entities of the Federation of Bosnia and Herzegovina, Republic Srpska, and Brčko District of Bosnia and Herzegovina were determined. The results of the research can serve as leverage for investments in domestic production, increasing employment,

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and creating commodity reserves that would be reflected in domestic products.

Keywords: national economy, consumer ethnocentrism, Bosnia and Herzegovina.

INTRODUCTION

The field of research in this work pertains to consumer behavior and the macroeconomic effects of ethnocentrism on the national economy. Therefore, the subject of research in the paper is consumer ethnocentrism as the attitude of consumers towards the purchase and consumption of domestic products. Ethnocentric behavior is manifested as a positive attitude towards the purchase of products of domestic origin and the belief that the purchase of foreign products will harm the domestic economy. Therefore, a kind of "protection" of domestic production, jobs, exports, and gross domestic product is needed with the aim of creating a more positive image of the domestic country in the eyes of developed countries. The macroeconomic effects of the phenomenon on the economy of Bosnia and Herzegovina are discussed based on secondary data. In this regard, the basic research hypothesis was defined: H0: Based on imports, exports, production, and employment in the branches of industry that produce personal consumption goods, the expected losses for the national economy can be estimated in the context of employment, purchasing power, and other social effects.

It can be concluded that ethnocentrism is seen as behavior aimed at the betterment and support of members of the group to which the individual belongs, but not to those outside that group. It is about the way of behavior that develops within the family, as the primary reference group, about buying everything domestic. This reflects an approach to ethnocentrism based on consumer behavior in the shopping process. First of all, it is necessary to develop awareness of the importance of buying domestic products and familiarize individuals with the positive effects of consumer ethnocentrism, which is reflected in the economic strengthening of the economy through the increase of exports and employment, and the reduction of imports and the growth of the social status of citizens. Thus, consumer ethnocentrism is manifested as the consumer's belief that buying foreign products will harm the domestic economy and vice versa.

The general approach to ethnocentrism, which finds its footing in sociology, began to develop at the beginning of the 20th century. Over time, this phenomenon developed in the context of consumer behavior, which, at the beginning of the 21st century, resulted in an increase in research into

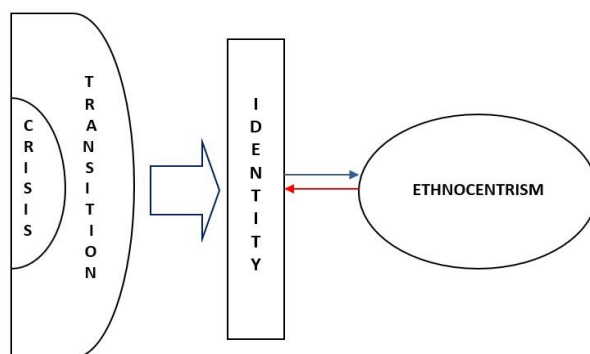
consumer ethnocentrism and important factors that determine consumer behavior. (Parts, 2007, 139).

THEORETICAL FRAMEWORK OF THE RESEARCH

As a result of the growth of international trade and business, different products of various origins are becoming available in many countries around the world, leading to a greater interest in researching the phenomenon of consumer ethnocentrism. So far, numerous studies dealing with this topic have been conducted in developed countries such as the United States of America, Great Britain, France, Germany, and Japan. However, insufficient attention has been paid to researching this phenomenon in less developed countries (Shah & Ibrahim, 2012, p. 26).

The emergence of the economic crisis has led to the formation of an ethnic "we" that differs from an ethnic "they", whereby everything that is different becomes hostile. All this creates preconditions for the creation of ethnic distance, which essentially means repulsion towards others and those who are different. Ethnocentrism is formed on this basis, a term defined as an unfair effort to elevate our values to the level of universal values. The feeling of unity, coherence, belonging, value, autonomy, and trust are the components that make up the feeling of identity. Crises destroy existing values and principles, strengthening the tendencies of neo-traditionalism, considering that the traditional model of identity offers security in times of crisis, expressing the desire for roots and for the ethnicization of the world. (Nikolić, Bosilj & Ivanović, 2012, 6).

Figure 1. Pattern of consumer ethnocentrism



Source:

Nikolić, S. T., Bosilj, D. & Ivanović, D. (2012). U potrazi za (izgubljenim) identitetom - Šta tržište ima sa tim, *Pravno – Ekonomski Pogledi*, (2), p. 7.

The concept of consumer ethnocentrism was developed to explain the consumer's use of information about the country of origin of a product when evaluating it (Philip & Brown, 2003, p. 21). Wang (2018, p. 220) defines consumer ethnocentrism as the tendency to prefer local brands over foreign ones. In their work, Balabanis & Siamagka (2017, p. 166) investigated the effects of buying local brands on consumer shopping behavior, considering this area unexplored in the United States.

In their study, Akdogan, Ozgener et al. (2012, p. 2) investigated the impact of consumer ethnocentrism and animosity on repeat purchases with special reference to consumer loyalty. Animosity and ethnocentrism are thought to cause negative effects when it comes to repeat purchases. With the growth of international trade, products of different national origin become available to a larger number of consumers. It is this fact that has resulted in a greater interest in examining consumer attitudes towards products of different national origins. At the same time, it should be emphasized that the mentioned phenomena of consumer ethnocentrism and animosity influence the investment decisions of multinational companies, as well as foreign capital flows. Creating loyalty, in the above context, is the main goal of all companies operating on a global level. In their study, the previously mentioned authors assume that there is a positive relationship between consumer loyalty and repeated purchases of products and services of foreign origin, and repeated purchases are those in which consumers return again and again to an already consumed product or service. Thanks to loyalty, the consumer reduces time, thinking, and risk every time he buys a certain product.

The basic task of marketing is to encourage loyalty towards products of domestic origin in order to create a basis for a stable and growing market share. This can be one of the significant advantages when determining the price of the product by the manufacturer. There are different points of view on how to develop product loyalty. However, the appearance of substitute products significantly complicates such a situation. This trend causes a decrease in loyalty to products, dissatisfaction with them, and the emergence of new methods of stimulating sales. For this reason, the focus is on promotional budgets and attempts to teach consumers that the products they have chosen are the best, and that they solve their problems and satisfy their needs in the best way.

Economic development encompasses technological, structural, organizational, and other changes in the economy that contribute to the creation and utilization of available goods. It implies a process of continuous economic growth in a dynamic environment. Nowadays, improving economic development requires not only effectively utilizing the latest technological achievements but also anticipating changes in the environment in a timely manner. Entrepreneurship plays a significant role in influencing economic

development. To achieve key development goals, it is essential to develop human resources across all areas. Economic development has numerous goals, with the most important including poverty reduction, equality in income distribution, lower unemployment rates, and the attainment of basic macroeconomic objectives (Nanić & Palić, 2017, p. 42).

In the broadest sense, according to Auruskeviciene, Vianelli & Reardon (2012, p. 21), the country of origin of a product is considered to be the one in which the product is manufactured or branded. The past few decades have witnessed significant economic, political, and social changes, along with the revitalization of the economies of many countries. These changes have created significant conditions affecting consumer sensitivity and behavior in transition countries. Opinions about products and their country of origin are influenced by pre-transition experiences. Associations dating back to the past have merged with neighboring countries, ultimately impacting consumer perceptions of both domestic and foreign products. Given that the effects of consumer ethnocentrism are also reflected in some traditional circumstances, it remains unknown to what extent consumers from transition countries adapt to the model of ethnocentric behavior or adhere to their existing behavioral framework.

Governments seek to encourage trade between countries by eliminating tariffs. In this context, the elimination of trade barriers is prominent in developing countries, especially those in the process of accession to the European Union. Ethnocentric tendencies can manifest in all social circumstances that tend to exhibit hostility toward foreign products. Considering the rapid pace of globalization, there are numerous empirical studies investigating this topic. In transition countries, especially those affected by war events, expressed "ethnic distance" becomes a market characteristic and represents a real source of consumer behavior embodied in ethnocentrism (Nikolić, Bosilj & Ivanović, 2012, p. 21).

The rapid integration of countries into the European Union and the abolition of customs barriers result in increased free trade between countries and a wide flow of goods. The role of state institutions as a factor in strengthening consumer ethnocentrism is reflected in the creation of non-tariff barriers and promotional campaigns that stimulate the purchase of domestic products.

Due to pronounced political, economic, and cultural differences between Vietnam and the People's Republic of China, Nguyen, Dao, Duong, Nguyen, Nguyen & Dao (2023, p. 1) examined consumer perceptions and purchase intentions of domestic Vietnamese products compared to products originating in China in 2023. The results showed that the perception of the product's country of origin does not determine the degree of ethnocentric tendencies among consumers. On the contrary, the image of the country of

origin of the product affects the intention of Vietnamese consumers to buy products originating from China. The limitations of this study conducted in Vietnam are reflected in the fact that only imported products from China were observed, and not those from, for example, Japan, the United States of America, Korea, and so on.

In their work, John & Brady (2009) investigated consumer ethnocentrism in Mozambique, with an emphasis on the role of the government in strengthening domestic production to reduce imports. In 2006, the government of Mozambique launched the "Made in Mozambique" campaign to strengthen domestic production. The campaign aimed to award the label "Made in Mozambique" to all products, services, and brands produced in Mozambique according to strict quality standards and social responsibility. The label signals the national origin of the product or service, making it more attractive to local consumers.

The topic of consumer ethnocentrism is also very current in developing countries. Research conducted in Tunisia dealt with the influence of consumer ethnocentrism and the desire to buy products of domestic origin. The results showed that the country of origin of the product significantly contributes to strengthening the ethnocentric tendencies of Tunisians (Karoui & Khemakhem, 2019, p. 63).

Modern business conditions and environmental changes bring new trends in consumer behavior. Numerous fluctuations in all segments of the economy and society have marked the last few years in Bosnia and Herzegovina. Changes were particularly influenced by strong international competitors, transition, changed values, economic and social openness, local culture, globalization, and a host of other socio-economic and psychological factors.

In the literature, fierce criticism of the concept of globalization is increasingly common (Veljković, 2006, p. 10). The reason for this is an attack on consumers and their rights, under the pretext of meeting their needs and desires. However, considering the gap between rich and poor people and between countries, as well as job losses due to production and capital relocation to underdeveloped countries with inadequate working conditions, protests occur more frequently. Demonstrations target multinational companies and their global products. This poses a big challenge for multinational companies, as they face consumer associations, domestic competition, consumer ethnocentrism, and local institutions.

The impact of national conflicts on business is the subject of numerous studies. The boycott of American products spread quickly worldwide after the United States of America sent its army to Iraq. This caused the US national economy to suffer (Corpwatch, 2003, Hoang, Ho, Tran & Le, 2022).

With increased globalization and a lack of domestic products, consumers encounter foreign consumer goods. In Portugal, ruling structures encourage citizens to buy only domestic products to strengthen the national economy (Miguel, Marques & Duarte, 2022, p. 599).

New trends and business conditions have imposed mutual dependence on world economies. A drop in economic activity in one country inevitably affects other national economies. During economic and political crises, consumers are more inclined to buy domestic products. Hence, activities related to international trade have become central to the world economy, making it necessary to predict consumer attitudes towards domestic and imported products.

RESEARCH RESULTS

Given that consumer ethnocentrism has become an unavoidable topic in economic literature, it is important to address the macroeconomic effects that occur as a consequence of this phenomenon. For this reason, this paper analyzes the losses for the national economy in terms of employment, production, taxes, contributions, and other social effects. It assumes the substitution of imports by domestic production of products in the processing industry in Bosnia and Herzegovina, possible additional employment in production companies, and the effects of taxes paid and contributions for additional employment for pension and disability insurance funds, health insurance, and unemployment insurance in Bosnia and Herzegovina from 2009 to 2013. The analyzed data were collected from secondary sources provided by the Agency for Statistics of Bosnia and Herzegovina.

a) Substitution of imports by domestic production in the period from 2009 to 2013

Table 1. Substitution of imports by domestic production from 2009 to 2013

Nr.	Substitution of imports by domestic production					
		2009.	2010.	2011.	2012.	2013.
1.	Import of products of the processing industry (in 000 KM)	13.785.311	13.740.061	14.293.078	15.739.116	16.984.206
2.	Production value per employee (in KM)	105.266	103.089	98.921	106.623	106.769
3.	Additional number of employees in the processing industry (1): (2)	130.957	133.283	144.490	147.615	159.074
4.	Average gross salary per employee in the processing industry (in KM)	882,00	880,00	911,00	950,00	988,00
5.	Average net salary per employee in the processing industry (in KM)	585,00	584,00	604,00	630,00	655,00

6.	Amount of taxes and contributions (4)-(5) (in KM)	279,00	296,00	307,00	320,00	333,00
7.	Income from taxes and contributions (3) x (6) (in KM)	36.537.003	39.451.768	44.358.430	47.236.800	52.971.642
8.	Gross wages of additional employees in the processing industry (3) x (4)	115.504.074	117.289.040	131.630.390	140.234.250	157.165.112

Source: Agency for Statistics of Bosnia and Herzegovina. (2014).

Merchandise exchange of Bosnia and Herzegovina 2013, Retrieved October 23, 2014, from
https://bhas.gov.ba/data/Publikacije/Bilteni/2014/ETR_00_2013_TB_1_BS.pdf and own budget

Table 1 shows the import of manufacturing industry products from 2009 to 2013, which, according to the records of the Agency for Statistics of Bosnia and Herzegovina, amounted to 13,785,311,000.00 KM in 2009. The value of production per employee in the manufacturing industry sector in Bosnia and Herzegovina was 105,266.00 KM in the same year. This data was obtained based on the total value of production in the processing industry in 2009 and the number of employees in the industry during that year.

Using this data, a calculation was made to determine the number of additional employees who would be employed if domestic production of processing industry products completely substituted imports. This calculation assumes that Bosnia and Herzegovina has the necessary conditions and resources for such production. The calculation yielded 130,957 new employees, which was used to further calculate the total contributions that would be generated from the increase in employment in the processing industry.

The average gross and net salary per employee in the processing industry, obtained from the website of the Agency for Statistics of Bosnia and Herzegovina, were used to determine the income based on paid taxes and contributions. This amounted to 36,537,003.00 KM, which represents a loss for the national economy, paid to pension and disability insurance funds, as well as health and unemployment insurance funds.

A similar budget was made for the following four years. It was determined that the total amount of taxes and contributions for 2010, based on the employment of an additional 133,283 workers, would amount to 39,451,768.00 KM for pension and disability insurance funds, as well as health and unemployment insurance. Similarly, the number of newly employed workers for 2011 and 2012 was budgeted to be 144,490 and 147,615 workers, respectively.

This resulted in total losses generated by the funds in 2011 and 2012, amounting to KM 44,358,430.00 and KM 47,236,800.00, respectively. In 2013, the import of products from the processing industry sector increased to KM 16,984,206,000.00. The value produced by one employee in this sector

in 2013 was KM 106,769.00. Thus, if imports were reduced and replaced by domestic production, the number of unemployed persons in Bosnia and Herzegovina would decrease by 159,074, resulting in an inflow of 52,971,642.00 KM based on taxes and contributions paid to pension funds, disability insurance, health insurance, and unemployment insurance.

b) Contributions paid in favor of the FBIH and RS pension and disability insurance funds

Table 2. Contributions for pension and disability insurance

Year	Gross salary of additional employees in (in KM)	Contributions for pension and disability insurance - Federal Institute for Pension and Disability Insurance and Fund for Pension and Disability Insurance of the Republic Srpska (in KM)
2009.	115.504.074	20.409.570,00
2010.	117.289.040	20.724.973,00
2011.	131.630.390	23.259.090,00
2012.	140.234.250	24.779.392,00
2013.	157.165.112	27.771.075,00
Total:	661.283.866	116.944.100,00

Source: Authors

Table 2 illustrates the amounts of pension and disability insurance contributions that would be paid to the Federal Institute for Pension and Disability Insurance (17% of gross salary), the Republic Srpska Pension and Disability Insurance Fund (18.5% of gross salary), and payments from the territory of the Brčko District of Bosnia and Herzegovina (17.5% of gross salary, depending on whether the employer applies laws from the territory of the Federation of Bosnia and Herzegovina or the Republic of Srpska), when imports are replaced by domestic production.

The amounts of contributions for pension and disability insurance are derived based on the average percentage of 17.67%, which is used for calculations in the Federation of Bosnia and Herzegovina, the Republic of Srpska, and the Brčko District of Bosnia and Herzegovina. Specifically, these funds incurred a loss of 116,944,100.00 KM during the period from 2009 to 2013.

c) Contributions paid to the health insurance and reinsurance funds of the Federation of Bosnia and Herzegovina, the Cantonal Institutes for Health Insurance and the Institute of Health of the Republic of Srpska and Brčko District of Bosnia and Herzegovina

Table 3. Contributions for basic health insurance

Year	Gross salary of additional employees in (in KM)	Contributions for basic health insurance - Institute of Health Insurance and Reinsurance Federation of Bosnia and Herzegovina, Health Institute of Republic Srpska and Brčko District of Bosnia and Herzegovina and cantonal health insurance institutes (in KM)
2009.	115.504.074	14.056.846,00
2010.	117.289.040	14.274.067,00
2011.	131.630.390	16.019.418,00
2012.	140.234.250	17.066.508,00
2013.	157.165.112	19.126.994,00
Ukupno:	661.283.866	80.543.833,00

Source: Authors

Based on the budget presented in Table 3, it was determined that the Health Insurance and Reinsurance Institutes of the Federation of Bosnia and Herzegovina (12.5% of gross salary), the Health Institute of Republic Srpska (12% of gross salary), and the Brčko District of Bosnia and Herzegovina (12% of gross salary), along with cantonal health insurance institutes, incurred a loss of 80,543,833.00 KM during the period from 2009 to 2013 based on contributions for the basic health insurance of workers who could be additionally employed.

The amounts of contributions for basic health insurance were calculated based on the average percentage of 12.17%, which is applied in the Federation of Bosnia and Herzegovina, the Republic of Srpska, and the Brčko District of Bosnia and Herzegovina.

d) Contributions paid in favor of unemployment insurance funds - Federal Employment Fund of the Federation of Bosnia and Herzegovina, Cantonal Employment Office, Employment Service of the Republic of Srpska and Brčko District of Bosnia and Herzegovina

Table 4. Contributions for unemployment insurance

Year	Total income from taxes and contributions (in KM)	Unemployment insurance contributions - Federal Employment Agency (in KM)
2009.	43.986.525	512.464
2010.	27.054.533	315.198
2011.	38.281.041	445.993
2012.	38.903.914	453.249
2013.	43.382.040	505.422
Total:	191.608.053	2.232.327

Source: Authors

Table 4 shows the income from taxes and unemployment insurance contributions that could have been collected in favor of the Federation of Bosnia and Herzegovina in the period from 2009 to 2013, amounting to 2,232,327.00 KM.

Table 5. Contributions for unemployment insurance

Year	Total income from taxes and contributions (in KM)	Contributions for unemployment insurance - Cantonal Employment Service, Employment Service of Republic Srpska and Brčko District of BiH (in KM)
2009.	43.986.525	1.195.750
2010.	27.054.533	735.463
2011.	38.281.041	1.040.650
2012.	38.903.914	1.057.582
2013.	43.382.040	1.179.318
Total:	191.608.053	5.208.763

Source: Authors

Contributions for unemployment insurance paid to cantonal services, services in the Republic of Srpska, and the Brčko District are calculated as a percentage of 70% of the total amount set aside for unemployment insurance, as presented in Table 25. Accordingly, a loss of 5,208,763.00 KM was realized during the period from 2009 to 2013.

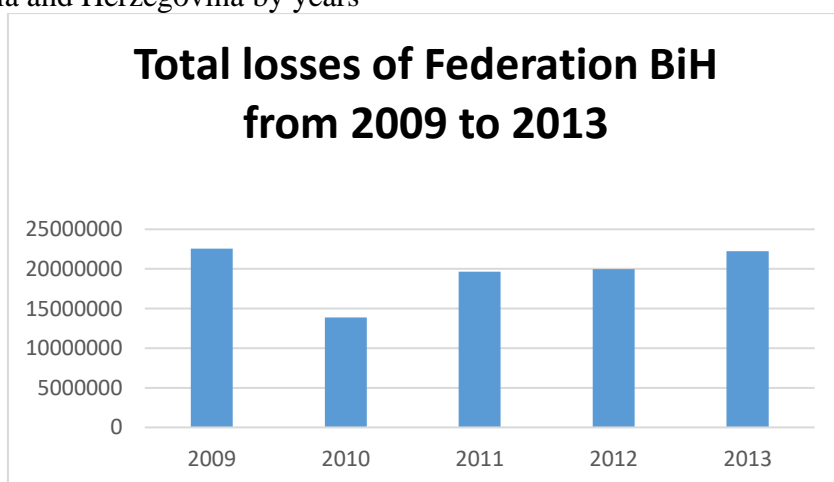
Table 6. Income tax

Year	Total income from taxes and contributions (in KM)	Income tax paid to cantonal budgets (in KM)
2009.	43.986.525	8.541.073
2010.	27.054.533	5.253.307
2011.	38.281.041	7.433.212
2012.	38.903.914	7.554.158
2013.	43.382.040	8.423.697
Total:	191.608.053	37.205.447

Source: Authors

Table 6 shows the losses generated by cantonal budgets based on income tax in the amount of 37,205,447.00 KM in the period of the past five years.

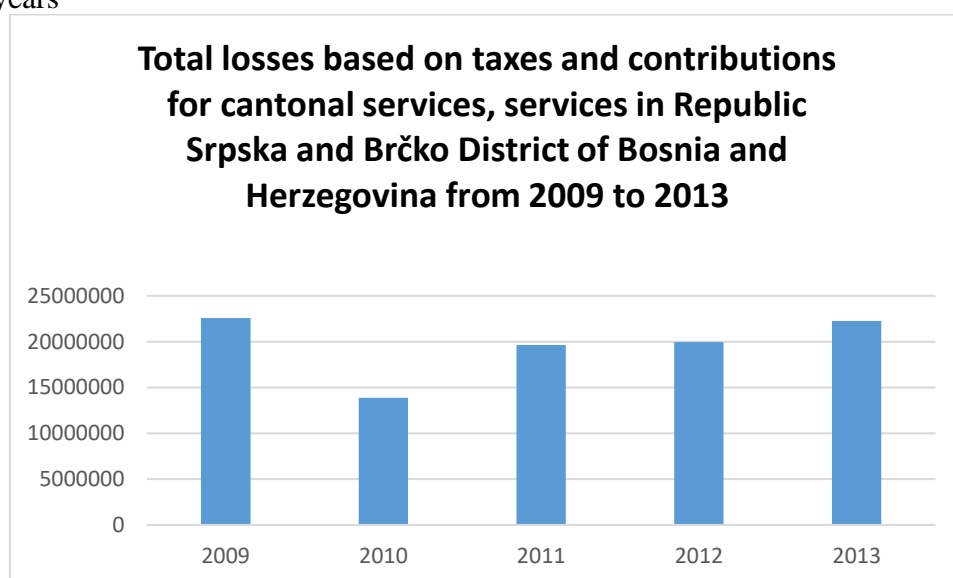
The macroeconomic effects of consumer ethnocentrism, the organization of domestic production, and import substitution, along with the stimulation of purchasing domestic products, are evident. These effects are reflected in financial losses for both the Federation of Bosnia and Herzegovina, the Republic of Srpska, and the Brčko District of Bosnia and Herzegovina, as well as for the cantons..

Figure 2. Total losses based on taxes and contributions of the Federation of Bosnia and Herzegovina by years

Source: Authors

Figure 2 illustrates the total expected taxes and contributions paid in favor of the Federation of Bosnia and Herzegovina from 2009 to 2013, considering the treatment of losses due to the amount of imports of products from the processing industry. A decrease in total contributions was observed in 2010 compared to 2009, with income based on paid contributions amounting to 21,247,460.00 KM in 2009 and 13,177,921.00 KM in 2010. In 2011 and 2012, the expected benefits from contributions were approximately 18,646,212.00 KM and 18,949,604.00 KM, respectively. In 2013, the total amount of losses realized by the Federation of Bosnia and Herzegovina based on contributions amounted to 21,130,844.00 KM.

Figure 3. Total losses based on taxes and contributions for cantonal services, services in Republic Srpska and Brčko District of Bosnia and Herzegovina by years



Source: Authors

Figure 3 illustrates a decrease in losses based on taxes and contributions from 2009, when they amounted to 22,561,244.00 KM, to 13,876,611.00 KM in 2010. Similar to the Federation of Bosnia and Herzegovina, losses based on income tax and contributions to cantonal services, services from Republic Srpska, and Brčko District of Bosnia and Herzegovina, grew in 2011 and 2012 from 19,634,829.00 KM to 19,954,308.00 KM, respectively. Regarding 2013, the amount of losses based on taxes and contributions is close to the amount from 2009, totaling 22,251,196.00 KM. All calculations presented in the framework of the

analysis of macroeconomic effects of consumer ethnocentrism are approximate.

Therefore, based on imports, production, and employment in the branches of the processing industry, as well as gross and net wages of employees in the processing industry, it was possible to estimate expected losses for the national economy and types of employment, losses for pension and disability funds, health and unemployment insurance funds, and other social effects, thus accepting the hypothesis H_0 .

DISCUSSION OF RESEARCH RESULTS

From a macroeconomic perspective, the paper illustrates the annual losses that Bosnia and Herzegovina faces due to the absence of a developed strategy to support domestic production, unlike the Republic of Serbia, which actively engages in strengthening the national economy. Research conducted in 2010 by Marinković, Stanković, and Kostić indicated a slight increase in the degree of consumer ethnocentrism in the Republic of Serbia in recent years. The emergence of an economic crisis has made ethnocentric behavior socially acceptable and desirable. Additionally, loans for subsidizing the purchase of domestic products significantly contributed to the development of this social phenomenon in the Republic of Serbia, ultimately influencing consumers' actual behavior in purchasing products of domestic origin.

A lower degree of consumer ethnocentrism was observed in Tunisia due to the poor quality of domestically produced goods. Consequently, the Tunisian government should focus on creating adequate advertising campaigns to promote domestic products and facilitate partnerships between producers and foreign companies to enhance product quality (Karoui & Khemakem, 2019, 69). The results of research conducted in Sri Lanka showed that consumers with higher average monthly incomes are more inclined to buy imported products, while those with lower incomes show stronger ethnocentric tendencies towards domestic products. This suggests that the marketing campaigns of state institutions, aimed at strengthening the national economy of Sri Lanka, should focus on consumers who predominantly prefer imported products (Silili & Karunarathna, 2014, 11). The results of the research that was conducted after 9 years, that is, in 2023, in Sri Lanka showed that older respondents are more inclined to buy domestic products with the aim of strengthening the national economy (Haniffa, Abdul - Cader & Azam, 2023, 165).

The high degree of consumer ethnocentrism in Bosnia and Herzegovina was confirmed in a study conducted by Čičić, Brkić, and Prašo-Krupalija in 2003. The similarities of their research are also evident in terms

of imported products that BiH consumers do not reject, as well as their awareness of the importance of increasing employment, production, and exports by purchasing products of domestic origin. It is important to point out the fact that no similar research has been conducted on losses for the national economy in the wider region of the Western Balkans. In countries like Ecuador, the development of strategies and support is required that would give domestic producers a competitive advantage over imported goods (Gonzalez - Cabrera & Trelles - Arteaga, 2021, 165).

CONCLUSION

The methodology for calculating the macroeconomic effects on the national economy has been established. Specifically, based on imports, exports, production, and employment in the branches of the processing industry, the amounts of losses suffered by Bosnia and Herzegovina in the period from 2009 to 2013, based on realized imports of consumer goods, were identified. These losses represent potentially lost funds that could have been realized in the case of substituting imports with domestic production. The importance of state institutions in terms of strengthening consumer ethnocentrism through support programs and campaigns that promote and stimulate domestic production and the purchase of domestic products has been noted.

The results of the conducted research can provide valuable guidelines for improving the business activities of manufacturing companies both in Bosnia and Herzegovina and those companies outside the borders that plan to enter the market of Bosnia and Herzegovina. By identifying the ethnocentric tendencies of consumers in Bosnia and Herzegovina, companies can improve existing marketing strategies in terms of promoting goods produced in Bosnia and Herzegovina for a certain segment of consumers.

With the help of the results of the conducted research, it is possible to contribute to a better understanding and solving of problems that arise as a consequence of consumer ethnocentrism. First of all, the problem of the high unemployment rate would be solved, and then the work of health insurance funds, pension-disability insurance, and unemployment insurance funds would be improved. It also creates a better insight into the characteristics of consumers, their wishes and needs, and the barriers that limit consumer ethnocentrism. This type of research can be useful to marketers when creating a marketing strategy to attract consumers with different degrees of ethnocentric tendencies.

REZIME

MAKROEKONOMSKI EFEKTI POTROŠAČKOG ETNOCENTRIZMA U BOSNI I HERCEGOVINI

Predmet istraživanja u radu je društveni fenomen potrošačkog etnocentrizma kojeg karakteriše emocionalno stanje privrženosti svemu što pripada onoj zemlji u kojoj potrošač živi. Cilj je rada bio analizirati makroekonomske efekte potrošačkog etnocentrizma u Bosni i Hercegovini. Analizirani su gubici za nacionalnu ekonomiju u pogledu zaposlenosti, proizvodnje, poreza i doprinosa, te drugi društveni efekti uz pretpostavku supstitucije uvoza domaćom proizvodnjom proizvoda prerađivačke industrije u Bosni i Hercegovini, eventualanog dodatnog broja zapošljavanja u proizvodnim preduzećima, te efekata plaćenih poreza i doprinosa za dodatno zapošljavanje za fondove penzionog i invalidskog osiguranja, zdravstvenog osiguranja i osiguranja od nezaposlenosti u Bosni i Hercegovini u periodu od 2009. – 2013. godine. Utvrđeni su iznosi gubitaka po entitetima Federacija Bosna i Hercegovina, Republika Srpska i Brčko Distrikt Bosne i Hercegovine. Rezultati istraživanja mogu poslužiti kao poluga za ulaganja u domaću proizvodnju, povećanje zaposlenosti, te stvaranje robnih rezervi koje bi se ogledale u domaćim proizvodima.

Ključne reči: nacionalna ekonomija, potrošački etnocentrizam, Bosna i Hercegovina.

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TINKER, TAILOR, SOLDIER - AWRY? ASSIGNMENT PROBLEM IN DISINFLATION ENDEAVOURS*

ABSTRACT: Overcoming macroeconomic hurdles as a trade assumes that branches of government are almost continuously charged with various assignments, or particular tasks attached to a finite set of resources and talents owned by organizational subunits with decision rights in corrective policy-making. Even though open-economy cases of disinflation programs reminded us quite a while ago that one task need not be assigned to one single resource exclusively, the overwhelming belief in mainstream macro to this day is that monetary policy remains chiefly responsible for both causing and stopping harmful inflation spirals. This paper, however, follows a novel wave of literature that doubly questions the aforementioned notion.

It appears that the usual suspects for the recent rise of inflation worldwide are found not guilty; hence, we stand by the rare few who advocate that inflation in a modern non-Ricardian setting, when it finally spiralled out of control, represents but a legitimate and inevitable consequence of irresponsible fiscal policies and unsustainably high public (and private) debts.

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Moreover, due to the familiar if reversed Fisherian effect, intermediated monetary restriction via interest rate hikes turns out to be an unsafe, rather controversial reaction of central banks when it comes to reasonably swift and reliable preference for an outcome of such disinflation endeavours.

Keywords: (dis)inflation, monetary and fiscal policies, accumulated debt, fiscal theory of price level, interest rate hikes...

"So in order to obviate this problem," he continued, "and effectively revalue the leaf, we are about to embark on a massive defoliation campaign, and...er, burn down all the forests. I think you'll all agree that's a sensible move under the circumstances."

— Douglas Adams, *The Ultimate Hitchhiker's Guide to the Galaxy*

"I do not think it is an exaggeration to say history is largely a history of inflation, usually inflations engineered by governments for the gain of governments."

-Friedrich von Hayek-

INTRODUCTION

From 2021 onwards, more than half of the developing countries on the planet have recorded inflation above 7% p.a., which is the highest chronic level of CPI increase in over two decades. With that in mind, firstly, we venture to examine whether the usual suspects (in the media, periodicals, and central banks' reports) for the global resurgence of inflation really represent the key determinants of its incitement. Furthermore, if it turns out that several chronic political or economic aberrations additionally burden already irresponsible yet recently unsustainable public finances around the world, we proceed by subjecting the contemporary macroeconomic constellation to the methodological framework of the so-called fiscal theory of price level, in order to check if it is conceivable that the main disinflationary lever, in fact, has all along rested outside the monetary realm, and to that end whether nominal interest rate hikes as a stand-alone restrictive policy instrument always and everywhere deliver a net positive effect of suppressing inflation. The rest of the paper is organized as follows: Section 2 offers examination of both usual and controversial suspects for the resurgence of inflation; Section 3 introduces the main intellectual facets of the fiscal theory of price level; Section 4 questions the theoretical narrative of interest rate hikes as the standard toolkit for taming inflation; Section 5 distils several concluding remarks.

THE USUAL SUSPECTS VS. DISCOVERED LEADS

Generally speaking, there are four allies of inflation propagation in the open economy: 1) impact of changing prices onto other prices; 2) impact of rising prices on wages and salaries; 3) impact of price dynamics on exchange rate (inflation lowers purchasing power of national currency thereby altering its relative price), coupled with boomerang effect of exchange rate pass-through (so-called imported inflation) and 4) impact of changing price level on interest rates [Malovic, 2014]. In addition, much depends on the particular type of inflation expectations governing behaviour of representative agents (neoclassical are by and large backward-looking whereas neo-Keynesian are forward-looking) as well as on size and degree of nominal rigidities and residual sensitivity parameters [Svensson, 2013, p.13], [Woodford, 2003, pp.158-187]. Moreover, inflation dynamics can be summarised as the interplay between expected inflation rate (which may or may not be represented by the targeted core inflation), imported supply-side shock u^S and constantly evolving outcome of both price- and wage markups applied [Malovic, 2014]:

$$\pi = \pi^E + \alpha(1 + M^P)(1 + M^W) + u^S \quad (1)$$

On the other hand, the ongoing war in Ukraine, broken supply chains as a legacy of COVID, cumulatively unleashed aggregate demand after the global quarantine, a jump in nominal wages, and even the purchasing power catch-up effect achieved by emerging markets in recent years, are all typically mentioned as the usual suspects for the resurgence and apparent robustness (at least in the European theatre) of contemporary inflation. Of those five, only the fifth determinant comes from afar and resonates long-termish; the former four being fairly novel and obviously intermittent, short-lived phenomena. Notably, one can hardly imagine global supply chain jams or delays to cement themselves indefinitely, regardless of their short-term validity in explaining imported inflation or price spikes owing to shortages. Be that as it may, structural trends suggest that for quite a while now the inflation menace has grown secular, rather than transitory. Specifically, many countries are now engaged in various “wars” – some real, some metaphorical – that will lead to even larger fiscal deficits, more debt monetization, and higher inflation in the future [Roubini, 2022].

When it comes to the conflict in Ukraine as an inflation determinant, arguably the EU bears the largest economic burden of implementing the sanctions imposed on the Russian Federation, which reinforces both stagnation and inflation on the 'eldest' continent. Russia is one of the key

producers of several primary products essential for international competitiveness in agriculture, construction, and the entire economy when one takes energy into account; hence, trade restrictions in fuel provision by the EU can be considered a self-inflicted wound of geostrategic origin [Malovic-Petrovic, 2023]. By the same token, the USA might be seen as the apparent short-run winner of the great economic divide imposed by economic sanctions of the collective West. Nevertheless, inflation has had a much longer if silenced runaway on both sides of the Atlantic, so that the war in Ukraine appears to serve merely as a perfect excuse for inflation that would have been brought about anyway.

Furthermore, the aggregate demand accumulated through the quarantine (state aid plus pent-up demand) was everywhere relatively limited in its duration and of relatively narrow scope (hospitality, travel, conventional shopping), while a more pronounced speculative bubble in the real estate market could be in part attributed to COVID, the spin-off stemming from the desire for more residential space [Konczal, 2023] as well as from a rational attempt to preserve the value of lifelong savings, which began to decline across all leading currencies with the very first tremors of worldwide inflation: investment activity also known as flight to safety due to the shortage of safe financial assets in the crisis environment of financial contagion. Nersisyan and Randall Wray (2022) maintain that there is little evidence of excess demand causing inflation, although it goes without saying that less expansionary government policy would result in both a considerably slower recovery and more timid lower inflation. Besides, Agarwal and Kimbal (2022), upon observing OECD countries sample, rightly pointed at probably persistent pandemic shift from demand for services in favor of demand for goods, which made goods inflation dominant over most of the lockdown period(s), while the price of services curiously declined very little if at all and readily made up (in subsequent inflation) for falling behind through the quarantine once the worst of COVID was behind us [Konczal, 2023]. Anecdotal evidence suggests similar albeit less volatile development of inflation in small open transition economies.

With regard to labor and wages, it is important to debunk irresponsible claims that wage jumps delivered post-pandemic inflation. Notwithstanding certain frictional unemployment issues in businesses with face-to-face performed services in jeopardy of being discontinued due to contemporary or some future pandemic, whose proprietors did cut such employment during lockdown rather hastily and were later unable to fill these posts with new labor force, there is no evidence whatsoever that wages and employment had been a considerable inflation determinant, much less that they ought to decline to defuse inflation [Bernanke-Blanchard, 2023]. First, in respect to the Eurozone, any serious jump in wages was pretty much non-

existent until the second quarter of 2023 [Malovic-Petrovic, 2023]. In many small open developing countries, wages had long been stagnant or even slightly reduced during the COVID crisis, with only a handful of sectoral outliers picking up more recently. In the U.S. case, however, partly thanks to much quicker macroeconomic recovery (non-negligibly aided by the geopolitical inertia), to the extent some workers have finally seen a more pronounced wage growth amidst tighter labor markets, this wage growth is far less responsible for current greedflation than steep corporate profits (after-tax profit margins of non-financial companies in the U.S. are the highest in the previous 70 years), coupled with tireless stock buybacks at historic levels [Schweitzer-Khattar, 2022], [Konczal, 2023]. According to Schweitzer and Khattar (2022), not only do scatter diagrams doubtlessly show the absence of a significant correlation between wage acceleration and price acceleration even for the US data during the pandemic (tested across 94 industries), but moreover, American CPI had been continuously above average hourly earnings of non-supervisory personnel throughout 2022, which stood consistent with the real growth rate of the median household wage in the USA of a modest 8.8% over the last 40 years! Even though inflation expectations in the U.S. remain well anchored, Bernanke and Blanchard (2023) express concern that the current nominal wage growth rate in America, should they persist, may prove to be unsustainable and thus a more serious inflation determinant in the near future.

The ultimate question remains: if the usual suspects bear little to no accountability for detected magnitude and duration of general price increases across the globe, where and when have all the inflation come from? In our opinion, the real culprit for the global return of inflation is the irresponsible fiscal policy and the long-term growth of public and private debts of alarming proportions. Namely, for years, right-wing governments cut taxes without immediately cutting spending, while left-wing governments spent more and more generously on social programmes without providing them with adequate fiscal income [Roubini, 2022*]. In addition, quantitative easing and systematic deregulation of credit conditions have been utilised for decades to artificially maintain the borrowing capacity and repayment potential of both sovereigns and large influential corporations to the level of *de facto* dependence on dramatically low (real) interest rates. Consequently, total planetary private and public-sector debt as a share of the world GDP rose from 200% in 1999 to 350% in 2021! The ratio is now 420% across OECD economies, 330% in China, while in the U.S. it has also reached 420% which is higher than during the Great Depression or the post-WWII era [*Ibidem*]. Total emerging market developing economies' debt is around 207% of its respective GDP, out of which public debt occupies 64 percentage points of GDP that places it at its highest level in three decades; about one-half of it is

denominated in foreign currency, and more than two-fifths are held by non-residents [Kose *et alia*, 2022]. The share of private and public debt in the Eurozone's GDP exceeds 170%, and in many member states (such as Italy or Greece) it is significantly higher [Malovic-Petrovic, 2023]. Sheer size of the ECB's balance sheet reached almost 9 trillion euros already in 2022, since the volume of bonds purchased by the ECB alone accounts for about 56% of the GDP of the Eurozone [Issing, 2023]. Only in the fourth quarter of 2022 can we observe a more significant annual change of course in public finances for the Eurozone towards fiscal restriction, both through the size of the deficit and through the size of the public debt in relation to GDP (by 1.7 percentage points and by 4 percentage points less, respectively) [Eurostat, 2023]. It is yet to be seen how determined and sustainable this course is when all those weapons, ammunition, and other supplies, donated or cheaply sold via long-term loans to Ukraine, provoke often import-dependent replenishment requests by national defence ministries throughout the E(M)U. This is especially doubtful considering that the Eurozone has recently officially entered recession [Malovic-Petrovic, 2023].

Nonetheless, this chronically high indebtedness in terms of government and/or publicly guaranteed private debt has gained a lot of traction more recently (but long before pandemic) from the globally imposed green transition, which is not only inflationary *sui generis*, unachievable and unsustainable in its current form,² but also fiscally unfair, since it is almost entirely passed onto the taxpayer. It is inflationary since it champions much more expensive technologies instead of thus far used ones, since it raises opportunity costs of diverting many inputs from its traditional deployment and potentially provokes shortages, and at last but not least since new technologies will also bear non-trivial indirect carbon footprint, plus the fact that regular maintenance&servicing of- and dispensing with allegedly green new technologies shall cost us dearly long after initial transition.

While in most cases inflation appears as a bitter if unavoidable outcome of stubbornly pushing for new technologies (that aren't properly thought through), in some auxiliary instances globally induced inflation can serve as a handy excuse for introducing new technologies (equally deprived of a sober second thought) that are supposed to mend it in the green and digital future. Croitoru (2023), for example, has also identified too loose fiscal policy, technologies that indirectly diminish economic freedoms, and environmental reforms as mutually reinforcing determinants of inflation, which in turn gets (mis)used as a convenient exhaust for politically debatable social redistribution.

² For more details on just why green transition is sadly unachievable and unsustainable in its present form and agenda, see Spence (2022*).

THE FISCAL THEORY OF PRICE LEVEL

Therefore, economists have no right to ignore the mounting evidence that inflation in fact isn't always and everywhere a purely monetary phenomenon as M. Friedman would put it, neither in terms of origin nor the most effective treatment. The so-called fiscal theory of price level (hereafter FTPL) generally argues for appreciating much more sophisticated way in which monetary and fiscal policies interact in determination of macroeconomic results [Lubik, 2022], rather than performing *ex ante* divided tasks in isolation from one another, while under certain pretext claims that the price level may be determined by government debt and fiscal policy in particular, with monetary policy playing at best a minor, indirect role [Leeper, 1991], [Sims, 1994], [Woodford, 1995], [Bassetto, 2006].

The long-standing price determination ideology has rested on the classical quantity theory of money, where general price level is outcome of nominal money supply, money velocity and output dynamics:

$$P_t = M_t^s V_t / y_t \quad (2)$$

FTPL, however, takes more encompassing view of inflation creation in which independent monetary and fiscal policies are intertwined via consolidated government budget constraint, established by integrating the central bank's and treasury's budget constraint, respectively:

$$(O_t^{CB} - O_{t-1}^{CB}) + \tau_t^{CB} \equiv i_{t-1} O_{t-1}^{CB} + (H_t - H_{t-1}) \quad (3)$$

$$G_t + i_{t-1} O_{t-1} \equiv T_t + (O_t - O_{t-1}) + \tau_t^{CB} \quad (4)$$

Summing up yields (5)=(3)+(4):

$$G_t + i_{t-1} O_{t-1}^o = T_t + (O_t^o - O_{t-1}^o) + (H_t - H_{t-1}) \quad (5)$$

On the expenditure side of equation (5), current government consumption is augmented with interest due on net (residual) government debt, $O^o = O - O^{CB}$, while on the right-hand side public revenue is supported by new net public debt and an increase in monetary base (high-powered money).

However, since seignorage generally doesn't coincide with the inflation tax, because headline inflation draws from total money supply growth, in what follows we shall substitute H for M^s , so that the general price level in the latter period is adjusted in such a manner that the real value of the

government debt corresponds to the net present value of expected primary surpluses, which keeps the intertemporal budgetary constraint of the consolidated government sector in check. After Cochrane (2023), the government's budget limitation reads:

$$D^J_{t-1} = P_t b_t + M^S_t - M^S_{t-1} + p^o D^J_t \quad (6)$$

Of newly introduced variables, D^J is total public debt, b is primary budget surplus and p^o is the price of a government bond.

On the other hand, representative household maximizes the expected net present value of the cumulative income available for consumption, namely

$$\max E[\sum_{j=0}^{\infty} \beta^j b_{t+j}] \quad (7)$$

where β denotes discount factor and y^D real disposable income, subject to its own budget constraint (household's) and transversality condition, respectively

$$M^S_{t-1} + D^J_{t-1} + P_t y_t = P_t c_t + P_t b_t + M^S_t + p^o D^J_t; \sqrt{M^S_t, D^J_t} \geq 0 \quad (8)$$

$$\lim_{T \rightarrow \infty} E_t(\beta^T D^J_{T-1} P_{t-1}) = 0 \quad (9)$$

Consequently, the essential reason for eventually erupting inflation is apparently a watershed moment in which a critical mass of creditors (and perhaps the sovereign himself) doubt(s) the possibility of generating future fiscal surpluses sufficient to eliminate the amount of accumulated debts:

$$D^J_{t-1} / P_t = E[\sum_{j=0}^{\infty} \beta^j b_{t+j}] \quad (10)$$

The simplest multi-period version of FTPL, thus, claims that rock-bottom demand for money in private sector view is determined solely by the obligation to regulate the tax levy that must be paid periodically with officially declared fiat money [Cochrane, 2023]. Greater than minimal demand for money is feasible provided that government exerts fiscal prudence (intertemporal solvency; no partial monetisation of public debt) and available assets offer households a reasonable remuneration (return). Overall money demand, however, as well as unique price level must be consistent with given present value of primary surpluses and the nominal debt inherited from the past. Thus, FTPL defines price level dynamics not as the inverse of the pecuniary value (which is traditional view), but as the inverse of the value of government debt. Since lending (the mirror image of public indebtedness)

for non-state sector is voluntary unlike payment of taxes, if private agents are reluctant to lend, government is forced to a fiscal adjustment. Under the FTPL, it is the price level that responds to realised future fiscal shock and thereby alters the real value of public debt on the left-hand side of equation (10) [Bassetto, 2006].

Criticism thus far uttered against FTPL boils down to two main dimensions: first is the treatment of intertemporal accounting (solvency) identity as an exceptional equilibrium condition in the likes of Buiter (2002), McCallum and Nelson (2006) or Storm (2022); second is concerned with FTPL's alleged lack of empirical relevance in the second half of XX century according to, for instance, Bohn (1998) or Canzoneri *et alia* (2001). Nonetheless, in retrospect it seems that both strands of criticism stem from the same misconception: namely if economic environment prevalently rejects behaviour implied by the so-called Ricardian equivalence, endogenous price level adjustments are clearly necessary to accommodate the lack of fiscal discipline in as much as fiscal policy framework is non-Ricardian and economy operates under regime of fiscal dominance. This was either not understood well enough, underappreciated³ or wasn't fulfilled as an empirical precondition at the end of the last century [Ballabriga, 2004], [Lubik, 2022], [Cochrane, 2023].

Sure enough, objective difficulty in empirical verification of FTPL is the fact that the power of theory rests on a forward-looking present-value relationship which may require a lot of extrapolation (not least of interest rates used for discounting) [Lubik, 2022] and may bring about gradually sneaking inflation as a result of bad fiscal news identified in a fairly distant future [Cochrane, 2023]. Still, more recent studies deliver more promising results. By utilising a novel method for quantile panel regressions with fixed effects, Banerjee *et alia* (2023) find statistically significant and positive impact of cumulative fiscal deficits on near-term inflation in a bundle of developed and developing countries, caveat being that surge in budget deficits exhibit highly non-linear repercussion for inflation rate: i.e. larger impact on the upside tail risks than on average inflation and more so for emerging markets & developing countries than for OECD members. In addition, financial openness and (effectively) fixed exchange rate apparently weaken this positive link between budgetary deficits and subsequent inflation for subsample of developing countries. Also, Barro and Bianchi (2023) have

³ For example, Buiter and Sibert (2018, p.18) argue that violation of intertemporal budget constraint provokes jump in private consumption rather than jump in general price level and henceforth call improved versions of FTPL models by C. Sims and J. Cochrane the fiscal theory of the level of economic activity. Effectively, of course, risen consumption *caeteris paribus* gives instantaneous birth to more or less classic demand-pull inflation before level of output could be pushed upward.

lately published a study which establishes a substantial explanatory power of composite government spending variable (40-50%) in determining future inflation for 37 OECD countries (20 of which are EMU members) through 2020-2022 pandemic period. Brandao-Marques *et alia* (2023) similarly show that debt surprises raise long-term inflation expectations in a persistent way among emerging markets but not in advanced economies. The impact appears to be stronger the heftier initial debt level was, the more dollarised debt is and the higher initial inflation happened to be. However, debt denomination is irrelevant to a first order. According to Cochrane (2023, p. 240), relevant is the ability to obtain reserves when they are unconditionally desired. Governments don't back their total debts with FX reserves or gold for that matter. Alas, when debt becomes due, if governments cannot pay them off or roll them over, they must print fiat money in order to avoid defaulting. Surprise inflation reduces the value of nominal liabilities and therefore improves the fiscal stance of the consolidated government [Lubik, 2022].

Be that as it may, in the event of real present value of accumulated debts ending up greater than the estimated fiscal potential in the foreseeable future, the surplus of current money in circulation can go either to the purchase of risk-free domestic securities (which is less likely in case of tainted fiscal credibility) or to the acquisition of real assets /safe financial assets (e.g. foreign currency) which causes and hence determines the increase in the general price level [Cochrane, 2023]. In this way, apart from the fiscal origin of unanticipated inflation, it is also possible to explain why neither the multi-year cutting of nominal interest rates on both sides of the Atlantic nor the (politically, ergo fiscally motivated) monetary expansion were able to produce the desperately needed inflation for such a long while. Hence the inevitable question, what exactly guarantees us that raising benchmark interest rates this time around will produce desired disinflation?

DO INTEREST RATE HIKES ALWAYS AND EVERYWHERE DECREASE INFLATION?

The question posed is but a slice of broader picture regarding the so-called assignment problem (going back to Tinbergen and Mundell), that investigates which instruments of macroeconomic policy not only can but most efficiently do tackle which macroeconomic disturbances. Having in mind that central banks often manipulate the exchange rate too in executing their monetary strategies, external balance is additionally assigned to monetary policy, whereas fiscal policy typically remains responsible for restoring the real internal equilibrium. However, in an open economy context, Tanner (2019) exerts that if the fiscal authority is unwilling to

cooperate and central banks pursue disinflation on a “go it alone” basis, their disinflation effort may be thwarted by deteriorating external variables: more external debt, higher risk premia and exchange rate passthrough, which all act inflationary! Thus, it goes without saying that in cases when monetary authority lacks credibility or acts in the Non-Ricardian context, it must rely even more on fiscal authority to bring down inflation. And yet, therein -less obviously perhaps- lies a more fundamental issue: in a constellation where the dominant cause of price jumps isn't demand-pull inflation, raising interest rates is not an optimal or harmless reaction of the monetary authorities, but a forced reflex that arguably does more harm than good over the long run [Malovic-Petrovic, 2023].

Back in the day when monetary restriction used to be carried out through reduction of money supply, quick shortage of liquidity lubricant would promptly slow down real activity and so regain monetary equilibrium. Nowadays when central banks give their best to control monetary supply at best indirectly by tweaking short term interest rates as instrumental variables, traditional and until now apodictic explanation supposedly goes something like this: raising nominal interest rate doesn't affect inflation immediately for its stickiness, hence real interest rate also jumps thereby cooling down the economy (via IS curve) and at last brings down inflation too (via Phillips curve), if oftentimes with considerable time lag. However, in very recent articles, Nersisyan and Wray (2022), Cochrane (2023*) and Fix (2023) persuasively demonstrate not only that such a pattern is nowhere near to be confirmed by actual real-world data in modern macroeconomic history, but furthermore that half a century of formal econometric tests leaves the aforementioned narrative on rather shaky grounds, to put it mildly. What's more, contemporary New Keynesian macroeconomic theory doesn't lend intellectual support for such a transmission mechanism either. Namely, New Keynesian Phillips curve posits that inflation expectations are forward-looking, as in Malovic (2014, p. 100), so that bearing in mind its algebraic evolution,

$$\pi_t = \beta E_t \pi_{t+1} + \gamma (y_t - y_{natural}) \quad (11)$$

if monetary authority raises interest rate, provided that doing so indeed lowers output or increases unemployment, one shouldn't be perplexed with end result - today's inflation drops down [Cochrane, 2023*]. The unpleasant monetary arithmetic being when current inflation falls relative to future inflation as a consequence of pulling up short term interest rate, it means that raising rate of interest manifestly causes inflation surge rather than intended deflation. Finally, as correctly observed by Cochrane (2023*), if serially correlated monetary shock is persistent, inflation could swell up momentarily

notwithstanding any given amount of price stickiness. Although the claim of inflation actually rising with interest rate bumps (and falling with interest rate cuts) automatically puts mainstream economists and government officials (central banks included) into war mode, this covariation is not a new discovery: it simply reminds us of inflation being the variable which up-regulates interest rates rather than the other way around [Fix, 2023]. Nevertheless, this does not imply that in today's world of fiscal dominance there is no use or role for central bank in respect to disinflationary ambitions, on the contrary, monetary authority chooses and then targets the policy rate of interest, which indirectly determines the expected inflation, while fiscal shocks determine its unexpected component [Cochrane, 2023].

However, no one is adamant that interest rate hikes couldn't conceivably produce deflation under any conditions, for minimum two reasons: 1) perhaps there's a missing evidence in a transmission puzzle, along the lines of Cochrane's (2023*) experimenting with adaptive expectations (rather than rational forward-looking ones) in both IS and Phillips curve, or Azizirad's (2023) underlining the importance of liquidity premium on near-money assets, and 2) because you can always claim your mechanism takes a bit more time and torture the data with lags henceforth [Fix, 2023].

No doubt about it, monetary authority still controls the expected inflation component via policy interest rate, but the trouble with the first argument is that history tells us inflations are predominantly brought down by paradigm shift (or a rule change) rather than by impulse response to the interest rate hike. In other words, there's a limit to which one can mend and re-anchor inflation expectations by jedi-mind tricks, dot plots or verbal interventions and quick enough at that, in as much as it might be reconciled with the real-world data [Cochrane, 2023*]. To that end, Azizirad (2023) allows for the very short disinflationary effect of interest rate rise, as opposed to Nersisyan and Wray (2022) dismiss it by maintaining that tighter monetary policy would be an ineffective way to reduce price pressures, with lots of room for pain and little gain in the short run. As a matter of fact, in a realm where the central bank no longer has more direct control over the money supply, but introduces restriction via raising the reference interest rate, such a monetary tightening may be decomposed into essentially two induced effects: 1) recession through the effect of more expensive money and credit on economic activity and 2) fiscal loosening, to which monetary contraction lends itself by means of aggravated public (and guaranteed private) debt. The first effect can suppress inflation in the short term, but the second almost invariably worsens it in the medium term [Malovic-Petrovic, 2023].

The trouble with the second argument is that when one lags the data sufficiently, given the high cyclicity of both inflation and interest rate movement, one risks artificially inverting a clearly positive correlation [Fix,

2023]. In conclusion, not only does the Fisherian effect of raising nominal interest rates cause a highly probable medium-term increase in inflation [Cochrane, 2023], rather than inflation decline, but moreover, data for 17 developed countries over the past 150 years show that a sharp rise in interest rates seriously increases the probability of a financial crisis, especially if interest rates have previously gone through a period of undercutting [Korinek-Stiglitz, 2022]. The same latent predicament -but for developing countries- is pointed out ever more nervously by Obstfeld (2022). At the end of the day, if increase in the nominal interest rate is to suppress inflation in the long term, it should necessarily cause an above-average growth of the real interest rate, which is not entirely certain in a situation where real rates are not only lower than inflation but also lower than expected real growth rates in the foreseeable future. Therefore, Blanchard (2022) believes that, once the ongoing crisis is over, we will continue to live in a world of long-term low real interest rates. However, Rogoff (2023, p.1) warns that it may take a while after all, because even if inflation slows down, already soaring debt levels, deglobalization, and populist pressures will prop interest rates higher over the next decade, than they were in the decade following the 2008 financial crisis.

CONCLUDING REMARKS

Although the inflation rates have recently been visibly reduced all over the globe, they still remain unacceptably high, outside the target ranges, and as such threaten the purchasing power of the population as well as macroeconomic stability by and large.

In this paper we have argued against prevailing let alone exclusive responsibility of monetary authority for causing- or capability of putting an end to undesirable inflation. In addition, we have dealt with and dismissed each of the usually proclaimed main suspects for resurgence and apparent robustness of the contemporary inflation: ongoing war in Ukraine, broken supply chains as a legacy of COVID, cumulatively unleashed aggregate demand after the global quarantine, jump in nominal wages, and even purchasing power catch-up effect achieved by emerging markets in recent years. In our opinion, the real culprit for the global return of inflation is the irresponsible fiscal policy and the long-term growth of public and publicly guaranteed private debts of unprecedented proportions. In this way, apart from stressing predominantly fiscal origin of unanticipated inflation, it is also possible to explain why neither the multi-year cutting of nominal interest rates on both sides of the Atlantic nor the (politically, ergo fiscally motivated) monetary expansion were able to produce the desperately needed

inflation for such a long while. Hence the inevitable question, what exactly guarantees us that raising benchmark interest rates this time around will produce desired disinflation?

Be that as it may, economists have no right to ignore the mounting evidence that inflation in fact isn't always and everywhere a purely monetary phenomenon as M. Friedman would put it, neither in terms of origin nor the most effective treatment. In view of the well-known assignment problem, this paper favours the so-called fiscal theory of price level which generally calls for appreciating much more nuanced way in which monetary and fiscal policies interact in determination of macroeconomic outcomes. Thus, it goes without saying that in cases when monetary authority lacks credibility or acts in the Non-Ricardian context, it must rely even more on fiscal authority to bring down inflation. However, therein -less obviously perhaps- lies a more fundamental issue: in a constellation where the dominant cause of price jumps isn't demand-pull inflation, raising interest rates is not an optimal or harmless reaction of the monetary authorities, but a forced reflex that arguably does more harm than good over the longer run. For the latter part of the paper, we have reviewed in some detail both theoretical and empirical arguments for such an unorthodox if not bold proposition. Indeed, it looks as if central banks' policy rates govern the expected inflation only, while the unexpected inflation, which makes a bulk of the re-allocative and re-distributional difference, nowadays dwells in the fiscal realm.

REZIME

KOTLOKRPA, KROJAČ, VOJNIK - NAOPAKO? PROBLEM DODELJIVANJA ZADUŽENJA PRI DEZINFLACIONIM PODUHVATIMA

Prevazilaženje makroekonomskih prepreka kao zanat pretpostavlja da su grane vlasti gotovo kontinuirano zadužene raznolikim zadacima, tj. određenim zaduženjima vezanim za ograničen skup resursa i talenata u posedu organizacionih podjedinica sa pravima odlučivanja u korektivnom kreiranju politike. Iako su nas antiinflacioni programi u otvorenim privredama odavno podsetili da jedan zadatak ne mora biti dodeljen isključivo jednom jedinom resursu, preovlađujuće uverenje u tradicionalnoj makroekonomskoj misli do danas glasi da je monetarna politika i dalje glavna odgovorna i za izazivanje i zaustavljanje štetne inflacione spirale. Ovaj rad, međutim, prati novi talas literature koji dvostruko dovodi u pitanje pomenuto uverenje. Čini se da su uobičajeni osumnjičeni za nedavni porast inflacije širom sveta proglašeni nevinim, pa stoga stojimo uz još uvek retke ekonomiste koji smatraju da inflacija u modernom nerikardijanskom

okruženju, kada je konačno izmakla kontroli, predstavlja tek legitimnu i neizbežnu posledicu neodgovorne fiskalne politike i neodrživo visokih javnih (i privatnih) dugova. Štaviše, zbog poznatog, iako u rikverc posmatranog Fišerovog efekta, posredno monetarno ograničenje kroz povećanje kamatnih stopa pokazuje se kao nesigurna, prilično kontroverzna reakcija centralnih banaka kada je u pitanju razumno brza i pouzdana preferencija u pogledu ishoda ovakvih dezinflacionih poduhvata.

Ključne reči: (dez)inflacija, monetarna i fiskalna politika, akumulirani dug, fiskalna teorija nivoa cena, povećanje kamatnih stopa

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Professional Article

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AN IMPACT OF INFLATION ON THE NEO-KEYNESIAN PHILLIPS CURVE - THE CASE OF THE REPUBLIC OF SERBIA*

ABSTRACT: The Phillips curve has evolved into a systematic instrument that elaborates on macroeconomic analysis, showing the relationship between unemployment and inflation, illustrating the trade-off between achieving full capacity engagement and maintaining price stability. The New Keynesian Phillips curve presumes that expectations of inflation are neither adaptive nor rational, as posited in Lucas's theory. Consequently, a New Keynesian Phillips curve has emerged, distinct from the curve modeled by Phelps and Friedman.

In 2023, inflation in the Republic of Serbia (Serbia) peaked at 16.2% in March, gradually declining to 10.2% by September, aided by reduced pressure from food prices. Projected inflation is expected to decelerate further by the end of 2023 and into the following year, influenced by effects and tighter financing conditions. While some increases in 2023 are evident,

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approximate yearly inflation is expected to be in single digits in 2024, returning within the central bank's target in two years.

This paper will present the New Keynesian Phillips curve in the Republic of Serbia (Serbia), as well as macroeconomic predictions for the country.

Keywords: inflation, unemployment, model, Serbia

INTRODUCTION

What the curve created by Phillips offers is an adequate answer to the relationship between unemployment and inflation. Although it was designed in the 1960s, this curve has evolved into a systematic instrument that elaborates on macroeconomic analysis, illustrating the relationship between unemployment and inflation. It demonstrates the trade-off between achieving full capacity engagement and maintaining price stability.

Economists deal with the relationship between individual indicators and engage in comparative research of macroeconomic indicators. The influence of one macroeconomic aggregate is followed by the degradation of the other aggregate. Macro or microeconomically speaking, the two biggest problems of any economy are unemployment and inflation. Their relationship is obviously recognized by the Phillips curve. In 1958, the British economist Alban Phillips, a professor at the London School of Economics, published an article titled "The relationship between unemployment and the rate of change of money wages in the UK, from 1861 to 1957," in the journal *Economica* (Phillips, AW 1958).

The Keynesians of the 1970s couldn't explain stagflation, despite the growth of unemployment becoming a major problem. Based on the Phillips curve and the idea of the change in unemployment and wages, American economists Paul Samuelson and Robert Solow critiqued Keynesian theory and identified a negative trend between price inflation and unemployment through a case study of data from the United States. Modifying the Phillips curve to represent the correlation between price inflation and unemployment, they discovered the same phenomenon as Phillips: that price inflation and unemployment changed in a manner similar to the ratio of wage inflation and unemployment.

Following this case, the enhancement of these curves was continued by the schools of New Keynesians. What overcame the limitations of the previous New Keynesian model is the presumption of a new postulate in the analysis, enhancing the initiation of monopolistic competition, nominal and

real rigidities in prices and wages, as well as the approximation of real developments in the economy.

What the New Keynesian Phillips model presumes is rational, not adaptive, inflation expectations (as withheld in Lucas's theory).

Lucas and Rapping demonstrated through probation that the Phillips curve was changeable over time. In 2001, Mankiw and Rice stressed that the relationship between output and inflation still remained puzzling for microeconomics, a conclusion echoed by Simionescu in 2017 (Simionescu, 2017).

In recent years, many economists have researched inflation expectations and price tuning. John Taylor, Rotemberg Julio, and Calvo Guillermo are three researchers whose work served as a foundation for the New Keynesian Phillips curve model. Rotemberg highlighted the macroeconomic framework in which the discussion was on the cost scaling down of price changes. Calvo created a model grounded in the price of the company, emphasizing that each firm kept a fixed price while general managers didn't receive the "random signal" of the price change. While forming the new price, the firm considered the fact that the prices of other firms had to change. Taking into account that the other companies' prices were set up in the past, the company conducted an analysis of the previous prices in forming the current price.

Firstly, probation results which show the modeling of the Phillips curve were reached. However, Richard G. Lipsey was the first to test the Phillips curve empirically, forming the starting equation as a moderate adjustment of variations in the labor market (Palley, T., 2012):

$$w=f(u-u^*) \quad f(0)=0, \quad f'<0, \quad f''<0 \quad (1)$$

w represents nominal inflation wages, u represents the actual unemployment rate, and u^* represents the unemployment rate (friction and structural) that corresponds to full employment (natural rate). Lipsey's econometric model showed that an immoderate demand for labor caused wages inflation, and that a labor supply surplus caused deflation of wages.

The Phillips curve model has been widely used in recent research as it is convenient for the analysis of monetary policy theoretically. In 1995, John Roberts stressed one of the main adjustments to the New Keynesian Phillips curve, emphasizing the significant role of nominal rigidities in the model. Roberts conducted a comparative analysis of Phillips curves over time, concluding that New Keynesian models included expectations of future inflation, while the supply curve created by Lucas included up-to-date assumptions and up-to-date inflation. The New Keynesian model considers

the prediction of inflation related to when prices are “sticky” or rigid. Another model of the Phillips curve was formed on rational predictions of rigid prices and was presented in models by Calvo, Taylor, and other researchers. These models were the ones of the New Keynesian Phillips curve, including the forward-looking current inflation predictions, as Robert stressed:

$$\pi_t = \beta E_t \pi_{t+1} + \gamma x_t \quad (2)$$

Gali and Gertler (Gali, Gertler, 1999) described the inflation process using another approach to assess if the New Keynesian Phillips, specifically focused on the impact of delayed inflation, discussing the new type of the Phillips curve “New Keynesian Phillips curve,” that includes rational expectations. More than 20 years ago, in 2003, Woodford used the Calvo's model of price adjustment, representing that the set of linear optimal price adjustments of individual companies could show not only the current but also the expected future inflation and aggregate marginal cost as well (mc).

Hornstein introduced a component of marginal costs in the New Keynesian model (Hornstein, 2008):

$$\pi_t = \gamma f E_t \pi_{t+1} + \lambda m c_t + \zeta_t \quad (3)$$

This formula shows the structural model of the New Keynesian Phillips curve, in which λ and γf are structural parameters functions, encompassing the probability of price adjustment, while α , ζ_t is a random variable. Random variables are usually interpreted as an exogenous shock to the company. The New Keynesian Phillips curve model is pretty similar to the traditional model of the Phillips curve, but it introduces numerous questions for the optimal impact of monetary policy and the deflation of costs (Rudd, Whelan, 2005).

A hybrid model of the Phillips curve was interpreted by Gali and Gertler (1999):

$$\pi_t = \lambda s_t + \gamma f E_t \{ \pi_{t+1} \} + \gamma b \pi_t \quad (4)$$

According to their model, the New Keynesian Phillips curve could be a suitable instrument for the prediction of the dynamic indication.

Khan, Zhu, predictions of oppressive information of the Phillips curve in the USA were made by in 2006, following the optimal monetary and fiscal policy based on the sticky prices in the research of Schmitt-Grohe Uribe in 2004. This prediction was also made in the theory of real wage rigidity in the New Keynesian model. In 2015, using the 20 years period data from 1983 to 2013, Kumar and Orrenius presented the ratio of prices and wages was not

linear and convex. Furthermore, they concluded that this ratio diminished in the situation when the unemployment rate was below the approximate norm, but an increase in wages caused a change in unemployment more than the historical average. Additionally, they concluded that the short-term unemployment rate is strongly related to the average and median wage growth until the long-term unemployment rate appeared, affecting the median wage growth only. While there are papers analyzing European inflation and employment as well as differences in the non-accelerating inflation rate of unemployment (NAIRU) (Posta, 2015), other authors analyze the sectorial neo-Keynesian curve and the impact on changing of monetary policy (Norkute, 2015). Recent research is focused on the hybrid model and the relationship of inflation and unemployment that affects all business environments (Kliestik, Kocisova, Misankova, 2015; Simionescu, 2016).

The IMF report stresses that the recent past of the Phillips curve has been a mystery. In the last decade, a lot of studies have found out that the curve has flattened in advanced economies (see e.g. Blanchard, 2016; Del Negro et al., 2020), while others have noticed the muted reaction of inflation to large changes in unemployment not only during that period but after the Great Recession as well (Coibion and Gorodnichenko, 2015; Heise et al., 2022). A great number of details for this phenomenon have been proposed in scientific articles in the last three years:

1. the inflation targeting implementation may have increased the monetary policy capacity to neutralize demand shocks (what would move unemployment and inflation in adverse directions), leaving supply shocks (what would move them in the same direction, shifting the curve inwards/outwards) as the main source of aggregate inconstancy (Broadbent, 2020; Bergholt, and others, 2023).
2. larger sharing of inflation expectations may have diminished second-round impacts of relative price shocks (Borio and others, 2021).
3. the responsiveness of inflation to unemployment and domestic economic slack may have been reduced by globalization (Heise and others, 2022), as well as by labor market flexibility raising through redacting in power of labor bargaining (Lombardi and others, 2020).
4. market power that has increased may have enlarged the capacity of firms in absorbing cost-push shocks in their margins (Baqaei, Farhi, and Sangani, 2021). In the observed period, some of the structural trends may be reversed.

A scenario of delocalization may make the gap of domestic output more relevant and encourage some labor discussion power (Goodhart and Pradhan, 2020) regarding digitalization, COVID-19, and Post-COVID-19 practice of online retailing, where prices are usually much more flexible.

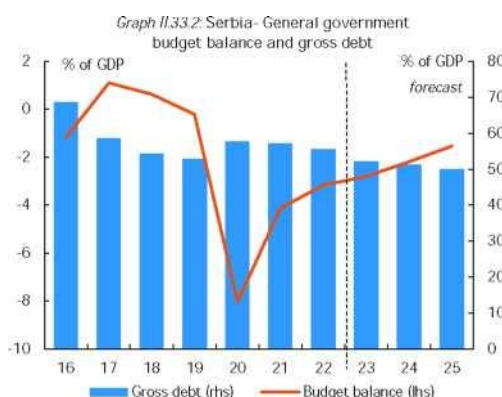
MACROECONOMIC GOALSb- OVERVIEW OF THE REPUBLIC OF SERBIA

The projection of Serbian economic growth remains controlled in 2023 and is expected to pick up in the next two years. This will be affected by lower inflation on real disposable income, set to support private consumption.

Both the debt ratios and the general government deficit are predicted to gradually fall over the next two years, supported by high nominal GDP growth and lower capital utilities for state-owned energy.

The Serbian economy expanded at a moderate pace of 1.3% in the first half of 2023, driven by both net exports and investments, after a substantial deceleration in 2022.

Graph 1.



Source: https://ec.europa.eu/economy_finance/forecasts/2023/autumn/autumn_forecast-2023_rs_en.pdf

In 2023, a growth of 2.2% was expected in Serbia. The projected decrease in inflation's impact on real disposable income fostered private consumption growth until the end of 2023. However, investments and stronger net exports will support moderate growth, although partially diminishing government consumption and investments. All production sectors are set to contribute positively to yearly growth, mostly from agriculture and the construction industry due to base effects from drought periods and lower construction activity in the previous year. Growth in the Serbian economy is expected to reach 3.1% next year and 3.7% in 2025, mostly supported by intensifying private consumption growth and backed up by lower inflation, as well as investment expansion. Since the basic positive effect in 2023, the net exports' contribution to growth is predicted to be neutral in the next two years, supported by increased export performance backed by foreign direct investment in the trade sector. The expansion in the economy is predicted to only gradually access the pre-pandemic rate of somewhat around 4%. As a

sharp decrease was noticed in 2023, mostly due to lower imports of energy, the deficit of the current account is set to be stable in the next two years.

The unemployment rate in Serbia is expected to remain mostly unchanged in 2023, and the estimation for the next two years is a slight decrease in this parameter in the economy due to the predicted economic recovery.

In March 2023, inflation in Serbia was 16.2%, followed by a gradual decrease to 10.2% in September (due to the effect of food prices decrease). It was predicted that inflation would decelerate until the end of 2023 and the next year, partly due to effects and tighter financing conditions. Predictions are that the inflation rate in Serbia will be in single digits in 2024 and returning within the central bank's target level in 2025.

Table 1: Main macroeconomics indicators - forecast for 2024 and 2025

	bn RSD Curr. prices	%	04-19	2020	2021	2022	2023	2024	2025
	GDP								
GDP	7097.6	100.0	3.0	-0.9	7.7	2.5	2.2	3.1	3.7
Private Consumption	4845.8	68.3	25	-1.9	7.8	4.0	0.8	2.9	3.4
Public Consumption	1 148.7	16.2	1.2	2.8	4.1	0.4		-1.1	1.1
Gross fixed capital formation	1714.5	24.2	5.5	-1.9	15.7	1.9	3.5	4.7	4.9
Exports (goods and services)	4531.2	63.8	8.0	-4.2	20.5	16.6	3.3	6.9	7.3
Imports (goods and services)	5309.8	74.8	6.7	-3.6	18.3	16.1	1.1	6.2	6.4
GNI (GDP deflator)	6695.7	94.3	2.7	1.5	6.8	0.7	2.4	2.9	3.4
Contribution to GDP growth:	Domestic demand		3.3	-1.2	9.3	3.1	1.2	3.2	3.7
	Inventories		0.3	0.3	-1.1	0.4	-0.3	-0.1	0.0
	Net exports		0.8	0.0	-0.5	-1.0	1.3	0.0	0.1
Employment			-0.3	-0.2	2.6	2.3	0.3	0.5	0.6
Unemployment rate (a)			17.9	9.7	11.0	9.4	9.4	9.0	8.6
Compensation of employees / head									
Unit labour costs whole economy			:			:	:	:	:
Saving rate of households (b)									
GDP deflator			6.2	2.4	5.8	10.4	13.5	5.4	3.9
Consumer price index			6.8	1.6	4.1	11.9	12.7	5.5	3.6
Terms of trade goods			:	1.0	0.1	-3.7	2.5	0.0	0.0
Trade balance (goods) (c)			-14.2	-11.1	-11.3	-15.5	-11.5	-11.7	-11.8
Current-account balance (c)			-7.2	-4.1	-4.3	-6.9	-3.3	-3.5	-3.3
General government balance (c)			-2.6	-8.0	-4.1	-3.2	-2.8	-2.2	-1.5
Structural budget balance (d)			:			:	:	:	:
General government gross debt (c)			82.1	57.8	57.1	55.6	52.2	51.2	50.1

Source: https://ec.europa.eu/economy_finance/forecasts/2023/autumn/autumn_forecast-2023_rs_en.pdf

CONCLUSION

An adequate management of inflation is considered the primary goal not only of monetary but also of macroeconomic policy. There is an increasing interest in forecasting inflation, which is especially important given that Serbia is on the way to joining the EU, and thus it aims to keep inflation within the allowed limits. The paper presents various causes of changes in the Phillips curve. It is evident that there is no trade-off between unemployment and inflation in Serbia. Macroeconomic policy is aimed at targeting inflation. For decades, we have witnessed the fact that inflation cannot be neutralized but can be kept under control.

Although the New Keynesian Phillips curve links inflation to the output gap and the "cost-push" effect of expected inflation, the model has not proved to be a simple task for reconciling with the data.

REZIME

UTICAJ INFLACIJE NA NEOKEJNZIJANSKU FILIPSOVU KRIVU - SLUČAJ REPUBLIKE SRBIJE

Filipsova kriva je postala sistematski instrument koji razrađuje makroekonomsku analizu koja pokazuje odnose između nezaposlenosti i inflacije, ilustrujući kompromis između postizanja punog angažovanja kapaciteta i održavanja stabilnosti cena.

Nova kejnzijanska Filipsova kriva pretpostavlja da su inflaciona očekivanja racionalna, a ne prilagodljiva, što je zadržano od Lukasove teorije. Kao rezultat toga, postojala je nova kejnzijanska Filipsova kriva koja se razlikovala od Filipsove krive koju su razvili Fridman i Felps.

Dostigavši vrhunac od 16,2% u martu, inflacija je postepeno opala na 10,2% u septembru, a posebno je pomogla smanjenjem pritiska cena hrane. Predviđena inflacija će se dodatno usporavati do kraja 2023. i tokom 2024. godine, na osnovu efekata i strožih uslova finansiranja. Iako je evidentan blagi porast u 2023. godini, očekuje se da će prosečna godišnja inflacija biti jednocifrena u 2024. godini, a da će se 2025. vratiti unutar ciljanog opsega centralne banke.

U ovom radu biće predstavljena Nova kejnzijanska Filipsova kriva u Republici Srbiji, kao i makroekonomska predviđanja u zemlji.

Ključne reči: inflacija, nezaposlenost, model, Srbija

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Professional Article

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IMPACT OF SCHEMES ON THE FORMATION OF FINANCIAL STATEMENTS IN THE PUBLIC SECTOR

ABSTRACT: Users of public funds are required by law to prepare financial reports, which provide information on the financial position, results, and changes needed by management in making their economic decisions. The government of the Republic of Serbia continued with the public financial management reform program for the period 2021-2025, which, among other objectives, includes a special focus on improving accounting in the public sector by applying international public sector accounting standards (IPSAS). These standards will achieve greater transparency of reporting because they will provide information on the assets, liabilities, net assets, income, and expenditures of the entire public sector using the accrual basis of accounting.

The strategic goal of accounting in the public sector of the Republic of Serbia is the full implementation of IPSAS by 2034. To achieve this goal, we need to unify the accounting software of

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the budget users, the main books, auxiliaries for easier business, and consolidation. Automation of postings in the treasury's general book and compilation of financial reports will also be necessary. We will achieve more reliable and objective financial reporting by improving information technology to incorporate criminal schemes, which will help us detect errors well and provide sufficient perspective, whether intentional or unintentional, and contribute to more economic, efficient, and effective management of public funds. In this endeavor, a young scientific discipline, forensic audit, will help us with many specificities.

The government and its institutions are interested in information on the efficiency of using allocated resources to define fiscal policy and to maintain statistical records on national income and other data necessary for leading the policy of development of the national economy.

Key words: schemes, audit, financial reporting, public sector, Accounting Standards, forensic audit

INTRODUCTION

With the Public Financial Management Reform Program for the period 2021-2025, the Government of the Republic of Serbia has continued the reforms of the public financial management subsystem initiated in the previous five-year period. The general goal is to achieve a sustainable budget with stable public debt relative to GDP (Gross Domestic Product). Achieving this goal includes a specific objective - improving accounting in the public sector by applying the International Public Sector Accounting Standards (IPSAS).

A key element of good governance is the transparency of public finances, which is achieved by applying IPSAS and publicly presenting financial reports covering all entities in the public sector. The application of International Accounting Standards and international statistical standards in public sector accounting enables detailed reporting and presentation of financial statements with information on program performance, all aimed at making quality decisions.

The responsibility for using public funds increases with the application of international accounting standards, leading to more economical, efficient, and effective public fund management. Transparency in reporting is achieved through the application of IPSAS, as using the accrual accounting basis

provides information on the assets, liabilities, net assets, revenues, and expenses of the entire public sector. "Implementing accrual accounting primarily requires establishing cash basis accounting and reporting in accordance with IPSAS on a cash basis." (<https://www.trezor.gov.rs>)⁴

Significant improvement in the quality of financial statements will be achieved with IPSAS, together with the required disclosure of information. IPSAS requirements for presenting financial information on a cash basis, along with disclosure and accounting policies, lead to a transition to the accrual accounting basis in the public sector. The strategic goal of public sector accounting in the Republic of Serbia is the full implementation of IPSAS by 2034. Financial reporting using IPSAS provides information and ensures international comparability, as it is uniform and understandable to a wider range of users and, most importantly, to funds from foreign sources. Financial reporting is of great importance to investors and other participants in the financial market, influencing decisions related to the allocation of their resources, as well as to regulatory bodies and many other users. The trust of all these users in "the transparency, integrity, and quality of financial reporting is crucial for global financial stability and balanced economic growth." (Zajmi, 2013. pp. 60-68) ⁵

ROLE AND SIGNIFICANCE OF FINANCIAL REPORTING IN THE PUBLIC SECTOR

Users of public funds compile financial statements to provide information about the financial position, results, and changes necessary for management to make their economic decisions. Similarly, the Final Budget Statement of the Republic of Serbia (Financial Report) portrays the success of the Government of the Republic of Serbia and illustrates the results of its management of resources entrusted to it by the Assembly and all citizens.

The integral parts of financial statements are interrelated, as they present the same financial positions from different perspectives in the forms of a set of financial statements.

⁴ <https://www.trezor.gov.rs>

⁵ Zajmi, S. (2013). Principles of Transparent Financial Reporting as the Basis for Financial Statement Quality Control, *Business Economics*, Year XIII, Number 2, pp. 60-68, Higher School of Economics and Management, Belgrade.

Table 1. Comparative overview of amounts stated in financial positions in financial statement forms

in

thousands of dinars

No.	Form 1		Form 2		Form 3		Form 4		Form 5	
	Account Description	Amount	Account Description	Amount	Account Description	Amount	Account Description	Amount	Account Description	Amount
1	70000 + 80000 0		2001 - Current income and revenue from the sale of non-financial assets	803.072			4001 - Cash inflows	803.072	5001 - Current income and revenue from the sale of non-financial assets	803.072
2	70000 0		2002 - Current income	788.234			4002 - Current income	788.234	5002 - Current income	788.234
3	80000 0		2104 - Revenue from the sale of non-financial assets	14.838	3002 - Revenue from the sale of non-financial assets	14.838	4104 - Revenue from the sale of non-financial assets	14.838	5104 - Revenue from the sale of non-financial assets	14.838
4	40000 + 50000 0		2129 - Current expenses and expenditures for non-financial assets	789.111			4169 - Cash outflows	789.111	5170 - Current expenses and expenditures for non-financial assets	789.111
5	40000 0		2130 - Current expenses	769.972			4170 - Current expenses	769.972	5171 - Current expenses	769.972
6	50000 0		2298 - Expenditures for non-financial assets	19.139	3068 - Expenditures for non-financial assets	19.139	4338 - Expenditures for non-financial assets	19.139	5339 - Expenditures for non-financial assets	19.139
7(1-4)	32112 1	1225 - Excess of income and revenue - surplus	2355 - Excess of income and revenue - surplus	13.961					5434 - Excess of income and revenue - budget surplus	13.961
8							4430 - Excess of cash inflows	13.961	5440 - Excess of cash inflows	13.961
9							4432 - Cash balance at the beginning of the year	11.020		
10							4437 - Correction of cash outflows for the amount of expenses paid not recorded through classes 400000, 500000 i 600000	943		
11	12100 0	Cash, precious metals, securities					4438 - Cash balance at the end of the year (8+9-10)	24.038		

(Source: Author Dimitrijević and another, 2013.)⁶

To gain an understanding of users of public funds and their financial position and business success, it is necessary to be able to read and analyze data and information from the financial report as a whole. For example, having a positive financial result (surplus) in the income statement does not

⁶ Dimitrijević and another - Audit Report on the Final Statement and Regularity of Operations of the Faculty of Organizational Sciences for the 2013. year 2013, number: 400-140/2014-03/26 dated December 4, 2014.

automatically mean that the public funds user is performing well because the surplus may serve to increase funding sources and cover losses from the previous year, as seen in the balance sheet. Also, if we examine the result within the cash flow statement, we can assess whether the public funds user will operate successfully in the future.

For a comprehensive analysis of data and information from the set of financial statements, additional notes, explanations, justifications, tabular presentations, etc., are compiled to provide specific assessments and to indicate any risks related to the operation of public funds users. Financial statements will be of high quality if they meet formal and material correctness. Formal correctness implies that public funds users have applied IFRS (International Financial Reporting Standards) as well as relevant legal regulations in the Republic of Serbia (Budget System Law, Accounting Law, Regulation on Budgetary Accounting, Rulebook on the Method of Preparation, Compilation, and Submission of Financial Statements of Budget Funds Users, Users of Funds of Mandatory Social Insurance Organizations, and Budget Funds, Rulebook on the Standard Classification Framework and Chart of Accounts for the Budget System, Rulebook on the Content and Form of Financial Statement Forms for Companies, Cooperatives, and Entrepreneurs, etc.) when preparing financial statements.

In the Republic of Serbia, it is also prescribed that "the Government regulates in more detail budgetary accounting and the manner of keeping the consolidated treasury account. The Minister regulates the manner of keeping budgetary accounting and the content and method of financial reporting for direct and indirect users of budget funds, users of funds of mandatory social insurance organizations and budget funds of the Republic of Serbia and local governments, and may issue special instructions on financial reporting for certain state administration bodies. The Minister determines the method of reporting on total revenues and receipts and total expenditures and payments for the treasuries of local governments. The Minister regulates the method of preparation, compilation, and submission of financial statements for direct and indirect users of budget funds, users of funds of mandatory social insurance organizations, and budget funds of the Republic of Serbia and local governments." (Law on the Budget System, Article 75.)

The Budget System Law prescribes the obligation to prepare for the application of International Public Sector Accounting Standards (IPSAS) for all public funds users, except for public enterprises and other organizational forms in the public sector that apply International Accounting Standards (IAS). Three measures are planned to improve public sector accounting with the application of IPSAS: "1. Analysis of the current state of public sector accounting and the development and implementation of a Plan for the improvement of public sector accounting; 2. Improvement of the professional

competence of accountants in the public sector through adequate training, and 3. Improvement of the coverage of accounting data through the application of international public sector accounting standards." (<https://www.trezor.gov.rs>) To implement these measures, strategic decisions for improving public sector accounting and activities for their implementation need to be made. The improvement of accounting will be achieved by enhancing personnel, national regulations, and information support. To implement the Public Financial Management Reform Program (PFMRP) for the period 2021-2025, the Republic of Serbia has adopted an action plan for the specified period, defining institutions responsible for implementing measures and partners in carrying out activities, setting deadlines for completing activities, estimating total financial resources by sources (funding source, connection with the program budget), and conducting a risk analysis for implementing PFMRP 2021-2025. Material correctness relates to the coverage and assessment of the effects of business events and transactions in accordance with generally accepted accounting principles, principles of proper balancing, accounting conventions, rules, and practices. International Financial Reporting Standards provide a framework for the preparation and presentation of financial statements. Therefore, they are intended for the public interested in the content of the information being presented, which must be verifiable, timely, and understandable.

To achieve the goals of financial reporting, public funds users need to adhere to generally accepted accounting principles or principles. Principles represent accounting conventions that ensure financial statements are reliable, understandable, and comparable, all to provide an information basis for making business decisions. The following principles hold a special place:

1. Consistency Principle: Requires the consistent application of selected valuation rules from period to period, with changes allowed only if new circumstances justify them from the perspective of accurate reporting.
2. Prudence Principle: Aims to protect creditors and prevent overestimation of a company's net assets. This includes the realization principle (only realized gains are considered) and the impairment principle (all possible obligations and potential losses must be considered).
3. Accruals Concept: Transactions are recognized at the time of occurrence, giving priority to the moment of revenue generation, and expenses are linked to the revenues for which they occurred.
4. Individual Assessment Principle: Components of assets and liabilities should be assessed separately.
5. Identity Principle: The opening balance of each business year must match the closing balance of the previous year. (Davidson, 1983, pp.

1-23)⁷ Considering the emphasis placed on the financial reporting of public sector entities, we must mention the concept of stewardship of other people's assets and the concept of public accountability. In the Republic of Serbia, this concept is equated with the term "rukovodjenje," which translates to management. This may not be the most fortunate solution because the phrase "stewardship of other people's assets" has a much broader meaning and more accurately reflects the essence of the concept. According to Higson, in its earliest form, stewardship of other people's assets represented guardianship over goods on behalf of another person, with the aim of preventively protecting the property from theft and fraud. (Ereimić - Đodić, J., and another, 2017, pp. 224-246)

The assets managed by public sector entities are entrusted to selected individuals for administration, and these individuals should respect the requirements of the concept of stewardship of other people's assets when preparing and presenting financial reports. Based on the information presented in the reports, users of financial statements will assess whether the entity's management has acted as responsible stewards of public assets.

The quality of financial reports depends on the quality of the established accounting system. The government's accounting system can consist of two interconnected subsystems: budgetary accounting, which tracks the implementation of the adopted budget, and accounting focused on the reporting entity (local self-government, the entire general sector of the state, etc.), encompassing all resources, obligations, and performance elements of the entity.

Financial statements of users of public funds that encompass all accounting elements (revenues, expenses, assets, liabilities, and net assets), in line with the strategy of the Government of Serbia, should be prepared in accordance with IPSAS. State accounting should track assets, liabilities, net assets, revenues, and expenses on one hand, and budgetary elements on the other hand.

In the Republic of Serbia, cash basis is used for budget adoption and reporting (with certain modifications). "Simultaneously, for financial reporting purposes until 2033, cash basis is envisaged, and then a transition to accrual basis." (<https://www.trezor.gov.rs>)

⁷ Davidson, V. (1983). Weil: Handbook of Modern Accounting, Third Edition, McGraw-Hill, pp. 1-23. Most principles have emerged from accounting and financial reporting practice, and more recently from the activities of bodies such as the International Accounting Standards Board (IASB), the International Federation of Accountants (IFAC), bodies and commissions of the Council of the European Union.

The treasury's general ledger contains, in addition to budgetary and other accounting elements (assets and liabilities, as well as part of revenues and expenses), as stated in Article 11 of the Budget System Law: Transactions and business events, including revenues and expenses, as well as changes in assets, liabilities, and capital, are recorded in the treasury's general ledger in accordance with the chart of accounts and at the budget classification level. The accounting software applications of budget users should be standardized in terms of forming the structure of journals, general ledger, subsidiary ledgers to facilitate business monitoring, enable consolidation, reduce the possibility of errors, and automate entries in the Treasury's general ledger and the preparation of financial statements.

SCHEMES IN FORENSIC AUDIT

Forensic audit, as a young scientific discipline, is rich in many specific features. What sets it apart and makes it distinctive are the criminal schemes. Regardless of the advancements in information technology, criminal schemes are categorized in a way that they can still sufficiently and insightfully uncover errors, whether intentional or unintentional. The Association of Certified Fraud Examiners (ACFE) has provided the following classification of criminal schemes.

1. Financial statement fraud,
2. Asset misappropriation, and
3. Corruption. (Singleton, and another, 2010., p. 112.)⁸

IMPACT OF SCHEMES ON THE FORMATION OF FINANCIAL STATEMENTS IN THE PUBLIC SECTOR

When discussing schemes, each one is equally important and holds significant importance both in academia and in practice. Due to the relevance of the topic, the decision is to consider the first mentioned scheme in this classification, which examines fraudulent activities in financial statements, and assess its impact on financial reporting. When we talk about the preparation of financial statements and the influence of these types of schemes on them, we primarily refer to the tangible and intangible assets of the

⁸ Singleton, W.T., Singleton, J.A., Bologne, J., & Lindquist, R. (2010). *Fraud Auditing and Forensic Accounting*, Published by John Wiley & Sons, Inc., translation of the part: *Audit of Criminal Activities and Forensic Accounting*, published by the Association of Accountants and Auditors of Serbia, Belgrade, p. 112.

enterprise and the potential for their misuse. It is essential to emphasize that if we discover a fraudulent activity during the preparation of financial statements, "the trace of the criminal act is followed back to its root or beginning, regardless of when it was committed." (Petković, 2010, pp.192.)⁹

While legal regulations, ethical codes, and International Accounting Standards emphasize the importance of financial statements and the need for the information they contain to be truthful, objective, and accurate, it is not uncommon for this narrative to show a completely opposite side. It remains only to determine whether errors in financial statements resulted from insufficient knowledge during their preparation, accidental mistakes, or intentional deception. It should be noted that the primary focus of financial reporting is "to provide reasonable assurance about the existence or non-existence of material misstatements in the financial statements, regardless of the reasons." (Lekić, adn another, 2018., pp.157.)¹⁰

Table 2. A brief test of some well-known symptoms of criminal activities includes the following controls

Serial No. Controls	Type of Control	Result with evidence	Date	Person who conducted the audit
1.	Check incoming invoices with the same number			
2.	Check outgoing invoices with the same number			
3.	Check the regular sequence of invoice numbers			
4.	Check the regular sequence of book entry numbers			
5.	Compare quantities on the delivery note with the quantity on the invoice			
6.	Compare the earmarked spending of funds with the implementation of the approved plan			
7.	Compare the realization of positions in the approved procurement plan and positions in the approved financial plan (annual business plan)			
8.	Check the implementation of contracts with tender documentation and invoices and delivery notes			

(Source: authors)

⁹ Petković, A., (2010). Forensic Audit, Criminal Activities in Financial Reports, Novi Sad, Proleter AD Bečej, p. 192.

¹⁰ Lekić, Ž., Bjelajac, Ž., & Carić, M. (2018). Forensic Accounting: Fraud Audit, Business Academy University, Faculty of Economics and Law, Novi Sad, p. 157.

The test model can serve as an example of best practices both in the public sector and in the industry for detecting fraudulent activities. By applying this well-designed test model, symptoms of fraudulent activities in financial statements can be more likely identified. The questions in the test model have been carefully crafted based on the experience of over 200 checks. The way they are defined also represents controls that can prevent these activities. The result of the presented test model, after being applied in the practice of any legal entity, significantly assists in both detecting fraudulent activities and achieving more reliable and objective financial reporting, thereby fulfilling legal obligations. At the same time, it serves as a warning sign for specific fraudulent schemes. (Eremić-Đođić, 2020.,pp 49.)¹¹ The designed test model is of great significance both in scientific research and in practice.

CONCLUSION

The global community should collaborate on establishing financial standards and harmonizing International Financial Reporting Standards (IFRS) with the Generally Accepted Accounting Principles (GAAP) in the United States to achieve transparent financial reporting. Transparency, integrity, and the quality of financial reporting are crucial for global financial stability and economic growth. The plan for improving accounting in the public sector in the Republic of Serbia, as a planned activity, will significantly strengthen the public sector accounting system to align with international standards. All users of public funds are required to publish financial plans for the next year, work information, as well as final accounts and financial reports on their website for budget transparency.

The Government of Serbia has committed to transitioning from cash to accrual basis primarily for the benefit of entities in the public sector of the Republic of Serbia. Guidelines for public sector entities must be developed to transition from cash to accrual basis. The Government of Serbia's commitment is to transition to IPSAS on an accrual basis, so it would be most rational to align this report immediately with IPSAS 2 – Cash Flow Statements. The Ministry of Finance, or the Treasury Directorate, should adopt regulations on accounting policies as the basis for recording business transactions and events. Accounting information is used by internal and external users (management, employees, capital owners - current and potential investors; creditors and other lenders; suppliers; customers; government, its bodies, and institutions; unions; consumers; the general public). Investors, based on financial statements, make

¹¹ Eremić-Đođić, J. (2020) Forensic Audit. Educons University, p. 49.

decisions about withdrawing, retaining, or increasing invested capital. The government and its institutions are interested in information about the efficiency of allocated resources to define fiscal policy, keep statistical records on national income, and other data necessary for the development policy of the national economy. The government is responsible for public administration operations and achieving its goals, and the final budget statement of the Republic of Serbia informs the public about state activities. Significant importance in implementing planning and control activities lies in decision-making information, i.e., the overall management process. Financial statements should be prepared in accordance with specific principles and financial reporting principles. Adhering to these principles will ensure truthful and objective reporting, leading to decisions based on them being adequate. Investors and creditors make relevant investment decisions using information from financial statements, thereby reducing the risk of their own business.

To make financial statements as realistic, precise, and accurate as possible, it is necessary to apply fraudulent schemes in financial statements. The proposed test model in this paper represents preventive controls that, when implemented, influence the quality of financial reporting for every legal entity in the public sector. A high-quality financial reporting system is a prerequisite for the functioning of financial markets and the increase of societal well-being.

REZIME

UTICAJ ŠEMA NA FORMIRANJE FINANSIJSKIH IZVEŠTAJA U JAVNOM SEKTORU

Korisnici javnih sredstava obavezni su da po zakonu sačinjavaju finansijske izveštaje, koji obezbeđuju informacije o finansijskom položaju, rezultatima i promenama koje su potrebne rukovodstvu u donošenju njihovih ekonomskih odluka. Vlada Republike Srbije je nastavila sa programom reforme upravljanja javnim finansijama za period 2021-2025.godine, koji između ostalog obuhvata i poseban cilj - unapređenje računovodstva u javnom sektoru primenom međunarodnih računovodstvenih standarda za javni sektor (ipsas). Ovim standardima će se postići veća transparentnost izveštavanja, jer ćemo korišćenjem obračunske računovodstvene osnove dobiti informacije o imovini, obavezama, neto imovini, prihodima i rashodima celokupnog javnog sektora. Strateški cilj računovodstva u javnom sektoru Republike Srbije je potpuna implemetacija ipsas do 2034. godine. Da bi smo kao država ispunili ovaj cilj potrebno je aplikacije računovodstvenog softvera budžetskih korisnika unificirati u pogledu formiranja strukture dnevnika, glavne knjige, pomoćnih knjiga kako bi se lakše pratilo poslovanje, sačinjavala

konsolidacija i na taj način bi došlo do smanjenja mogućnosti nastanka grešaka kao i do automatizacije knjiženja u glavnoj knjizi trezora i sačinjavanja finansijskih izveštaja. Pouzdanije i objektivnije finansijsko izveštavanje ćemo postići ukoliko unapredimo informacione tehnologije, na način da ugradimo kriminalne šeme kojima ćemo dobro i dovoljno pronicljivo otkriti greške: namerne ili nenamerne i doprineti ekonomičnijem, efikasnijem i efektivnijem upravljanju javnim sredstvima. U ovome će nam pomoći mlada naučna disciplina koja obiluje mnogim specifičnostima - forenzička revizija. Vladu i njene institucije interesuju informacije o efikasnosti korišćenja alociranih resursa radi definisanja fiskalne politike, vođenja statističke evidencije o nacionalnom dohotku i drugim podacima neophodnim za vođenje politike razvoja nacionalne privrede.

Ključne reči: šeme, revizije, finansijsko izveštavanje, javni sektor, međunarodni standardi, forenzička revizija

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