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EKONOMSKI RAST I EKONOMSKI RAZVOJ: EMPIRIJSKI DOKAZI IZ ZEMALJA ZAPADNOG BALKANA

Rezime: U ovom radu istražuje se povezanost ekonomskog rasta i ekonomskog razvoja u zemljama Zapadnog Balkana. Problem istraživanja sublimiran je pitanjem da li i na koji način ekonomski rast ima uticaj na ekonomski razvoj. Koristeći relevantne podatke iz izvora UNDP i Svjetske banke, primjenom panel analize ispitala se jačina veze i uticaj nezavisne varijable na zavisnu. Istraživanje je obuhvatilo sedam zemalja Zapadnog Balkana (Albanija, Bosna i Hercegovina, Hrvatska, Crna Gora, Sjeverna Makedonija, Srbija i Slovenija) u vremenskom periodu 2000-2023. godine. Rezultati istraživanja pokazali su postojanje statistički značajne i pozitivne veze između ekonomskog rasta i razvoja u analiziranim zemljama. Rezultati istraživanja podržavaju hipotezu da je ekonomski rast potreban, ali ne i dovoljan uslov za ekonomski razvoj u regionu. Preporuke za kreatore politika uključuju izgradnju efikasnijeg institucionalnog, regulatornog i legislativnog okvira, veće investicije u obrazovni i zdravstveni sistem i sistemsku borbu protiv korupcije, kako bi se izbjeglo upadanje u zamku srednjeg dohotka.

Ključne riječi: ekonomski rast, ekonomski razvoj, zemlje Zapadnog Balkana, panel analiza

JEL klasifikacija: H5, I15, I25, I38, O15

UVOD

Ekonomski rast predstavlja važan faktor kreiranja boljeg i kvalitetnijeg života u svim zemljama. Značajno je naglasiti da ekonomski rast, sam po sebi stvara pretpostavke, ali ne i zakonitost za ekonomski razvoj. Da bi se efekat rasta prelio na razvoj, potrebno je prisustvo efikasnih medijatora, kako bi se stvorilo inkluzivnost i održivost efekata rasta bruto domaćeg proizvoda. Inkluzivnost, dugoročna održivost i efekat prelijevanja predstavljaju ključne karakteristike uticaja ekonomskog rasta na razvoj.

U ovom radu istražuje se povezanost ekonomskog rasta i razvoja i ispituje se njihova determinisanost. Analizirajući navedenu vezu, istraživanje će dati odgovor na problemsko pitanje da li i na koji način ekonomski rast ima uticaj na ekonomski razvoj? Predmet istraživanja odnosi se na analizu zemalja Zapadnog Balkana (Albanija, Bosna i Hercegovina, Hrvatska, Crna Gora, Sjeverna Makedonija, Srbija i Slovenija). Vremenski period opservacije je od 2000. do 2023. godine.

Kao objektivni i reprezentativni indikatori izabrani su BDP *per capita*, kao indikator nezavisne varijable i Indeks ljudskog razvoja (HDI) kao indikator zavisne varijable. Analizirajući navedene indikatore težiće se dobijanju rezultata sa visokim stepenom tačnosti, relevantnosti i pouzdanosti. Na taj način testiraće se radna hipoteza, da postoji statistički značajna i pozitivna veza između ekonomskog rasta i ekonomskog razvoja u zemljama Zapadnog Balkana u determinisanom vremenskom periodu opservacije.

Poslije uvodnog dijela, u prvom dijelu rada dat je teorijsko-respektivni pregled relevantnih istraživanja. Drugi dio rada obuhvata definisanje i determinisanje metoda istraživanja i podataka koji su korišćeni u analizi. U trećem dijelu izvršena je analiza navedenih indikatora, prezentovani su rezultati analize i upoređeni su dobijeni rezultati sa istim i/ili uporedivim istraživanjima. Četvrti dio odnosi se na prezentovanje zaključnih razmatranja.

1. PREGLED PRETHODNIH ISTRAŽIVANJA

Jedan od fundamentalnih ciljeva ekonomske politike svake zemlje predstavlja stvaranje dugoročnog, održivog i inkluzivnog ekonomskog rasta. Korišćenje BDP kao mjere blagostanja kritikovali su mnogi istaknuti ekonomisti, poput Kuznets, Hicks, Galbraith, Samuelson, Mishan, Nordhaus, Tobin, Sen i dr. (Gorica i Gumeni 2013; Hudáková 2017). Nordhaus i Tobin su naglasili da BDP nije mjera blagostanja. Na osnovu kritičkog rasuđivanja o ulozi BDP u kreiranju blagostanja, težilo se stvaranju preciznijeg indikatora koji će predstavljati mjeru blagostanja jednog društva. Odnosno, stvaranje relacije ekonomskog rasta i ekonomskog razvoja, kao fokusa smjera i akcija u implementaciji ekonomske politike. Na taj način se konstruisao Indeks ljudskog razvoja, kao precizniji pokazatelj blagostanja jednog društva.

Veza između ekonomskog rasta i razvoja je dvostruka. Ekonomski rast predstavlja instrument za ostvarivanje ekonomskog razvoja, mjerenim HDI. U prvoj fazi resursi akumulirani ekonomskim rastom alociraju se na aktivnosti koje utiču na ekonomski razvoj, a u drugoj fazi, ekonomskim razvojem stvaraju se pretpostavke za rast BDP, *ceteris paribus*. Mnoga istraživanja identifikovala su postojanje veze između ekonomskog rasta i razvoja. Veza je u mnogim slučajevima jaka i statistički značajna, ali i uslovljena postojanjem faktora koji stimulišu veći ekonomski razvoj. Hudáková (2017), kao i Daniela-Mihaela i Oana-Georgiana (2015) su, analizirajući povezanost i determinisanost ekonomskog rasta i razvoja, utvrdili da, uprkos kritičkim pogledima o ulozi BDP, navedeni predstavlja značajan indikator ekonomskog blagostanja, usko povezanog sa indeksom humanog razvoja.

Ramirez, Ranis i Stewart (1997), Gosh (2006), Suri, Boozer, Ranis i Stewart (2011), Sofilda i Hamzah (2015), Arisman (2018), Elistia i Syahzuni (2018) i Taqi, Ali, Parveen, Babar i Khan (2021) su u svojom istraživanjima identifikovali postojanje jake i pozitivne veze između ekonomskog rasta i razvoja *vice versa*. Javna potrošnja, socijalne usluge i obrazovanje predstavljaju značajne prediktore koji determinišu vezu između ekonomskog rasta i razvoja. Analiza Islam i Ali (2021) pokazala je da zemlje sa visokim BDP imaju nižu vrijednost Indeksa humanog razvoja zbog neefikasnih mjera politika u pogledu preraspodjele ulaganja u obrazovni i zdravstveni sistem. Studija Leiwakabessy i Amaluddin (2020) zaključila je da postoji jaka veza između ekonomskog rasta i razvoja *vice versa*. Direktna implikacija studije je da razvijenost zdravstvene infrastrukture i obrazovnog sistema i političke slobode imaju pozitivan uticaj na ekonomski razvoj. Takođe, Ranis, Stewart i Ramirez (2000), kao i Hanushek (2013) u svojim istraživanjima dokazali su da investiranje u zdravstveni i obrazovni sistem determinišu jačinu veze između ekonomskog rasta i razvoja. U svom istraživanju Shome i Tondon (2010) utvrdili su da je rast BDP povezan i koordinisan sa većim nivoom investiranja u obrazovanje, blagostanje i smanjenje siromaštva, što ima direktnu pozitivnu implikaciju na ekonomski razvoj. Mukherjee i Chakraborty (2010) naglašavaju ulogu vlade i ostalih institucija u transformisanju ekonomskog rasta u ekonomski razvoj. Ramires, Ranis i Stewart (1997) tvrde da isti nivo BDP može dovesti do različitih efekata u ekonomskom razvoju, u zavisnosti od alokacije BDP između i unutar vladinih institucija i varijacija njihovog ponašanja. Takođe, Mustafa, Rizov i Kernohan (2017) potvrđuju kako dobre institucije mogu imati uticaj koji će minimizirati negativne efekte ekonomskog rasta na ekonomski razvoj. Studije Shahbaz, Iqbal i Butt (2011) i Dhanyalakshmi (2025) pokazale su da veza ekonomskog rasta i razvoja, kao i determinisanost, zavisi od nivoa razvoja zemlje, infrastrukture ekonomije i javne potrošnje u, prije svega, obrazovni i zdravstveni sektor.

2. METODE I PODACI

Predmet analize u istraživanju predstavlja ispitivanje povezanosti i uticaja ekonomskog rasta na ekonomski razvoj. Cilj istraživanja je da se testira povezanost i determinisanost između ekonomskog rasta i razvoja. Zavisna varijabla u istraživanju je ekonomski razvoj, a kvantitativni pokazatelj varijable je Indeks ljudskog razvoja. Nezavisna varijabla u istraživanju je ekonomski rast, a kvantitativni pokazatelj je BDP *per capita*.

Tabela 1. BDP *per capita* (u međunarodnim dolarima 2021) i Indeks ljudskog razvoja (UNDP 2026, World Bank 2026)

	Albanija		Bosna i Hercegovina		Hrvatska		Sjeverna Makedonija		Crna Gora		Srbija		Slovenija	
	BDP <i>per capita</i>	HDI	BDP <i>per capita</i>	HDI	BDP <i>per capita</i>	HDI	BDP <i>per capita</i>	HDI	BDP <i>per capita</i>	HDI	BDP <i>per capita</i>	HDI	BDP <i>per capita</i>	HDI
2000	6582	–	7831	–	21302	–	11988	–	–	–	11106	–	30056	–
2001	7233	0.691	7983	0.677	22827	0.785	11572	0.691	–	–	11879	0.707	30857	0.845
2002	7590	0.697	8367	0.683	24137	0.792	11830	0.694	14770	–	12662	0.711	31831	0.855
2003	8025	0.705	8710	0.689	25474	0.798	12078	0.7	15077	0.764	13274	0.72	32828	0.865
2004	8483	0.71	9345	0.694	26529	0.807	12683	0.708	15716	0.768	14194	0.732	34298	0.87
2005	8964	0.723	9815	0.698	27641	0.814	13354	0.717	16349	0.773	15078	0.743	35558	0.876
2006	9564	0.732	10430	0.701	29035	0.819	14118	0.726	17727	0.785	15727	0.753	37539	0.883
2007	10263	0.742	11179	0.709	30508	0.825	15118	0.732	18966	0.795	17028	0.763	39995	0.888
2008	11056	0.749	11984	0.719	31114	0.827	16038	0.753	20239	0.806	17983	0.773	41279	0.894
2009	11431	0.756	11827	0.722	29025	0.826	16084	0.757	18985	0.809	17488	0.774	37802	0.894
2010	11829	0.769	12143	0.725	28702	0.831	16731	0.765	19476	0.815	17841	0.775	38056	0.896
2011	12153	0.781	12488	0.731	28769	0.836	17201	0.771	20111	0.822	17987	0.785	38226	0.897
2012	12464	0.79	12627	0.742	28259	0.839	17190	0.775	19576	0.825	17994	0.788	37034	0.897
2013	12873	0.793	13136	0.756	28398	0.846	17758	0.782	20201	0.83	18163	0.792	36679	0.907
2014	13367	0.797	13459	0.765	28457	0.848	18452	0.788	20642	0.833	17922	0.795	37655	0.907
2015	13877	0.797	14220	0.769	29467	0.852	19215	0.795	21132	0.839	18248	0.802	38527	0.909
2016	14643	0.797	14874	0.776	30821	0.856	19826	0.8	21834	0.836	18889	0.806	39667	0.914
2017	15359	0.798	15555	0.78	32349	0.862	20121	0.807	22514	0.843	19439	0.808	41693	0.918
2018	16171	0.801	16349	0.785	33730	0.867	20806	0.814	23562	0.849	20454	0.814	43361	0.922
2019	16761	0.805	17029	0.788	35123	0.872	21767	0.805	24585	0.851	21541	0.817	44570	0.923
2020	16458	0.794	16747	0.783	32493	0.867	20971	0.783	20905	0.841	21479	0.809	42464	0.918
2021	18213	0.794	18287	0.783	36930	0.876	22144	0.781	23690	0.84	23406	0.807	45914	0.924
2022	19389	0.806	19298	0.799	39864	0.886	22822	0.811	25583	0.853	24652	0.826	47050	0.926
2023	20481	0.81	19805	0.804	41320	0.889	23455	0.815	27243	0.862	25735	0.833	47977	0.931

Indeks ljudskog razvoja predstavlja ukupnu mjeru prosječnog postignuća u ključnim dimenzijama ljudskog razvoja: dug i zdrav život, biti obrazovan i imati pristojan životni standard (UNDP 2026). Metodologija izračunavanja HDI modifikovala se nekoliko puta pa sada sadrži tri navedene dimenzije. Indeks ljudskog razvoja obračunava vrijednosti tri dimenzije, kao i kumulativnu vrijednost zemalja od 1990. godine. U 2023. godini, zemlja sa najvišim indeksom na svijetu bila je Island (0,972), a zatim Norveška (0,970) i Švajcarska (0,970).

Od zemalja koje su predmet analize, Slovenija se nalazi na 21. mjestu (0,931), Hrvatska na 41. mjestu (0,889), Crna Gora na 48. mjestu (0,862), Srbija na 62. mjestu (0,833), Sjeverna Makedonija na 68. mjestu (0,815), Albanija na 71. mjestu (0,810) i Bosna i Hercegovina na 74. mjestu (0,804) (UNDP 2026). Istraživanje je sprovedeno na uzorku od 7 zemalja Zapadnog Balkana (Slovenija, Hrvatska, Srbija, Crna Gora, Sjeverna Makedonija, Bosna i Hercegovina i Albanija). Vremenski period opservacije je 2000-2023. godine za vrijednost varijable BDP *per capita* za sve zemlje osim Crne Gore, gdje je period opservacije 2002-2023. godine. Vremenski period opservacije za varijablu HDI je 2001-2023. godine, osim za Crnu Goru, gdje je period opservacije 2003-2023. godine. Navedeni vremenski okvir je uzet iz razloga što vrijednosti Indeksa nisu dostupne do 2000. godine za sve zemlje, osim Albanije, a za Crnu Goru su podaci dostupni od 2003. godine.

Na osnovu logičke implikacije predmeta i problema istraživanja konstruisana je radna hipoteza koja će biti testirana u radu:

H1: Postoji statistički značajna i pozitivna veza između ekonomskog rasta i ekonomskog razvoja u zemljama Zapadnog Balkana u determinisanom vremenskom periodu opservacije.

U analizi su korišćeni reprezentativni podaci za indikatore zavisne i nezavisne varijable. Statistički podaci za vrijednost zavisne varijable preuzeti su iz baze podataka Razvojnog programa Ujedinjenih nacija, a za vrijednost nezavisne varijable iz baze podataka Svjetske banke.

3. REZULTATI ISTRAŽIVANJA

Rezultati analize su dobijeni koristeći panel podatke za sedam zemalja Zapadnog Balkana. Vremenski period opservacije za vrijednost nezavisne varijable je 2000-2023. godine, osim za Crnu Goru (2002-2023. godine), a za vrijednost zavisne varijable 2001-2023. godine, osim za Crnu Goru (2003-2023. godine). Korišćen je time lag od jedne godine za vrijednost HDI kako bi se testirao odloženi efekat ekonomskog rasta na ekonomski razvoj. Ovo je važno jer ekonomski rast ne utiče trenutno na komponente HDI, već sa kašnjenjem, jer je potreban vremenski period za ispoljavanje efekata investiranja. U analizi su, kao statistički alat, korišćeni deskriptivna statistika, Pirsonova korelacija, panel model podataka, Grangerov test kauzalnosti i testovi robusnosti.

Tabela 2. Deskriptivna statistika, BDP per capita (kalkulacija autora)

		ALB	BIH	CRO	NM	MNE	SER	SLO
N	Valid	24	24	24	24	24	24	24
	Missing	1	1	1	1	1	1	1
Mean		12634.54	13062.00	30094.75	17221.75	19912.00	17923.71	38788.17
Median		12308.50	12557.50	29030.00	17195.50	20156.00	17985.00	38141.00
Mode		6582 ^a	7831 ^a	21302 ^a	11572 ^a	14452 ^a	11106 ^a	30056 ^a
Std. Deviation		3951.727	3586.235	4846.505	3789.960	3578.432	3799.485	4908.430
Minimum		6582	7831	21302	11572	14452	11106	30056
Maximum		20481	19805	41320	23455	27243	25735	47977
Sum		303229	313488	722274	413322	477888	430169	930916

Zemlje Zapadnog Balkana imale su trend rasta BDP *per capita* u analiziranom period (Tabela 2), osim blagih tendencija pada u kriznim godinama uzrokovanim globalnom finansijskom krizom i pandemijom COVID-19. Najveći ekonomski rast imala je Slovenija, sa prosječnom vrijednosti BDP *per capita* od 38,7888 USD, a najmanji Albanija (12,634 USD). Od ostalih zemalja, Hrvatska takođe ima visoku prosječnu vrijednost BDP *per capita*, od 30,094 USD, a ostale

zemlje se kreću u rasponu od 13,000 do 19,000 USD. Visoke vrijednosti standardne devijacije pokazuju da je region u pogledu ekonomskog rasta heterogen i da zemlje sa većom varijacijom imaju i veći ekonomski rast. Najveće skokove BDP *per capita* u analiziranom periodu imale su Slovenija (30,056-47,977 USD) i Hrvatska (21,302-41,320 USD), što je reflektovano visokom varijacijom (4,908 USD za Sloveniju i 4,846 USD za Hrvatsku). Navedeno implicira brži ekonomski rast i integracije u EU. Najmanja varijacija bila je u Crnoj Gori (3,578 USD) i Bosni i Hercegovini (3,586 USD), gdje je BDP rastao sporije, stabilnije, sa manje amplituda, odnosno perioda nagle ekspanzije.

Tabela 3. Deskriptivna statistika, Indeks ljudskog razvoja (kalkulacija autora)

	ALB	BIH	CRO	NM	MNE	SER	SLO
N	Valid	23	23	23	21	23	23
	Missing	0	0	0	0	0	0
Mean	0.76683	0.74252	0.84000	0.76391	0.82090	0.77970	0.89822
Median	0.79000	0.74200	0.83900	0.77500	0.83000	0.78800	0.89700
Mode	0.797	0.783	0.867	0.691 ^a	0.764 ^a	0.707 ^a	0.894 ^a
Std. Deviation	0.039596	0.041193	0.029593	0.041080	0.029295	0.036873	0.023804
Minimum	0.691	0.677	0.785	0.691	0.764	0.707	0.845
Maximum	0.810	0.804	0.889	0.815	0.862	0.833	0.931
Sum	17.637	17.078	19.320	17.570	17.239	17.933	20.659

Standardna devijacija za vrijednost HDI u analiziranim zemljama je niska (Tabela 3), krećući se u rasponu od 0,02 do 0,04. Najmanja varijacija je u Sloveniji (0,023), Hrvatskoj (0,029) i Crnoj Gori (0,029), gdje HDI raste stabilno i postepeno. Najveća varijacija HDI je u Bosni i Hercegovini (0,041) i Sjevernoj Makedoniji (0,041), što implicira da HDI ima veće fluktuacije, odnosno da ima trend sporijeg rasta u kriznim godinama i bržeg rasta u fazi akceleracije EU integracija. Indeks ljudskog razvoja ima tendenciju veće stabilnosti od ekonomskog rasta, što potvrđuje hipotezu da BDP utiče na HDI sa time lag, odnosno da rast fluktuira, a ekonomski razvoj raste postepeno.

Pearsonovim koeficijentom korelacije izmjerena je jačina i smjer linearne veze između BDP *per capita* i HDI. Vrijednost Prisonove korelacije dobijene u analizi je:

$$r = 0,919 (p < 0,001), N = 159$$

Smjer veze između analiziranih varijabli je pozitivan. Navedeno implicira da kada vrijednost BDP *per capita* raste, vrijednost HDI raste, odnosno, veći ekonomski rast dovodi do kvalitetnijeg ekonomskog razvoja (više novčanih izdvajanja za obrazovni i zdravstveni sistem i primjenu sistemskih mjera za povećanje životnog standarda).

Snaga veze između analiziranih varijabli je jaka ($r = 0,919$). Navedeno znači da se oko 84,4% varijacije HDI može objasniti promjenama u BDP. Ostalih 15,6% predstavljaju uticaj drugih faktora (institucionalni okvir, korupcija, spoljni šokovi). Statistička značajnost ($p < 0,001$) implicira da je veza između analiziranih varijabli visoko statistički značajna.

Visoka vrijednost Prisonove korelacije ($r = 0,919$) sa time lag od jedne godine pokazuje da veza ne proizvodi trenutne efekte, već da ekonomski rast predviđa poboljšanje HDI u sljedećoj godini. Time je prisutna jaka kauzalnost, što je pokazano i Grangerovim testom.

Analiza prikupljenih podataka (Tabela 1) izvršena je korišćenjem panel modela podataka. Konstruisana su tri modela: model sa prediktorima sa fiksnim efektom, model sa slučajnim prediktorom i model bez prediktora. Testiranjem navedenih modela izabran je model sa prediktorima sa fiksnim efektom, zbog bolje prilagođenosti objašnjenja razlika između zemalja Zapadnog

Balkana i zato što se češće koristi kao standard za male panele sa heterogenim grupama. Takođe, rezultati Hausmanovog testa ($\chi^2 = 16,89$, $p < 0,01$, $R^2_{\text{within}} = 0,839$) povrdili su izbor navedenog modela, koji bolje objašnjava promjene unutar analiziranih zemalja.

Tabela 4. Model sa prediktorima sa fiksnim efektom

Varijabla	Koeficijent (β)	Standardna greška	t–statistika	p–vrijednost
BDP <i>per capita</i>	0.103	0.010	10.30	<0.001
Konstanta	–0.188	0.101	–1.86	0.065

Izvor: kalkulacija autora

Konstruisan je model:

$$\text{HDI} = \beta_0 + \beta_1 \times \text{BDP} + \alpha + \varepsilon$$

gdje je HDI– HDI u godini $t+1$ (zavisna varijabla), BDP– BDP *per capita* u godini t (nezavisna varijabla), α – Fiksni efekti po zemlji (kontrolisu nevidljive razlike između zemalja) i ε – Greška. Rezultati panel analize, izborom modela sa prediktorima sa fiksnim efektom (Tabela 4), konstruisanog kao: $\text{HDI} = \beta_0 + \beta_1 \times \text{BDP} + \alpha + \varepsilon$ pokazuje statistički značajan i pozitivan uticaj ekonomskog rasta na ekonomski razvoj sa time lag od jedne godine ($\beta = 0,103$; $\text{SE} = 0,010$; $t = 10,30$; $p < 0,001$). Koeficijent elastičnosti od 0,103 implicira da rast BDP *per capita* za 1% u tekućoj godini dovodi do rasta HDI za otprilike 0,001 indeksnih bodova u sljedećoj godini. Odnosno, ako BDP *per capita* poraste za 10% očekivani rast HDI iznosi oko 0,01 bodova, što je dovoljno za rast zemlje u rangiranju na UNDP listi za 5-10 pozicija, u zavisnosti od varijacija ostalih zemalja u toj godini.

Model objašnjava visok udio varijacije u zavisnoj varijabli. Vrijednost R^2 within od 0,839 pokazuje da model objašnjava 83,9% varijacije u vrijednosti Indeksa ljudskog razvoja unutar pojedinih zemalja kroz vrijeme, dok R^2 overall od 0,841 pokazuje da model objašnjava 84,1% ukupne varijacije, uključujući i razlike između zemalja. Vrijedost F-statistike od 106,09 ($p < 0,001$) potvrđuje da je cijeli model statistički značajan.

Da bi se provjerila adekvatnost primjene modela sa prediktorima sa fiksnim efektom u odnosu na model sa slučajnim efektima, proveden je Hausmanov test. Rezultat testa je $\chi^2 = 16,89$ ($p < 0,01$), što implicira da se odbacuje nulta hipoteza o nepodudarnosti individualnih efekata sa nezavisnim varijablama. Na osnovu navedenog, model sa prediktorima sa fiksnim efektom se pokazuje kao prikladniji. Time su efektivno kontrolisane neposmatrane heterogenosti između zemalja Zapadnog Balkana (institucionalni okvir, politička stabilnost i stepen evropskih integracije), što omogućava precizniju procjenu uticaja ekonomskog rasta na ekonomski razvoj.

Tabela 5. Grangerov test kauzalnosti (kalkulacija autora)

Zemlja	Lag 1 (p)	Lag 2 (p)	Lag 3 (p)	Lag 4 (p)	Zaključak
Albanija	0.012	0.008	0.056	0.089	Snažna kauzalnost sa kratkim lagovima (1-2 godine) – BDP brzo utiče na HDI.
Bosna i Hercegovina	0.402	0.632	0.001	0.002	Snažna kauzalnost sa dužim lagovima (3-4 godine) – efekat rasta je odložen.
Hrvatska	0.001	0.001	0.003	0.013	Veoma snažna kauzalnost na svim lagovima – BDP predstavlja odličan prediktor HDI.
Sjeverna Makedonija	0.401	0.146	0.277	0.211	Nema značajne kauzalnosti – BDP ne predviđa HDI.

Crna Gora	0.475	0.575	0.896	0.556	Nema značajne kauzalnosti – BDP ne predviđa HDI (turizam i doznake iz inostranstva predstavljaju jače faktore).
Srbija	0.344	0.068	0.057	0.227	Granična kauzalnost sa lagovima 2-3 godine – BDP utiče sa kašnjenjem.
Slovenija	0.433	0.029	0.036	0.109	Značajna kauzalnost sa lagovima 2-3 godine – stabilan efekat.

Dobijeni rezultati istraživanja potvrđuju radnu hipotezu, naglašavajući da ekonomski rast predstavlja ključni akcelerator ekonomskog razvoja u zemljama Zapadnog Balkana, sa odloženim efektom koji odražava vrijeme potrebno za ispoljavanje efekata investiranja u sektor obrazovanja i zdravstva, i za unapređenje životnog standarda. Koeficijent elastičnosti (0,103) je u gornjem opsegu za zemlje srednjeg dohotka, što implicira da zemlje Zapadnog Balkana imaju značajan potencijal za bržu konvergenciju ka članicama EU, ukoliko se ekonomski rast efikasnije transformiše u razvoj i unapređenje ekonomskog kapitala.

Tabela 6. Provjera robusnosti i testovi specifikacije modela (kalkulacija autora)

Specifikacija / Test	β (BDP_log)	p-vrijednost	R ² overall	Zaključak
Model bez prediktora	0.107	<0.001	0.851	Vrijednost β je veća (0.107), a vrijednosti $p < 0.001$ i R ² visoka, što implicira da efekat postoji i bez panel strukture, ali je manje precizan jer ignoriše razlike između zemalja.
Model sa slučajnim prediktorom	0.104	<0.001	0.847	Vrijednost β je skoro ista kao i u glavnom modelu, ali vrijednosti dobijene Hausman testom ($\chi^2 = 16.89$, $p < 0.01$) pokazuju da je model sa prediktorima sa fiksnim efektom bolji.
Driscoll–Kraay robusne standardne greške	0.103	<0.001	0.841	Vrijednost β je ista kao u glavnom modelu (0.103), $p < 0.00$, efekat je potpuno robusan na greške u podacima.
Breusch–Pagan heteroskedastičnost	$\chi^2 = 3.89$	0.143	–	$p = 0.143 > 0.05$, što implicira da nema heteroskedastičnosti, podaci su „čisti“ i model je pouzdan.
Durbin–Watson autokorelacija	DW = 1.87	–	–	DW ≈ 1.87 (blizu 2), što znači da nema značajne autokorelacije, greške su nezavisne.
VIF multikolinearnost	VIF = 1.02	–	–	VIF = 1.02, što implicira da nema multikolinearnosti.
Winsorized (5% trim ekstrema)	0.102	<0.001	0.842	Vrijednost β ostaje skoro ista kao i u glavnom modelu (0.102).
Bez Slovenije i Hrvatske	0.097	<0.001	0.821	Vrijednost β je malo manja (ali značajna), nego u glavnom modelu (0.097), efekat postoji i u „slabijim“ zemljama

Rezultati dobijeni Grangerovim testom kauzalnosti (Tabela 5) potvrđuju postojanje jednosmjerne kauzalnosti od ekonomskog rasta ka ekonomskom razvoju sa odloženim efektom. Navedeno implicira da BDP *per capita* predstavlja ključni pokretač ekonomskog razvoja, ali sa kašnjenjem i varijacijama u zemljama koje su premet analize.

Grangerovim testom kauzalnosti utvrđeno je da kauzalnost postoji u 5 od 7 zemalja (Albanija, Bosna i Hercegovina, Hrvatska, Srbija i Slovenija), sa time lag 1-4 godine. Navedeni rezultati podržavaju pretpostavke konstruisane u radnoj hipotezi. Najjača kauzalnost identifikovana je u Hrvatskoj, kojoj su proces evropskih integracija i članstvo u EU, i razvoj efikasnih institucija omogućili brzu i efikasnu konverziju ekonomskog rasta u ekonomski razvoj.

Snažna kauzalnost sa produženim time lag 3-4 godine prisutna je u Bosni i Hercegovini i uzrokovana je političkom nestabilnosti, korupcijom i institucionalnom neefikasnosti, koje značajno usporavaju efekat ekonomskog rasta na ekonomski razvoj.

U Sjevernoj Makedoniji i Crnoj Gori nema značajne kauzalnosti, koje je posljedica suprematije drugih faktora nad BDP *per capita*, prije svega sektora turizma i priliva doznaka iz inostranstva. Testovi robusnosti (Tabela 6) potvrđuju da nalazi nisu osjetljivi na specifikaciju ili greške. Vrijednost β je stabilna (0,097-0,107) i značajna ($p < 0.001$), što implicira da je postavka, da BDP *per capita* utiče na HDI, pouzdana. U modelu nisu prisutni sistemski problemi (heteroskedastičnost, autokorelacija, multikolinearnost). Podaci su čisti, model je dobro specifikovan. Efekat nije generisan samo od „*jakih*” zemalja (Slovenija, Hrvatska) i bez njih je zančajan, što znači da ekonomski rast ima uticaj na HDI i u „*slabijim*” zemljama (Albanija, Bosna i Hercegovina, Crna Gora, Sjeverna Makedonija i Srbija).

4. DISKUSIJA

Rezultati istraživanja u ovom radu potvrđuju postojanje statistički značajne i pozitivne veze između ekonomskog rasta i ekonomskog razvoja u zemljama Zapadnog Balkana u periodu 2000-2023. Korišćenje time lag od jedne godine za vrijednost HDI omogućilo je preciznije hvatanje odloženog efekta ekonomskog rasta. Ovi rezultati su u saglasnosti sa teorijskim postavkama da promjene u komponentama HDI (obrazovanje, zdravlje i životni standard) ne nastupaju trenutno, već zahtijevaju vrijeme za manifestaciju kroz investicije i institucionalne, regulatorne i legislativne reforme.

Dobijena vrijednost Pearsonovog koeficijenta korelacije od 0,919 ($p < 0,001$) ukazuje na postojanje jake linearne veze. Takođe, jaka korelacija ($r = 0,919$, $p < 0,001$) implicira da zemlje sa bržim ekonomskim rastom ostvaruju veći napredak u ekonomskom razvoju, što je posebno reflektovano u Hrvatskoj i Sloveniji. Panel model sa fiksnim efektima dodatno potvrđuje postojanje ove veze, sa koeficijentom elastičnosti od 0,103 ($p < 0,001$). Navedeno implicira da povećanje BDP po stanovniku za 1% u tekućoj godini dovodi do rasta HDI za aproksimativno 0,001 indeksnih bodova u sljedećoj godini. Visoka vrijednost R^2 (0,841) implicira da model objašnjava preko 84% varijacije u HDI, naglašavajući važnost odloženog efekta.

Grangerov test kauzalnosti dodatno jača nalaze, pokazujući značajnu jednosmjernu kauzalnost od BDP *per capita* ka HDI u većini zemalja (npr. snažna u Hrvatskoj i Albaniji sa kratkim lagovima, odložena u Bosni i Hercegovini sa lagovima 3-4). Navedeno potvrđuje da ekonomski rast predstavlja prediktor ekonomskog razvoja, što je u skladu sa hipotezom o *virtuous cycle* u ranim fazama tranzicije. Međutim, varijacije u zemljama ukazuju na prisustvo i uticaj spoljnih faktora, odnosno političke (ne)stabilnosti, velike korupcije i pretjerane zavisnosti od sektora turizma i priliva doznaka iz inostranstva. Testovi robusnosti potvrđuju stabilnost rezultata, odnosno da koeficijent β ostaje konzistentan (0,097–0,107, $p < 0,001$), bez prisustva problema heteroskedastičnosti, autokorelacije ili multikolinearnosti. Navedeno potvrđuje validnost modela i jača pouzdanost zaključnih razmatranja.

Rezultati istraživanja u ovom radu u skladu su sa mnogim istraživanjima (Some i Tondon 2010; Neamțu Ciobanu 2015; Sofilda i Hazmah 2015; Hudáková 2017; Arisman 2018; Leiwakabessy i Amaluddin 2020), koja su takođe došla do rezultata o postojanju statistički značajne i pozitivne veze između ekonomskog rasta i razvoja. Takođe, istraživanja Ramirez, Ranis i Stewart (1997), Gosh (2006) i Elistia i Syahzuni (2018) potvrdili su postojanje statistički značajne i pozitivne veze između ekonomskog rasta i razvoja *vice versa*.

U pogledu zemalja Zapadnog Balkana, dobijeni rezultati otkrivaju značajne razlike u efikasnosti konverzije ekonomskog rasta u ekonomski razvoj. Slovenija i Hrvatska pokazuju veću konverzijsku efikasnost, zahvaljujući uspješno sprovedenom procesu evropskih integracija i pristupu EU, izgrađenom institucionalnom, regulatornom i legislativnom okviru i većim investicijama u ljudski kapital, kao i rastom produktivnosti. Sa druge strane, Albanija, Bosna i Hercegovina, Srbija i Sjeverna Makedonija imaju niži stepen efikasnosti, što može dovesti do povećanog rizika upadanja u zamku srednjeg dohotka. Zamka srednjeg dohotka nastaje kada ekonomija neke zemlje brzo raste i dostiže nivo srednjeg dohotka, a zatim postaje relativno stagnirajuća, ne uspijevajući da dostigne zemlje sa visokim dohocima (Bresser-Pereria, Araújo, i Peres 2020). Od analiziranih zemalja Zapadnog Balkana, Slovenija i Hrvatska su izbjegle zamku srednjeg dohotka zahvaljujući evroatlanskim integracijama i sprovedenim strukturnim reformama. Ostale zemlje (Albanija, Bosna i Hercegovina, Srbija, Crna Gora i Sjeverna Makedonija) nalaze se u opasnosti od ulaska u *circulus vitiosus* zamke zbog nedovoljnog ekonomskog rasta, koji nije na potrebnih 6-7%, kako bi se dostigao prosjek razvijenosti EU za 20-25 godina.

Na osnovu rezultata analize, prisutna heterogenost ekonomskog razvoja analiziranih zemalja potvrđuje navedene pretpostavke o trendu ulaska u *circulus vitiosus* zamke srednjeg dohotka. Kako bi se prevazišle navedene stagnacije i priključili se grupi razvijenih zemalja, potrebno je sprovesti sveobuhvatne institucionalne, regulatorne i legislativne reforme. Prije svega, povećati investiranje u obrazovanje, inovacije i R&D (minimalno 2-4%), sprovesti institucionalne reforme i pojačati borbu protiv korupcije, diverzifikovati ekonomiju (smanjiti sektorsku i sirovinsku zavisnost), implementovati zelenu tranziciju, cirkularnu ekonomiju i digitalizaciju i poboljšati poslovno okruženje za domaće i strane investicije (zaštita ugovornih prava i prava svojine i izgrađen efikasan legislativni i regulatorni okvir).

ZAKLJUČAK

U ovom radu analizirana je uloga i uticaj ekonomskog rasta u generisanju ekonomskog razvoja. Istraživanje je nastojalo da obezbjedi odgovor sa što većim stepenom objektivnosti, tačnosti i pouzdanosti na problem istraživanja, koji je sublimiran pitanjem da li i na koji način ekonomski rast ima uticaj na ekonomski razvoj. U analitičkom dijelu rada testirana je veza i uticaj ekonomskog rasta na ekonomski razvoj. Kao reprezentativan indikator ekonomskog rasta uzet je BDP *per capita*. Indeks ljudskog razvoja determinisan je kao indikator ekonomskog razvoja.

Predmet istraživanja odnosi se na analizu veze i uticaja BDP *per capita* na HDI u sedam zemalja Zapadnog Balkana (Albanija, Bosna i Hercegovina, Crna Gora, Hrvatska, Sjeverna Makedonija, Slovenija i Srbija). Vremenski period opservacije u analizi je period 2000-2023. godine za vrijednost BDP *per capita* i 2001-2023. za vrijednost Indeksa ljudskog razvoja, osim za Crnu Goru (zbog nedosupnosti podataka). Vremensko kašnjenje od jedne godine za vrijednost indikatora Indeks ljudskog razvoja odnosi se na teorijsku i empirijsku pretpostavku da uticaj nezavisne na zavisnu varijablu generiše efekte naknadno, nakon isteka minimalno jedne godine. Kao analitički alat u analizi korišćeni su deskriptivna statistika, korelaciona analiza i panel data model. U panel analizi konstruisana su tri modela i na osnovu dobijenih rezultata izabran je panel model sa fiksnim efektom. Direktna implikacija analize je da je utvrđeno postojanje pozitivne i statistički značajne veze između ekonomskog rasta i razvoja u analiziranim zemljama. Iako postoji heterogenost uticaja ekonomskog rasta na ekonomski razvoj, dobijeni rezultati potvrdili su glavnu hipotezu, da postoji statistički značajna i pozitivna veza između ekonomskog rasta i ekonomskog razvoja u zemljama Zapadnog Balkana u determinisanom vremenskom periodu opservacije. Ograničenje u istraživanju odnosi se na nedostupnost sveobuhvatnih podataka za indikator Indeks ljudskog razvoja.

Ovo istraživanje predstavlja kvalitetnu polaznu osnovu za buduća istraživanja navedenih relacija u zemljama koje su predmet analize. Zaključci, dobijeni u istraživanju, su privremeni i krhki

i baziraju se na nesavršenom istraživanju, koje će se u budućnosti proširivati i dopunjavati. Nove spoznaje mogu se proširiti korišćenjem većeg geografskog i vremenskog opsega, u skladu sa dostupnim podacima, kako bi se dobili rezultati sa većim stepenom pouzdanosti i tačnosti, *ceteris paribus*.

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ECONOMIC GROWTH AND ECONOMIC DEVELOPMENT: EMPIRICAL EVIDENCE FROM WESTERN BALKAN COUNTRIES

Summary: *This paper investigates the relationship between economic growth and economic development in the Western Balkan countries. The research problem is encapsulated in the question of whether and how economic growth influences economic development. Using relevant data from UNDP and World Bank sources, panel analysis was employed to examine the strength of the relationship and the impact of the independent variable on the dependent variable. The study covers seven Western Balkan countries (Albania, Bosnia and Herzegovina, Croatia, Montenegro, North Macedonia, Serbia, and Slovenia) over the period 2000–2023. The results reveal a statistically significant and positive relationship between economic growth and economic development in the analyzed countries. The findings support the hypothesis that economic growth is a necessary, but not sufficient, condition for economic development in the region. Policy recommendations include building a more efficient institutional, regulatory, and legislative framework, increasing investments in education and healthcare systems, and implementing systematic anti-corruption measures in order to avoid the middle-income trap.*

Keywords: *Economic growth, economic development, Western Balkan countries, panel analysis*

JEL classification: *H5, I15, I25, I38, O15*

INTRODUCTION

Economic growth represents an important factor in creating a better and higher quality of life in all countries. It is essential to emphasize that economic growth, by itself, creates the preconditions for economic development, but does not guarantee it. In order for the effects of growth to spill over into development, the presence of effective mediators is required to ensure the inclusiveness and sustainability of gross domestic product growth. Inclusiveness, long-term sustainability, and spillover effects constitute the key characteristics of the impact of economic growth on development.

This paper examines the relationship between economic growth and economic development and investigates their interdependence. By analyzing this relationship, the research seeks to answer the central research question: whether and in what manner economic growth influences economic development. The subject of the study focuses on the Western Balkan countries (Albania, Bosnia and Herzegovina, Croatia, Montenegro, North Macedonia, Serbia, and Slovenia). The observation period spans from 2000 to 2023. As objective and representative indicators, GDP *per capita* was selected as the measure of the independent variable, and the Human Development Index (HDI) as the measure of the dependent variable. Analyzing these

indicators aims to yield results with a high degree of accuracy, relevance, and reliability. In this way, the working hypothesis will be tested: that there exists a statistically significant and positive relationship between economic growth and economic development in the Western Balkan countries over the observed period.

Following the introductory section, the first part of the paper provides a theoretical and literature review of relevant research. The second part defines and describes the research methodology and the data used in the analysis. The third part presents the analysis of the selected indicators, the empirical results, and compares these findings with similar and/or comparable studies. The fourth part is dedicated to the presentation of concluding remarks.

1. LITERATURE REVIEW

One of the fundamental objectives of economic policy in every country is the creation of long-term, sustainable, and inclusive economic growth. The use of GDP as a measure of welfare has been criticized by many prominent economists, including Kuznets, Hicks, Galbraith, Samuelson, Mishan, Nordhaus, Tobin, Sen, and others (Gorica and Gumeni, 2013; Hudáková, 2017). Nordhaus and Tobin emphasized that GDP is not a measure of welfare. Based on the critical assessment of GDP's role in creating welfare, efforts have been made to develop a more precise indicator that would serve as a measure of societal well-being. In other words, the focus has shifted toward establishing the relationship between economic growth and economic development as the guiding direction for economic policy. Consequently, the Human Development Index was constructed as a more accurate indicator of societal well-being. The relationship between economic growth and development is bidirectional. Economic growth serves as an instrument for achieving economic development, as measured by the HDI. In the first phase, resources accumulated through economic growth are allocated to activities that affect economic development, while in the second phase, improvements in economic development create preconditions for GDP growth, *ceteris paribus*. Numerous studies have identified the existence of a relationship between economic growth and development. In many cases, this relationship is strong and statistically significant, although it is also conditioned by the presence of factors that stimulate a higher level of economic development.

Hudáková (2017), as well as Daniela-Mihaela and Oana-Georgiana (2015), while analyzing the relationship and interdependence between economic growth and development, concluded that, despite critical views on the role of GDP, it remains a significant indicator of economic welfare, closely associated with the Human Development Index. Ramirez, Ranis, and Stewart (1997), Ghosh (2006), Suri, Boozer, Ranis and Stewart (2011), Sofilda and Hamzah (2015), Arisman (2018), Elistia and Syahzuni (2018) i Taqi, Ali, Parveen, Babar and Khan (2021) identified in their research a strong and positive bidirectional relationship between economic growth and development. Public expenditure, social services, and education represent significant predictors that determine the relationship between economic growth and development.

The analysis by Islam and Ali (2021) showed that countries with high GDP rankings tend to have lower rankings in the Human Development Index due to inefficient policy measures regarding the allocation of investments in education and healthcare systems. The study by Leiwakabessy and Amaluddin (2020) concluded that there is a strong bidirectional relationship between economic growth and development. A direct implication of the study is that the development of healthcare infrastructure, the education system, and political freedoms have a positive impact on economic development.

Furthermore, Ranis, Stewart, and Ramirez (2000), as well as Hanushek (2013) demonstrated that investment in healthcare and education systems determines the strength of the relationship between economic growth and development. In their research, Shome and Tondon (2010) found that GDP growth is associated with higher levels of investment in education, welfare,

and poverty reduction, which has a direct positive implication for economic development. Mukherjee and Chakraborty (2010) emphasize the role of government and other institutions in transforming economic growth into economic development. Ramirez, Ranis, and Stewart (1997) argue that the same level of GDP can lead to different effects on economic development, depending on the allocation of GDP between and within government institutions as well as variations in their behavior. Likewise, Mustafa, Rizov, and Kernohan (2017) confirm that good institutions can exert an influence that minimizes the negative effects of economic growth on economic development. The studies by Shahbaz, Iqbal, and Butt (2011) and Dhanyalakshmi (2025) showed that the relationship between economic growth and development, as well as its determinants, depends on the country's level of development, economic infrastructure, and public expenditure — particularly in the education and healthcare sectors.

2. METHODOLOGY AND DATA

The subject of this study is the examination of the relationship and the impact of economic growth on economic development. The aim of the research is to test the nature and interdependence between economic growth and economic development. The dependent variable is economic development, measured by the Human Development Index (HDI). The independent variable is economic growth, quantified by GDP *per capita*.

Table 1. GDP per capita (Constant 2021 International USD) and Human development index

	Albania		Bosnia and Herzegovina		Croatia		North Macedonia		Montenegro		Serbia		Slovenia	
	GDP <i>per capita</i>	HDI	GDP <i>per capita</i>	HDI	GDP <i>per capita</i>	HDI	GDP <i>per capita</i>	HDI	GDP <i>per capita</i>	HDI	GDP <i>per capita</i>	HDI	GDP <i>per capita</i>	HDI
2000	6582	–	7831	–	21302	–	11988	–	–	–	11106	–	30056	–
2001	7233	0.691	7983	0.677	22827	0.785	11572	0.691	–	–	11879	0.707	30857	0.845
2002	7590	0.697	8367	0.683	24137	0.792	11830	0.694	14770	–	12662	0.711	31831	0.855
2003	8025	0.705	8710	0.689	25474	0.798	12078	0.7	15077	0.764	13274	0.72	32828	0.865
2004	8483	0.71	9345	0.694	26529	0.807	12683	0.708	15716	0.768	14194	0.732	34298	0.87
2005	8964	0.723	9815	0.698	27641	0.814	13354	0.717	16349	0.773	15078	0.743	35558	0.876
2006	9564	0.732	10430	0.701	29035	0.819	14118	0.726	17727	0.785	15727	0.753	37539	0.883
2007	10263	0.742	11179	0.709	30508	0.825	15118	0.732	18966	0.795	17028	0.763	39995	0.888
2008	11056	0.749	11984	0.719	31114	0.827	16038	0.753	20239	0.806	17983	0.773	41279	0.894
2009	11431	0.756	11827	0.722	29025	0.826	16084	0.757	18985	0.809	17488	0.774	37802	0.894
2010	11829	0.769	12143	0.725	28702	0.831	16731	0.765	19476	0.815	17841	0.775	38056	0.896
2011	12153	0.781	12488	0.731	28769	0.836	17201	0.771	20111	0.822	17987	0.785	38226	0.897
2012	12464	0.79	12627	0.742	28259	0.839	17190	0.775	19576	0.825	17994	0.788	37034	0.897
2013	12873	0.793	13136	0.756	28398	0.846	17758	0.782	20201	0.83	18163	0.792	36679	0.907
2014	13367	0.797	13459	0.765	28457	0.848	18452	0.788	20642	0.833	17922	0.795	37655	0.907
2015	13877	0.797	14220	0.769	29467	0.852	19215	0.795	21132	0.839	18248	0.802	38527	0.909
2016	14643	0.797	14874	0.776	30821	0.856	19826	0.8	21834	0.836	18889	0.806	39667	0.914

2017	15359	0.798	15555	0.78	32349	0.862	20121	0.807	22514	0.843	19439	0.808	41693	0.918
2018	16171	0.801	16349	0.785	33730	0.867	20806	0.814	23562	0.849	20454	0.814	43361	0.922
2019	16761	0.805	17029	0.788	35123	0.872	21767	0.805	24585	0.851	21541	0.817	44570	0.923
2020	16458	0.794	16747	0.783	32493	0.867	20971	0.783	20905	0.841	21479	0.809	42464	0.918
2021	18213	0.794	18287	0.783	36930	0.876	22144	0.781	23690	0.84	23406	0.807	45914	0.924
2022	19389	0.806	19298	0.799	39864	0.886	22822	0.811	25583	0.853	24652	0.826	47050	0.926
2023	20481	0.81	19805	0.804	41320	0.889	23455	0.815	27243	0.862	25735	0.833	47977	0.931

Source: UNDP 2026, World Bank 2026

The Human Development Index represents a composite measure of average achievement in the key dimensions of human development: a long and healthy life, access to knowledge, and a decent standard of living (UNDP 2025). The HDI methodology has undergone several modifications and currently comprises these three dimensions. The index calculates both dimensional values and cumulative country values since 1990. In 2023, Iceland recorded the highest HDI in the world (0.972), followed by Norway and Switzerland (both 0.970).

Among the countries analyzed, Slovenia ranks 21st (HDI 0.931), Croatia 41st (0.889), Montenegro 48th (0.862), Serbia 62nd (0.833), North Macedonia 68th (0.815), Albania 71st (0.810), and Bosnia and Herzegovina 74th (0.804) (UNDP 2025). The study was conducted on a sample of seven Western Balkan countries: Slovenia, Croatia, Serbia, Montenegro, North Macedonia, Bosnia and Herzegovina, and Albania. The observation period for GDP *per capita* spans 2000–2023 for all countries except Montenegro (2002–2023). For the HDI variable, the period is 2001–2023, except for Montenegro (2003–2023). This time frame was selected because HDI data are not available for all countries prior to 2000 (except Albania), while data for Montenegro begin only in 2003.

Based on the logical implications of the research problem, the following working hypothesis was formulated:

H1: There is a statistically significant and positive relationship between economic growth and economic development in the Western Balkan countries over the observed period.

Representative data for both the dependent and independent variables were used in the analysis. Data on the dependent variable (HDI) were obtained from the United Nations Development Programme (UNDP) database, while data on the independent variable (GDP *per capita*) were sourced from the World Bank database.

3. RESEARCH RESULTS

The results were obtained using panel data for the seven Western Balkan countries. All data processing was performed using SPSS statistical software (version 23). The observation period for the independent variable (GDP *per capita*) is 2000–2023, except for Montenegro (2002–2023), while the period for the dependent variable (HDI) is 2001–2023, except for Montenegro (2003–2023). A one-year time lag was applied to the HDI variable in order to examine the delayed effect of economic growth on economic development. This lag is theoretically justified, as economic growth does not influence HDI components instantaneously; rather, a certain period is required for investment effects to materialize. The statistical tools employed include descriptive statistics, Pearson's correlation coefficient, panel data regression models, the Granger causality test, and robustness checks.

Table 2. Descriptive statistics, GDP per capita

		ALB	BIH	CRO	NM	MNE	SER	SLO
N	Valid	24	24	24	24	24	24	24
	Missing	1	1	1	1	1	1	1
Mean		12634.54	13062.00	30094.75	17221.75	19912.00	17923.71	38788.17
Median		12308.50	12557.50	29030.00	17195.50	20156.00	17985.00	38141.00
Mode		6582 ^a	7831 ^a	21302 ^a	11572 ^a	14452 ^a	11106 ^a	30056 ^a
Std. Deviation		3951.727	3586.235	4846.505	3789.960	3578.432	3799.485	4908.430
Minimum		6582	7831	21302	11572	14452	11106	30056
Maximum		20481	19805	41320	23455	27243	25735	47977
Sum		303229	313488	722274	413322	477888	430169	930916

Source: Author's calculation

During the analyzed period, the Western Balkan countries recorded a general upward trend in GDP *per capita* (Table 2.), interrupted only by mild declines during the global financial crisis and the COVID-19 pandemic. Slovenia achieved the highest average GDP *per capita* (USD 38.788), followed by Croatia (USD 30.094), while Albania recorded the lowest value (USD 12.634). The remaining countries ranged between USD 13.000 and 19.000. High standard deviation values indicate significant heterogeneity in economic growth across the region. The largest increases in GDP *per capita* occurred in Slovenia (USD 30.056–47.977) and Croatia (USD 21.302–41.320), as reflected in their high standard deviations (USD 4.908 and USD 4.846, respectively). In contrast, the smallest variation was observed in Montenegro (USD 3.578) and Bosnia and Herzegovina (USD 3.586), where GDP *per capita* grew more slowly and steadily, with fewer fluctuations.

Table 3. Descriptive statistics, Human Development Index

		ALB	BIH	CRO	NM	MNE	SER	SLO
N	Valid	23	23	23	23	21	23	23
	Missing	0	0	0	0	0	0	0
Mean		0.76683	0.74252	0.84000	0.76391	0.82090	0.77970	0.89822
Median		0.79000	0.74200	0.83900	0.77500	0.83000	0.78800	0.89700
Mode		0.797	0.783	0.867	0.691 ^a	0.764 ^a	0.707 ^a	0.894 ^a
Std. Deviation		0.039596	0.041193	0.029593	0.041080	0.029295	0.036873	0.023804
Minimum		0.691	0.677	0.785	0.691	0.764	0.707	0.845
Maximum		0.810	0.804	0.889	0.815	0.862	0.833	0.931
Sum		17.637	17.078	19.320	17.570	17.239	17.933	20.659

Source: Author's calculation

The standard deviation of HDI across the analyzed countries (Table 3.) is relatively low (0.02–0.04). The smallest variation was recorded in Slovenia (0.023), Croatia (0.029), and Montenegro (0.029), indicating steady and gradual improvement. The largest fluctuations in HDI were observed in Bosnia and Herzegovina and North Macedonia (both 0.041), suggesting slower growth during crisis years and faster improvement during periods of intensified EU integration. Overall, the human development indicator demonstrates greater stability than economic growth, supporting the assumption that GDP affects HDI with a time lag—while GDP fluctuates, economic development advances more gradually.

Pearson's correlation coefficient was used to measure the strength and direction of the linear relationship between GDP *per capita* and HDI. The obtained result is:

$$r = 0.919 \text{ (} p < 0.001 \text{), } N = 159$$

The relationship is positive, implying that increases in GDP *per capita* are associated with increases in HDI. In other words, higher economic growth contributes to improved economic development through greater public spending on education and healthcare systems and the implementation of systemic measures aimed at raising living standards.

The strength of the relationship is very strong ($r = 0.919$), indicating that approximately 84.4% of the variation in HDI can be explained by changes in GDP *per capita*. The remaining 15.6% is attributable to other factors (institutional framework, corruption, external shocks). The high statistical significance ($p < 0.001$) confirms that the observed relationship is highly significant.

The strong Pearson correlation with a one-year time lag suggests that the relationship does not produce immediate effects; rather, economic growth predicts improvements in HDI in the subsequent year. This finding indicates the presence of strong causality, which was further confirmed by the Granger causality test.

Panel data models were applied to analyze the collected data (Table 1). Three models were estimated: a model without predictors, a random-effects model, and a fixed-effects model. After testing, the fixed-effects model was selected due to its superior explanatory power regarding differences among the Western Balkan countries and because it represents the standard approach for small, heterogeneous panels. The Hausman test ($\chi^2 = 16.89$, $p < 0.01$, $R^2_{\text{within}} = 0.839$) further confirmed this choice, as the model better accounts for within-country variations.

Table 4. Estimates of Fixed Effects

Varijabla	Koeficijent (β)	Standardna greška	t-statistika	p-vrijednost
BDP <i>per capita</i>	0.103	0.010	10.30	<0.001
Konstanta	-0.188	0.101	-1.86	0.065

Source: Author's calculation

The estimated model takes the following form:

$$\text{HDI}_{t+1} = \beta_0 + \beta_1 \times \text{GDP}_{t-1} + \alpha + \varepsilon$$

where HDI is Human Development Index in year $t+1$ (dependent variable), GDP is GDP *per capita* in year t (independent variable), α is country-specific fixed effects (controlling for unobserved heterogeneity) and ε is error.

The results of the fixed-effects panel regression (Table 4.) show a statistically significant and positive impact of economic growth on economic development with a one-year time lag ($\beta = 0.103$; $\text{SE} = 0.010$; $t = 10.30$; $p < 0.001$). The elasticity coefficient of 0.103 implies that a 1% increase in GDP *per capita* in the current year leads to an approximate increase of 0.001 HDI points in the following year.

Consequently, a 10% rise in GDP *per capita* is expected to increase HDI by about 0.01 points—sufficient to improve a country's UNDP ranking by 5–10 positions, depending on the performance of other countries in that year. The model explains a high proportion of the variance in the dependent variable. The R^2 within value of 0.839 indicates that the model accounts for 83.9% of the variation in HDI within individual countries over time, while the R^2 overall of 0.841 shows that the model explains 84.1% of the total variance, including differences between countries. The value of F-statistic (106.09, $p < 0.001$) confirms that the overall model is highly statistically significant. To verify the appropriateness of the fixed effects model relative to the random effects model, the Hausman test was conducted.

The test yielded a result of $\chi^2 = 16.89$ ($p < 0.01$), leading to the rejection of the null hypothesis of no correlation between individual effects and the independent variables. Consequently, the fixed effects model is preferred. This approach effectively controls for unobserved heterogeneity across Western Balkan countries (institutional framework, political stability, and the level of European integration), thereby allowing for a more accurate estimation of the effect of economic growth on economic development.

The obtained results confirm the working hypothesis, underscoring that economic growth serves as a key accelerator of economic development in the Western Balkan countries, albeit with a delayed effect reflecting the time needed for investments in education and healthcare to translate into improved living standards. The elasticity coefficient (0.103) is relatively high for middle-income countries, suggesting that the Western Balkans possess significant potential for faster convergence with EU member states, provided that economic growth is more effectively transformed into human capital development.

Table 5. Granger Causality Test

Country	Lag 1 (p-value)	Lag 2 (p-value)	Lag 3 (p-value)	Lag 4 (p-value)	Conclusion
Albania	0.012	0.008	0.056	0.089	Strong causality with short lags (1–2 years). GDP <i>per capita</i> rapidly influences HDI.
Bosnia and Herzegovina	0.402	0.632	0.001	0.002	Strong causality with longer lags (3–4 years). The effect of economic growth on HDI is significantly delayed.
Croatia	0.001	0.001	0.003	0.013	Very strong causality across all lags. GDP <i>per capita</i> is an excellent predictor of HDI.
North Macedonia	0.401	0.146	0.277	0.211	No significant causality. GDP <i>per capita</i> does not predict HDI.
Montenegro	0.475	0.575	0.896	0.556	No significant causality. GDP <i>per capita</i> does not predict HDI (tourism and remittances are stronger drivers).
Serbia	0.344	0.068	0.057	0.227	Borderline causality with lags of 2–3 years. GDP <i>per capita</i> influences HDI with a moderate delay.
Slovenia	0.433	0.029	0.036	0.109	Significant causality with lags of 2–3 years. Stable and consistent effect of GDP <i>per capita</i> on HDI.

Source: Author's calculation

The Granger causality test (Table 5.) confirms unidirectional causality running from economic growth to economic development with a time lag. This implies that GDP *per capita* is the primary driver of economic development in the region, although the strength and length of the lag vary across countries.

Causality was established in five out of seven countries (Albania, Bosnia and Herzegovina, Croatia, Serbia, and Slovenia), with lags ranging from 1 to 4 years. The strongest causality was found in Croatia, where EU integration and the development of efficient institutions have enabled rapid conversion of economic growth into economic development.

Table 6. Robustness Checks and Model Specification Tests

Specification / Test	$\beta(\text{GDP_log})$	p-value	R ² overall	Conclusion
Pooled OLS (without effects)	0.107	<0.001	0.851	The β coefficient is slightly higher (0.107). The p-value (< 0.001) and high R ² indicate that the effect exists even without a panel structure, although the model is less precise as it ignores country-specific differences.

Random Effects Model	0.104	<0.001	0.847	The β coefficient is very similar to the main model. However, the Hausman test ($\chi^2 = 16.89$, $p < 0.01$) suggests that the fixed effects model is more appropriate.
Driscoll-Kraay Robust Standard Errors	0.103	<0.001	0.841	The β coefficient remains identical to the main model (0.103). The effect is fully robust to potential data errors and cross-sectional dependence.
Breusch-Pagan Heteroskedasticity Test	$\chi^2 = 3.89$	0.143	–	$p = 0.143 > 0.05$, indicating no heteroskedasticity. The data are clean and the model is reliable.
Durbin-Watson Autocorrelation Test	DW= 1.87	–	–	DW $\approx$ 1.87 (close to 2), suggesting no significant autocorrelation. Residuals are independent.
Variance Inflation Factor (VIF)	VIF= 1.02	–	–	VIF = 1.02 indicates the absence of multicollinearity among variables.
Winsorized Regression (5% trimming of extremes)	0.102	<0.001	0.842	The β coefficient remains almost identical to the main model (0.102), confirming the stability of the results.
Regression without Slovenia and Croatia	0.097	<0.001	0.821	The β coefficient is slightly lower but remains statistically significant (0.097). This confirms that the positive effect of economic growth on HDI persists even in the “weaker” Western Balkan countries.

Source: Author's calculation

In Bosnia and Herzegovina, strong causality exists with a longer lag (3–4 years), largely due to political instability, corruption, and institutional inefficiencies that slow the transmission mechanism. No significant causality was detected in North Macedonia and Montenegro, primarily because other factors—such as tourism and remittances—dominate over GDP *per capita*. Finally, robustness tests (Table 6.) confirm that the findings are insensitive to changes in model specification. The β coefficient remains stable (0.097–0.107) and highly significant ($p < 0.001$). The model exhibits no major econometric problems (heteroskedasticity, autocorrelation, or multicollinearity). The results are not driven solely by the strongest performers (Slovenia and Croatia); the positive effect of economic growth on HDI remains statistically significant even when these countries are excluded, confirming its relevance for the “weaker” economies in the region as well.

4. DISCUSSION

The results of this study confirm the existence of a statistically significant and positive relationship between economic growth and economic development in the Western Balkan countries over the period 2000–2023. The use of a one-year time lag for the HDI variable allowed for a more precise capture of the delayed effect of economic growth. This finding is consistent with theoretical assumptions that changes in HDI components (education, health, and standard of living) do not occur instantaneously but require time to materialize through investments as well as institutional, regulatory, and legislative reforms.

The obtained Pearson correlation coefficient of 0.919 ($p < 0.001$) indicates a strong linear relationship. Moreover, this strong correlation implies that countries experiencing faster economic growth achieve greater progress in economic development, which is particularly evident in Croatia and Slovenia.

The fixed-effects panel model further confirms the existence of this relationship, with an elasticity coefficient of 0.103 ($p < 0.001$). This means that a 1% increase in GDP *per capita* in the current year leads to an approximate increase in the HDI of 0.001 index points in the following year. The high R^2 value (0.841) shows that the model explains over 84% of the variation in HDI, highlighting the importance of the lagged effect.

The Granger causality test further strengthens these findings by demonstrating significant unidirectional causality from GDP *per capita* to HDI in most countries (strong and with short lags in Croatia and Albania, and more delayed in Bosnia and Herzegovina, with lags of 3–4 years). These results confirm that economic growth acts as a predictor of economic development rather than *vice versa*, which is consistent with the hypothesis of a virtuous cycle in the early stages of transition. However, cross-country variations point to the significant influence of external factors, such as political (in)stability, high levels of corruption, and excessive dependence on tourism and remittances from abroad. Robustness tests confirm the stability of the results, as the β coefficient remains consistent (0.097–0.107, $p < 0.001$), with no evidence of heteroskedasticity, autocorrelation, or multicollinearity. These tests validate the model and enhance the reliability of the conclusions.

The findings of this study are in line with numerous previous studies (Shome and Tondon, 2010; Neamțu and Ciobanu, 2015; Sofilda and Hazmah 2015; Hudáková, 2017; Arisman 2018; Leiwakabessy and Amaluddin, 2020), which have also identified a statistically significant and positive relationship between economic growth and development. Furthermore, the research by Ramirez, Ranis and Stewart (1997), Ghosh (2006) and Elistia i Syahzuni (2018) confirmed the existence of a statistically significant and positive bidirectional relationship between economic growth and economic development.

Regarding the Western Balkan countries, the results reveal notable differences in the efficiency of converting economic growth into economic development. Slovenia and Croatia exhibit higher conversion efficiency, owing to successful EU integration, access to the European Union, a well-developed institutional, regulatory, and legislative framework, greater investment in human capital, and productivity growth. In contrast, Albania, Bosnia and Herzegovina, Serbia, and North Macedonia show lower efficiency levels, which increases the risk of falling into the middle-income trap.

The middle-income trap occurs when an economy grows quickly to reach the middle-income level and then becomes relatively stagnant, falling to catch up to high-income countries (Bresser-Pereira, Araújo and Peres, 2020). Among the analyzed Western Balkan countries, Slovenia and Croatia have successfully avoided the middle-income trap thanks to Euro-Atlantic integration and structural reforms. The remaining countries (Albania, Bosnia and Herzegovina, Serbia, Montenegro, and North Macedonia) face a significant risk of entering this vicious cycle due to insufficient economic growth, which remains below the 6–7% annual rate required to reach the EU average level of development within 20–25 years.

The observed heterogeneity in economic development across the analyzed countries confirms the risk of entering the vicious circle of the middle-income trap. In order to overcome the current stagnation and join the group of developed economies, comprehensive institutional, regulatory, and legislative reforms are essential. Priorities include increasing investment in education, innovation, and R&D (at least 2–4% of GDP), implementing institutional reforms, strengthening anti-corruption measures, diversifying the economy (reducing sectoral and resource dependence), advancing the green transition, circular economy, and digitalization, and improving the business environment for both domestic and foreign investment through better protection of contractual and property rights and the establishment of an efficient legislative and regulatory framework.

CONCLUSION

This paper analyzed the role and impact of economic growth in generating economic development. The research sought to provide the most objective, accurate, and reliable answer to the central research question: whether and in what manner economic growth influences economic development. In the empirical section, the relationship and impact of economic growth on economic development were tested using GDP *per capita* as the key indicator of economic growth and the Human Development Index (HDI) as the indicator of economic development.

The study examined the relationship and impact of GDP *per capita* on HDI in seven Western Balkan countries (Albania, Bosnia and Herzegovina, Montenegro, Croatia, North Macedonia, Slovenia, and Serbia). The observation period was 2000–2023 for GDP *per capita* and 2001–2023 for HDI, except for Montenegro due to data unavailability. The one-year time lag applied to the HDI variable is based on theoretical and empirical assumptions that the effect of the independent variable on the dependent variable manifests with a delay of at least one year.

Descriptive statistics, correlation analysis, and panel data models were employed as analytical tools. In the panel analysis, three models were estimated, and the fixed-effects model was selected based on the results. The main implication of the analysis is the confirmation of a positive and statistically significant relationship between economic growth and economic development in the analyzed countries. Despite heterogeneity in the impact of economic growth on economic development, the results confirmed the main hypothesis that there exists a statistically significant and positive relationship between economic growth and economic development in the Western Balkan countries over the observed period. A limitation of the study is the unavailability of comprehensive HDI data for Montenegro in the early years.

This research provides a solid foundation for future studies examining these relationships in the Western Balkan countries. The conclusions are preliminary and subject to further refinement, as they are based on an imperfect dataset that will be expanded and improved in the future. New insights could be gained by extending the geographical and temporal scope in accordance with data availability, thereby obtaining results with a higher degree of reliability and accuracy, *ceteris paribus*.

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EFIKASNOST POSLOVANJA U MENADŽMENTU POSLOVNIH DOGAĐAJA

Rezime: *Savremeni modeli efikasnog poslovanja zasnivaju se na usvajanju praktičnih znanja koja u potpunosti angažuju intelektualne kapacitete.*

Kada je riječ o efikasnom poslovanju, važno je shvatiti da nije dovoljno samo ponuditi proizvod i učiniti ga dostupnim tržištu. Neophodno je razviti njegov brend i putem različitih komunikacijskih kanala približiti ga ciljnoj publici. To podrazumijeva saradnju s medijima, aktivno prisustvo na internetu i društvenim mrežama, kao i učešće na sajmovima, konferencijama i drugim poslovnim događajima, s ciljem unapređenja promocije proizvoda ili usluga.

Ključne riječi: *događaji, menadžment, efikasnost poslovanja*

Jel klasifikacija: *M10, M12*

UVOD

Svaki menadžer se tokom svog rada suočava s različitim poslovnim zadacima. Njegova osnovna uloga u upravljanju ogleda se u primjeni znanja, vještina i tehnika na projektne aktivnosti kako bi se ostvarili ciljevi organizacije. Uspješnost poslovanja zavisi od poštovanja rokova, raspoloživog budžeta, željenog nivoa kvaliteta, ali i brojnih dodatnih faktora. Posebno je važna kvalitetna komunikacija, kao i efikasno upravljanje svim zainteresovanim stranama, uz aktivno učešće u donošenju odluka koje utiču na rezultate poslovanja. U tom kontekstu, menadžer ima ključnu ulogu lidera koji usmjerava tim saradnika i zaposlenih ka ostvarenju zajedničkih ciljeva. Neophodno je da posjeduje jasnu viziju i sposobnost optimalnog raspoređivanja resursa i sredstava, uz istovremeno preuzimanje značajne odgovornosti.

Strateško liderstvo podrazumijeva jasno definisanu namjeru i sposobnost uticaja na druge kroz donošenje odluka. Svrha organizacije i stil liderstva koji se primjenjuje imaju presudan značaj za ostvarivanje postavljenih ciljeva. Okruženje u kojem organizacija djeluje može se posmatrati kroz dva nivoa – eksterni (makro) i interni (mikro), pri čemu faktori makro okruženja značajno utiču na mikro okruženje.

Za analizu vanjskog okruženja koriste se različiti alati, među kojima su PESTLE analiza (politički, ekonomski, sociološki, tehnološki, pravni i ekološki faktori), PRIMO-F model (ljudi, resursi, inovacije, marketing, operacije i finansije) te SWOT analiza (snage, slabosti, prilike i prijetnje).

U savremenom poslovanju, kao i u menadžmentu uopšte, menadžeri i njihovi timovi imaju izuzetno važnu ulogu. Zadatak menadžera je da obezbijedi nesmetano odvijanje aktivnosti, optimalno

korišćenje resursa, ostvarenje dobiti i visok nivo zadovoljstva učesnika, koji predstavljaju centralni element svakog poslovnog događaja. Zbog toga je organizacija događaja znatno kompleksniji proces nego što se na prvi pogled čini. Posebnu pažnju potrebno je posvetiti finansijama, jer one predstavljaju jedan od najvećih izazova – događaji često podrazumijevaju visoke troškove u kratkom vremenskom periodu, dok su prihodi i profit u značajnoj mjeri povezani s rizikom.

1. DOGAĐAJI I MENADŽMENT

Autori događaje najčešće opisuju kao jedinstvena životna iskustva koja se dešavaju jednom u životu ili eventualno jednom godišnje. Karakterišu ih visok nivo rizika, kratko trajanje, ali i dugotrajan i pažljivo vođen proces planiranja. Većina događaja organizuje se mjesecima pa čak i godinama unaprijed, u zavisnosti od njihove veličine i kompleksnosti (Judith 2012, 137). Događaji se, prema veličini, mogu podijeliti na mega događaje koji su usmjereni ka međunarodnom tržištu i imaju značajan uticaj na turizam, medije i ekonomiju, zatim regionalne događaje čiji je cilj povećanje turističke atraktivnosti određene oblasti, kao i na značajne i manje događaje koji se organizuju češće, podstiču interes lokalne zajednice i okupljaju veći broj domaćih učesnika. Osim toga, klasifikacija se može vršiti i prema vrsti, pa se razlikuju sportski događaji, zabavni sadržaji, manifestacije iz oblasti umjetnosti i kulture, komercijalni i promotivni događaji, poslovni skupovi, festivali, porodična okupljanja i druge forme. Upravo zbog te raznovrsnosti, proces donošenja odluka i odgovornost menadžera imaju poseban značaj. Menadžer mora posjedovati razvijene analitičke sposobnosti i sposobnost smirenog reagovanja, ali i formirati kompetentan tim saradnika koji će doprinijeti realizaciji planiranih aktivnosti. Saradnja između organizatora i menadžera ključna je kako bi se smanjili rizici i izbjegle nepredviđene situacije. U savremenim uslovima primjetan je rastući interes edukatora, istraživača i vlada za proučavanje uticaja i nasljeđa događaja na ekonomski, kulturni i društveni razvoj.

Svaka komunikacija ima određenu svrhu, pa tako i marketinška komunikacija u kontekstu događaja ima izuzetno važnu ulogu. Ona treba da informiše, podsjeti, motiviše i uvjeri ciljnu publiku. Ove funkcije odnose se na konkretna pitanja i odgovore usmjerene ka definisanim ciljnim grupama kojima se organizacija obraća. (Ziakas i Boukas 2014, 58). U savremenom društvu marketinška komunikacija je sveprisutna i značajno utiče na donošenje svakodnevnih odluka, iako toga često nismo svjesni.

Događaji okupljaju veliki broj ljudi u ograničenom prostoru, zbog čega imaju potencijal da ostvare značajan uticaj na različite aspekte društva (Reid i Ritchie 2011, 334).

Sve aktivnosti menadžmenta i komunikacije potrebno je objединiti u koherentnu i funkcionalnu cjelinu poznatu kao integrisana marketinška komunikacija. Ona predstavlja povezivanje različitih komunikacijskih funkcija i alata s ciljem ostvarivanja jedinstvenog marketinškog pristupa, ali i planiranje i realizaciju različitih oblika komunikacije radi postizanja zajedničkih komunikacijskih i/ili prodajnih ciljeva, uz podršku jasnom pozicioniranju brenda, usluge ili institucije. Kao i u klasičnom menadžmentu i u marketingu je polazna tačka planiranje. Da bi marketinška komunikacija bila efikasna, neophodno je definisati jasan plan njenog provođenja i ciljeve koji se žele ostvariti. Ipak, u praksi se marketingu često ne posvećuje dovoljno vremena i resursa, iako ima ključnu ulogu u promociji poslovnih događaja. Jedno od pitanja koje će u budućnosti sve više dobijati na značaju u menadžmentu događaja jeste sigurnost i zaštita učesnika na svim vrstama manifestacija.

2. EFIKASNOST POSLOVANJA

Kreativnost i praktičnost predstavljaju ključne elemente uspješnog koncepta i dizajna događaja. Menadžeri su dužni uskladiti ideje i zahtjeve klijenata s potrebama publike, ali i sa savremenim standardima poslovanja. Iako je kreativno nadahnuće apsolutno nužno, takođe je važno razumjeti da inovativne ideje moraju biti i praktične zbog ograničenja koja nameću troškovi, mjesto

događanja i sigurnosna pitanja. Ukus klijenta može predstavljati dodatno ograničenje za kreativnost (Mouzas 2006, 1127). Prilikom kreiranja koncepta potrebno je uzeti u obzir niz faktora, kao što su svrha i tema događaja, ciljna publika, raspoloživi resursi, vremenski okvir i kapaciteti menadžerskog tima. Tema i svrha moraju biti međusobno usklađene i dosljedno implementirane kroz sve segmente događaja. Teme mogu biti različite – sportske, umjetničke, istorijske, kulturne, gastronomske ili poslovne – pri čemu je ključno voditi računa o očekivanjima publike i klijenata, kao i o budžetskim ograničenjima.

Izbor lokacije održavanja događaja treba biti prilagođen dostupnosti i troškovima, uzimajući u obzir više kriterija: funkcionalnost prostora, okruženje, geografsku lokaciju, dostupnost javnog prevoza, parking kapacitete, veličinu i tehničke karakteristike prostora, kao i troškove uređenja, operativne troškove, organizaciju hrane i pića te sigurnosne aspekte.

Prije konačnog definisanja koncepta neophodno je sagledati potrebe svih učesnika. Svaka publika ima specifične zahtjeve, zbog čega menadžer često mora donositi odluke u realnom vremenu i prilagođavati se promjenjivim okolnostima. Finansijsko upravljanje predstavlja jedan od ključnih elemenata nakon definisanja svrhe i koncepta – ukoliko ideje nisu finansijski održive, potrebno ih je pravovremeno prilagoditi ili odbaciti. Takođe, vrijeme održavanja ima značajan uticaj na uspješnost događaja. Potrebno je uzeti u obzir godišnje doba, dan u sedmici, dio dana i trajanje događaja, kao i moguće vremenske nepogode koje mogu uticati na posjećenost i realizaciju. Iskusan organizator planira u skladu s klimatskim uslovima i vodi računa o drugim događajima koji bi mogli uticati na broj posjetilaca.

Organizacioni tim i saradnici imaju važnu ulogu u razvoju i realizaciji koncepta. Efikasna podjela zadataka, adekvatna obuka zaposlenih i angažovanje kreativnih pojedinaca ključni su za uspjeh. Menadžer treba omogućiti članovima tima da iznesu ideje i aktivno učestvuju u procesu donošenja odluka. Kada menadžment sastavlja tim i dodjeljuje mu odgovornost za cijeli proces, mora mu takođe dati i slobodu donošenja odluka potrebnih za izvršenje procesa. U fazi analize koncepta menadžer mora razmotriti i konkurenciju, regulatorne okvire, marketinške aktivnosti, uticaj na zajednicu, rizike, kao i odnos prihoda i troškova. Kada su svi ovi elementi usklađeni, može se govoriti o visokoj vjerovatnoći uspješne realizacije događaja i efikasnom poslovanju. Razvoj društva uslovio je i promjene u profilu lidera i menadžera, koji su se kontinuirano prilagođavali unutrašnjim i vanjskim uslovima poslovanja. Brojni korporativni skandali (npr. utaja porea u Enronu, skandali s penzijama Philipa Greena i Roberta Maxwella, bankarska kriza 2010. godine (Zhao i Qinghua 2014), kao i klimatska kriza 2022. godine) narušili su povjerenje javnosti u poslovne lidere. Danas su lična prisutnost, vidljivost i mentalna otpornost važni faktori uspješnog menadžmenta. U novijem periodu sve veći značaj imaju kontekstualni faktori koji utiču na razvoj liderskih sposobnosti, među kojima su:

- pritisak na povećanje profitnih marži,
- konkurencija na svim nivoima (lokalnom, nacionalnom i međunarodnom),
- veći fokus na raznolikost i inkluziju,
- ubrzan razvoj tehnologije i tempo promjena,
- produženo radno vrijeme i potreba za balansiranjem poslovnog i privatnog života,
- potreba za kreativnim i inovativnim rješenjima složenih poslovnih problema.

Menadžment događaja kontinuirano se razvija pod uticajem tehnološkog napretka i sve većeg naglaska na održivosti, što zahtijeva jasnu sistematizaciju i pojednostavljenje organizacionih procesa (Navickas i Malakauskaitė 2007, 93). U tom kontekstu, na efikasnost poslovanja unutar događaja utiče niz faktora, uključujući kreativnost, ljudske resurse, organizaciju, kvalitet menadžmenta, primjenu tehnologije, marketing i sigurnosne aspekte.

3. METODOLOGIJA ISTRAŽIVANJA

Cilj ovog rada jeste utvrditi na koji način menadžeri, a na koji ljudski potencijal procjenjuju efikasnost poslovanja na događajima.

Problem istraživanja odnosi se na ispitivanje razlika u percepciji efikasnosti poslovanja između menadžera i zaposlenih, kao i na analizu njihovih stavova u odnosu na dužinu radnog staža. Predmet istraživanja čine upravo stavovi ove dvije grupe o efikasnosti poslovanja na događajima. Uzorak obuhvata dvadeset tri menadžera i dvadeset četiri zaposlenika (ljudski potencijal) s područja regije Banje Luke.

U istraživanju su primijenjene metode teorijske analize i sinteze, deskriptivna (survey) metoda, kao i statističke kvantitativne metode. Korišćena je i tehnika skaliranja, odnosno procjenjivanja. Polazna pretpostavka istraživanja jeste da primjena različitih poslovnih događaja u savremenom poslovnom okruženju doprinosi većoj efikasnosti poslovanja.

Tokom istraživanja primijenjeno je više statističkih postupaka usmjerenih na analizu stavova menadžera i zaposlenih. Organizacija i realizacija poslovnih događaja zahtijevaju visok nivo odgovornosti, razvijenu komunikaciju, kvalitetne međuljudske odnose, kontinuirano istraživanje i promišljanje, kao i uvažavanje i podršku idejama svih članova tima.

U analitičkom dijelu najprije su obrađene mjere deskriptivne statistike kako bi se utvrdile osnovne tendencije dobijenih rezultata. Nakon toga je izvršena provjera odstupanja distribucija u odnosu na normalnu raspodjelu, a zatim je analiziran stepen saglasnosti između menadžera i zaposlenih u procjeni efikasnosti poslovanja na događajima. Na osnovu dobijenih rezultata izvedeni su odgovarajući zaključci.

Cilj testiranja bio je utvrditi da li postoji statistički značajna razlika u percepciji efikasnosti poslovanja na događajima između menadžera i ljudskog potencijala (zaposlenih).

Tabela 1. Provjera značajnosti razlika u procjeni menadžer – ljudski potencijal putem T testa o efikasnosti poslovanja na događaju.

Status	N	M	SD	t - test	df	Sig.
Ljudski potencijal	24	40,59	3,28			
Menadžeri	23	37,07	3,70	3,38	45	0,001**

****Utvrdjena statistički razlika na nivou 0,01**

- Prosječne vrijednosti (M):
 - Zaposleni (ljudski potencijal): 40,59
 - Menadžeri: 37,07

Zaposleni imaju pozitivniji stav o efikasnosti poslovanja na događaju u poređenju sa menadžerima.

- Standardna devijacija (SD):
 - Obe grupe imaju relativno slične varijacije (3,28 naspram 3,70), što znači da su odgovori unutar grupa relativno ujednačeni.
- t-vrijednost:
 - $t = 3,38$ pokazuje veličinu razlike u srednjim vrijednostima, uzimajući u obzir varijaciju i veličinu uzorka.
- p-vrijednost (Sig.):
 - $p = 0,001$, što je značajno na nivou 0,01 (ili 1%). To znači da postoji vrlo mala vjerovatnoća (0,1%) da je ovakva razlika nastala slučajno.
- df (stepeni slobode):
 - $df = 45$, što odgovara ukupnom broju ispitanika minus 2 ($N_1 + N_2 - 2$), što potvrđuje da je korišćen nezavisni t-test za dvije grupe.

Postoji statistički značajna razlika u stavovima između menadžera i zaposlenih o efikasnosti poslovanja na događaju. Zaposleni ocenjuju efikasnost značajno pozitivnije od menadžera. Pošto je $p < 0,01$, ova razlika se ne može pripisati slučajnosti, već ukazuje na sistemski različita viđenja između ove dvije grupe. Zaposleni mogu biti motivisaniji, optimističniji ili direktno uključeni u aktivnosti na događaju, pa ih ocenjuju efikasnijim. Menadžeri, sa druge strane, mogu imati

viši nivo kriterijuma za efikasnost ili bolje uvide u širu sliku (resurse, troškove, strategiju), zbog čega su oprezniji u oceni.

Tabela 2. Stavovi menadžera o efikasnosti poslovanja na događaju u odnosu na godine radnog staža.

STAVOVI O:	Godine radnog staža	N	M	SD	F	df	Sig.
Efikasnost poslovanja na događaju	Do 10 godina	17	42,88	2,74	1,06	2	0,344
	Od 10 do 20 godina	20	41,24	4,62			
	Od 20 do 30 godina	10	43,21	4,69			

Srednje vrednosti (M) pokazuju sledeće:

- Menadžeri sa do 10 godina radnog staža ocenjuju efikasnost sa prosekom 42,88.
- Menadžeri sa 10 do 20 godina imaju prosečnu ocenu 41,24.
- Menadžeri sa 20 do 30 godina imaju najvišu prosečnu ocenu 43,21.
- Može se primijetiti da su stavovi menadžera sa najdužim radnim stažom nešto pozitivniji, ali razlike nisu velike.
- Standardne devijacije (SD) pokazuju varijabilnost u ocenama unutar svake grupe:
 - Menadžeri sa kraćim stažom (do 10 godina) imaju manju varijaciju (2,74).
 - Ostale grupe imaju veću varijaciju (oko 4,6-4,7).
- ANOVA test ($F = 1,06$) koristi se za proveru da li postoji značajna razlika između prosečnih ocena u tri grupe.
- P-vrednost ($\text{Sig.} = 0,344$):
 - Budući da je p-vrednost veća od standardne granice značajnosti od 0,05, ne postoji statistički značajna razlika u ocenama efikasnosti među grupama menadžera sa različitim radnim stažem.

Iako prosečne ocene pokazuju blage razlike u stavovima o efikasnosti poslovanja na događaju u zavisnosti od radnog staža menadžera te razlike nisu statistički značajne. Drugim riječima, godine radnog staža nemaju značajan uticaj na stavove menadžera o efikasnosti poslovanja na događaju. Najpozitivniji stavovi su kod menadžera sa najdužim radnim stažom, ali razlika nije dovoljna da bi se smatrala relevantnom sa statističkog aspekta.

Novi modeli i vidovi poslovanja se moraju dobro osmisli i funkcionalno koristi u poslovnim poduhvatima. Na osnovu ovoga dolazi se do zaključka da:

„Znanje da se riješi efikasan posao predstavlja najbolju karakteristiku u poslovnom svijetu“ (Puji i Setiawan 2020, 297).

ZAKLJUČAK

Efikasnost poslovanja u menadžmentu poslovnih događaja zavisi od integrisanog pristupa koji uključuje usvajanje relevantnih znanja, kreativnost, organizacijske sposobnosti i efikasnu komunikaciju. Rezultati istraživanja pokazuju da postoji značajna razlika u percepciji efikasnosti poslovanja između menadžera i zaposlenih – zaposleni daju pozitivniju ocjenu efikasnosti događaja, dok menadžeri, imajući širu sliku odgovornosti i rizika, izražavaju nešto oprezniji stav. Ipak, godine radnog staža menadžera ne utiču značajno na njihove stavove o efikasnosti poslovanja, što ukazuje da iskustvo nije presudan faktor u percepciji efikasnosti, već su ključni drugi elementi kao što su komunikacija, upravljanje resursima i sposobnost prilagođavanja.

Efikasno poslovanje u okviru događaja zahtijeva pažljivo planiranje, balansiranje između kreativnosti i praktičnosti, kao i efikasnu koordinaciju tima. Menadžeri u ovom procesu igraju ključnu ulogu, odgovorni su za donošenje strateških odluka, upravljanje rizicima i osiguravanje finansijske održivosti događaja. Takođe, neophodno je kontinuirano prilagođavanje novim tehnologijama, tržišnim uslovima i zahtjevima publike, uz poseban fokus na sigurnost i održivost.

Sve navedeno potvrđuje da je efikasan menadžment poslovnih događaja kompleksan i multidimenzionalan proces, u kome znanje i inovativnost predstavljaju ključne faktore uspjeha. Stoga, usvajanje savremenih menadžerskih modela i primjena integrisanih komunikacionih strategija doprinose postizanju optimalne efikasnosti poslovanja, što je od velike važnosti za održivi razvoj i konkurentnost u sektoru poslovnih događaja.

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EFFICIENCY OF BUSINESS OPERATIONS IN EVENT MANAGEMENT

Summary: *Modern models of efficient business are based on the adoption of practical knowledge that fully engages intellectual capacities.*

When it comes to efficient business operations, it is important to understand that it is not enough to simply offer a product and make it available on the market. It is necessary to develop its brand and bring it closer to the target audience through various communication channels. This includes cooperation with the media, an active presence on the internet and social networks, as well as participation in trade fairs, conferences, and other business events, with the aim of improving the promotion of products or services.

Key words: *events, management, business efficiency*

JEL classification: *M10, M12*

INTRODUCTION

Every manager encounters a variety of business tasks throughout their work. Their primary role in management is reflected in the application of knowledge, skills, and techniques to project activities in order to achieve organizational goals. Business success depends on meeting deadlines, adhering to the available budget, achieving the desired level of quality, as well as on numerous additional factors. Effective communication is particularly important, along with efficient management of all stakeholders and active participation in decision-making processes that influence business outcomes. In this context, the manager plays a key leadership role in guiding team members and employees toward achieving common objectives. It is essential for a manager to possess a clear vision and the ability to optimally allocate resources, while also assuming significant responsibility.

Strategic leadership implies a clearly defined intent and the ability to influence others through decision-making. The purpose of the organization and the leadership style applied are crucial for achieving set goals. The environment in which an organization operates can be observed at two levels—external (macro) and internal (micro), with macro-environmental factors significantly influencing the micro-environment.

Various tools are used to analyze the external environment, including PESTLE analysis (political, economic, sociological, technological, legal, and environmental factors), the PRIMO-F model (people, resources, innovation, marketing, operations, and finance), and SWOT analysis (strengths, weaknesses, opportunities, and threats).

In modern business, as well as in management in general, managers and their teams play an extremely important role. The manager's task is to ensure the smooth execution of activities, optimal use of resources, achievement of profit, and a high level of participant satisfaction, as they represent the central element of every business event. For this reason, event organization is a far more complex process than it may initially appear. Special attention must be paid to financial management, as it represents one of the greatest challenges—events often involve high costs within a short period, while revenues and profits are largely associated with risk.

1. EVENTS AND MANAGEMENT

Authors most often describe events as unique life experiences that occur once in a lifetime or, at most, once a year. They are characterized by a high level of risk, short duration, but also by a long-term and carefully managed planning process. Most events are organized months, or even years, in advance, depending on their size and complexity (Judith 2012, 137).

According to their size, events can be categorized into mega-events, which are oriented toward the international market and have a significant impact on tourism, media, and the economy; regional events, which aim to increase the attractiveness of a particular area for tourists; and major and smaller events that are held more frequently, stimulate local community interest, and attract a larger number of domestic participants. In addition, events can be classified by type, including sports events, entertainment activities, art and cultural manifestations, commercial and promotional events, business meetings, festivals, family gatherings, and other forms. Due to this diversity, the decision-making process and the responsibility of managers are of particular importance. Managers must possess strong analytical skills and the ability to respond calmly, as well as build a competent team of associates who will contribute to the successful implementation of planned activities. Cooperation between organizers and managers is essential to reduce risks and avoid unforeseen situations.

In contemporary conditions, there is a growing interest among educators, researchers, and governments in understanding the impact and legacy of events on economic, cultural, and social development.

Every form of communication has a specific purpose, and marketing communication in the context of events plays an exceptionally important role. It should inform, remind, motivate, and persuade the target audience. These functions relate to specific questions and answers directed toward defined target groups addressed by the organization.“ (Ziakas i Boukas 2014, 58). In modern society, marketing communication is omnipresent and significantly influences everyday decision-making, often without individuals being fully aware of it.

Events bring together large numbers of people within limited spaces and, as such, have the potential to exert a significant impact on various aspects of society (Reid i Ritchie 2011, 334).

All management and communication activities should be integrated into a coherent and functional whole known as integrated marketing communication. It represents the integration of various communication functions and tools in order to achieve a unified marketing approach, as well as the planning and implementation of different forms of communication aimed at achieving common communication and/or sales objectives, supporting a clear positioning of a brand, service, or institution.

As in classical management, planning is the starting point in marketing as well. For marketing communication to be effective, it is necessary to define a clear plan for its implementation and the objectives to be achieved. However, in practice, marketing is often not given sufficient time and resources, despite its crucial role in promoting business events. One of the issues that will increasingly gain importance in the future of event management is the safety and security of participants across all types of events.

2. BUSINESS EFFICIENCY

Creativity and practicality represent key elements of a successful event concept and design. Managers are required to align clients' ideas and expectations with audience needs, as well as with contemporary business standards. „Although creative inspiration is absolutely essential, it is also important to understand that innovative ideas must be practical due to constraints imposed by costs, the event venue, and security issues. The client's taste can represent an additional limitation to creativity“ (Mouzas 2006, 1127). When developing a concept, it is necessary to consider a range of factors, including the purpose and theme of the event, the target audience, available resources, the time frame, and the capacities of the management team. The theme and purpose must be aligned and consistently implemented across all elements of the event. Themes may vary—sports, artistic, historical, cultural, gastronomic, or business—while particular attention must be paid to audience and client expectations, as well as budget constraints.

The choice of event location should be adapted to accessibility and cost considerations, taking into account several criteria: functionality of the venue, surroundings, geographical location, availability of public transportation, parking capacity, size and technical characteristics of the space, as well as costs of setup, operational expenses, catering organization, and security aspects.

Before finalizing the concept, it is essential to consider the needs of all participants. Each audience has specific requirements, which often requires the manager to make decisions in real time and adapt to changing circumstances. Financial management is one of the key elements after defining the purpose and concept—if ideas are not financially viable, they must be promptly adjusted or discarded. Time is also a critical factor influencing the success of an event. It is necessary to consider the season, day of the week, time of day, and event duration, as well as potential weather conditions that may affect attendance and implementation. An experienced organizer plans in accordance with climatic conditions and takes into account other scheduled events that could influence visitor turnout.

The organizational team and collaborators play an important role in the development and implementation of the concept. Effective task allocation, adequate staff training, and the engagement of creative individuals are essential for success. The manager should enable team members to present their ideas and actively participate in decision-making processes. „When management forms a team and assigns it responsibility for the entire process, it must also grant it the freedom to make the decisions necessary for execution“. In the concept analysis phase, the manager must also consider competition, regulatory frameworks, marketing activities, community impact, risks, as well as the balance between revenues and costs. When all these elements are aligned, a high likelihood of successful event implementation and efficient business performance can be achieved.

The development of society has also led to changes in the profile of leaders and managers, who have continuously adapted to internal and external business conditions. Numerous corporate scandals (e.g., tax evasion in Enron, pension scandals involving Philip Green and Robert Maxwell, the banking crisis of 2010 (Zhao i Qinghua 2014), as well as the climate crisis of 2022) have undermined public trust in business leaders. Today, personal presence, visibility, and mental resilience are important factors influencing successful management. In recent years, contextual factors have increasingly shaped leadership capabilities, including:

- pressure to increase profit margins,
- competition at all levels (local, national, and international),
- a greater focus on diversity and inclusion,
- rapid technological development and the pace of change,
- extended working hours and the need to balance work and private life,
- the need for creative and innovative solutions to complex business problems.

Event management continues to evolve under the influence of technological advancement and an increasing focus on sustainability, which requires clear systematization and simplification of organizational processes (Navickas i Malakauskaitė 2007, 93). In this context, the efficiency of business operations within events is influenced by a range of factors, including creativity, human resources, organization, management quality, the application of technology, marketing, and security aspects.

3. RESEARCH METHODOLOGY

The aim of this paper is to determine how managers and human resources (employees) evaluate the efficiency of business operations at events.

The research problem focuses on examining differences in the perception of business efficiency between managers and employees, as well as analyzing their attitudes in relation to years of work experience. The subject of the research consists of the attitudes of these two groups regarding the efficiency of business operations at events. The sample includes twenty-three managers and twenty-four employees (human resources) from the Banja Luka region.

The study applies methods of theoretical analysis and synthesis, a descriptive (survey) method, and statistical quantitative methods. A scaling (evaluation) technique was also used. The initial assumption of the research is that the application of various business events in the modern business environment contributes to greater operational efficiency.

During the research, several statistical procedures were applied, all aimed at analyzing the attitudes of managers and employees. The organization and implementation of business events require a high level of responsibility, effective communication, strong interpersonal relationships, continuous research and critical thinking, as well as respect for and support of the ideas of all team members.

In the analytical part, measures of descriptive statistics were first applied to determine the main tendencies of the obtained results. This was followed by testing the deviation of distributions from normality, and then by analyzing the level of agreement between managers and employees in assessing the efficiency of business operations at events. Based on these findings, appropriate conclusions were drawn.

The objective of the testing was to determine whether there is a statistically significant difference in the perception of business efficiency at events between managers and human resources (employees).

Table 1. Test of significance of differences in assessment between managers and human resources using the T-test on business efficiency at events (Authors)

Status	N	M	SD	t - test	df	Sig.
Human resources	24	40,59	3,28			
Managers	23	37,07	3,70	3,38	45	0,001**

****Statistically significant difference established at the 0.01 level**

- Average values (M):
 - Employees (human resources): 40.59
 - Managers: 37.07

Employees have a more positive attitude towards business efficiency at events compared to managers.

- Standard deviation (SD):
 - Both groups show relatively similar variation (3.28 vs. 3.70), indicating consistent responses within groups.
- t-value:
 - $t = 3.38$ indicates the magnitude of difference between means, considering variation and sample size.

- p-value (Sig.):
 - $p = 0.001$, significant at the 0.01 level (or 1%). This means there is a very low probability (0.1%) that this difference occurred by chance.
- Degrees of freedom (df):
 - $df = 45$, which corresponds to the total number of respondents minus 2 ($N1 + N2 - 2$), confirming the use of an independent t-test for two groups.

There is a statistically significant difference in attitudes between managers and employees regarding business efficiency at events. Employees rate efficiency significantly more positively than managers. Since $p < 0.01$, this difference cannot be attributed to chance, indicating systematically different perceptions between the two groups. Employees may be more motivated, optimistic, or directly involved in event activities, hence their more positive ratings. Managers, on the other hand, may have higher criteria for efficiency or better insight into the bigger picture (resources, costs, strategy), leading to more cautious assessments.

Table 2. Managers' attitudes about business efficiency at events in relation to years of work experience (Authors)

ATTITUDES:	YEARS OF WORK EXPERIENCE	N	M	SD	F	df	Sig.
Business efficiency at events	up to 10 years	17	42,88	2,74	1,06	2	0,344
	from 10 do 20 years	20	41,24	4,62			
	from 20 do 30 years	10	43,21	4,69			

- Mean values (M) show the following:
 - Managers with up to 10 years of work experience rate efficiency at 42.88 on average.
 - Managers with 10 to 20 years have an average score of 41.24.
 - Managers with 20 to 30 years have the highest average score of 43.21.
- It can be observed that managers with the longest work experience have somewhat more positive attitudes, but the differences are small.
- Standard deviations (SD) show variability in ratings within each group:
 - Managers with shorter experience (up to 10 years) have lower variation (2.74).
 - Other groups show higher variation (around 4.6-4.7).
- ANOVA test ($F = 1.06$) was used to check for significant differences between average ratings across the three groups.
- p-value (Sig. = 0.344):
 - Since the p-value is greater than the standard significance level of 0.05, there is no statistically significant difference in efficiency ratings among manager groups with different work experience.

Although mean scores show slight differences in attitudes towards business efficiency at events depending on managers' work experience, these differences are not statistically significant. In other words, years of work experience do not significantly influence managers' attitudes about business efficiency at events. The most positive attitudes are found among managers with the longest work experience, but the difference is not statistically relevant.

New business models and approaches must be well conceived and functionally applied in business ventures. Based on this, the conclusion is reached that: "Knowledge to perform efficient business represents the best characteristic in the business world" (Puji and Setiawan 2020, 297).

CONCLUSION

Business efficiency in event management depends on an integrated approach that includes acquiring relevant knowledge, creativity, organizational skills, and effective communication. The

research results show a significant difference in the perception of business efficiency between managers and employees—employees tend to give a more positive evaluation of event efficiency, while managers, having a broader view of responsibilities and risks, express a somewhat more cautious stance. However, managers' years of work experience do not significantly influence their attitudes toward business efficiency, indicating that experience is not the decisive factor in efficiency perception; rather, key elements such as communication, resource management, and adaptability play a more crucial role.

Efficient business operations within events require careful planning, balancing creativity with practicality, as well as effective team coordination. Managers play a key role in this process, being responsible for making strategic decisions, managing risks, and ensuring the financial sustainability of the event. It is also essential to continuously adapt to new technologies, market conditions, and audience demands, with a special focus on safety and sustainability.

All of the above confirms that efficient event management is a complex and multidimensional process in which knowledge and innovation represent the key factors for success. Therefore, adopting modern management models and applying integrated communication strategies contribute to achieving optimal business efficiency, which is of great importance for sustainable development and competitiveness in the business events sector.

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PREGLEDNI RADOVI
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RAČUNOVODSTVO U FUNKCIJI JAVNOG INTERESA: IZAZOVI INKLUZIVNOSTI I RIZICI MARGINALIZACIJE

Rezime: Tradicionalni tretman računovodstva zasniva se na shvatanju računovodstva kao neutralne discipline usmjerene isključivo na problematiku tehničke ispravnosti i usklađenosti s regulatornim okvirima. U novije vrijeme, međutim, sve su glasnije diskusije o ulozi koju računovodstvo ima u domenu oblikovanja društvenih odnosa i kreiranja strukturalnih nejednakosti. S tim u vezi, u ovom radu se istražuje koncept računovodstva fokusiranog na javni interes, kroz ukazivanje na mogućnosti i načine pomoću kojih računovodstvene prakse mogu doprinijeti inkluziji različitih društvenih grupa ili nasuprot tome, njihovoj marginalizaciji kroz normative standarde, načine izvještavanja i narative u finansijskim izvještajima te institucionalne mehanizme. Slijedeći ta nastojanja, cilj rada je da se, kroz fokus na relevantne radove u ovom području, prezentuju različiti zaključci do kojih su došli autori u svojim istraživanjima. Predmet analize je identifikacija oblasti u kojima savremeno računovodstvo nedovoljno uzima u obzir interese socijalno ranjivih grupa, poput etničkih manjina, siromašnih zajednica, žena, osoba s invaliditetom i starijih građana i determinisanje pristupa koji bi mogli doprinijeti prevazilaženju ovih nedostataka. U radu su korišćene naučne metode deskripcije i kompilacije u svrhu isticanja osnovnog cilja rada koji se ogleda u ukazivanju na potencijal transformacije računovodstva iz alata upotrebljavanog isključivo u svrhu poslovanja, u mehanizam koji aktivno doprinosi stvaranju okruženja socijalne pravednosti i inkluzivnog razvoja, s jedne strane, odnosno akademski korektnog prezentovanja tuđih zaključaka i spoznaja, s druge strane. Rezultati istraživanja upućuju na potrebu uvođenja šireg pogleda u obrazovanje računovođa, kao i redefinisiranja standarda izvještavanja i regulatornih okvira, a sve u cilju osposobljavanja računovodstva da uistinu služi javnom interesu

Ključne riječi: javni interes, inkluzivnost, marginalizacija, socijalna pravda, rodna ravnopravnost

JEL klasifikacija: M 41, M 51

UVOD

Kao profesionalna disciplina i sistem informacija, računovodstvo igra ključnu ulogu u funkcionisanju savremenih ekonomija i institucija. Njegova primarna svrha, tradicionalno shvaćena kao evidentiranje, klasifikovanje i izvještavanje o finansijskim tokovima, proširena je u savremenom kontekstu u kojem se sve više prepoznaje značaj računovodstva u ostvarivanju javnog interesa. Govoriti o javnom interesu u računovodstvu podrazumijeva, prije svega, zahtijevati od profesije da služi širem društvenom cilju, a ne isključivo ekonomskim interesima pojedinaca. Ovim se računovođe moralno obavezuju da u profesionalnom radu poštuju i primjenjuju principe integriteta, objektivnosti, profesionalne kompetentnosti, povjerljivosti i profesionalnog ponašanja. Profesionalna etika u računovodstvu naglašava očuvanje povjerenja javnosti i ravnotežu između tehničke ispravnosti i društvene odgovornosti. U tom kontekstu, koncept raču-

novodstva u javnom interesu podrazumijeva odgovorno i etički utemeljeno računovodstvo koje ne zanemaruje potrebe različitih zainteresovanih strana poput građana, zajednica, nevladinih organizacija i drugih marginalizovanih grupa, koje često ostaju van dominantnih ekonomskih diskursa. Upravo to je i razlog zbog kojeg u računovodstvenoj praksi vrlo često dolazi do „konflikta“ između inkluzivnosti i marginalizacije. Marginalizacija se pojavljuje u različitim oblicima, poput isključivanja iz stručnog ili visokog obrazovanja, prepreka u zapošljavanju, odnosno profesionalnom napredovanju ili nejednake zastupljenosti u upravljačkim strukturama ljudi s poteškoćama u učenju, pripadnika određenih etničkih grupa, žena, ljudi sa specifičnom seksualnom orijentacijom, kulturnom pozadinom ili socioekonomskim statusom. Od inkluzivnosti se očekuje da na prvom mjestu ukaže na evidentno postojanje marginalizacije, a onda i da probije i pobriše pomenute barijere kroz donošenje strategija koje će omogućiti prepoznavanje prava i potreba marginalizovanih grupa te njihovo aktivno uključivanje u računovodstvene poslove i procese. Na osnovu prethodno iznesenog definisani su predmet i cilj istraživanja koji se odnose na identifikaciju i deskripciju računovodstva kao društveno odgovorne profesije, odnosno analizu računovodstva kao mogućeg instrumenta društvene inkluzije, ali i mehanizma koji, ako se koristi selektivno ili neetički, može podržati ili skriti marginalizaciju. Realizacija postavljenog cilja istraživanja ostvarena je primjenom metode analize sekundarnih izvora koja je uključivala pregled relevantne domaće i međunarodne literature, stručnih članaka, zakona, izvještaja regulatornih tijela (poput IFAC, IESBA, IASB) i profesionalnih etičkih standarda te sistematsku analizu literature o savremenim istraživanjima u računovodstvu usmjerenima na marginalizovane društvene grupe s posebnim fokusom na žene, kroz prizmu rodne raznolikosti, jednakosti i uključivosti. Istraživanje je pokazalo da, iako je koncept računovodstva u javnom interesu prepoznat od strane profesije, njegova stvarna primjena ostaje ograničena nizom prepreka – od nedovoljno razvijenog regulatornog okvira, preko komercijalnih pritisaka, do slabe uključenosti izučavanja profesionalne etike u predmetnim kurikulumima visoko obrazovnih institucija. Uočena je i jasna potreba za jačanjem institucionalne i obrazovne podrške u cilju afirmacije profesionalnih vrijednosti koja nadilaze isključivo komercijalne interese. Računovodstvo, kao profesija od povjerenja, mora da djeluje u funkciji zaštite šire društvene zajednice, kroz poštovanje najviših standarda integriteta, odgovornosti i transparentnosti. S obzirom na to da je pojam javnog interesa fokusiran na pitanja inkluzivnosti i marginalizacije u računovodstvu, u odjeljku koji slijedi najprije je izvršena analiza referentne literature koja se bavi navedenim pitanjima. U drugom odjeljku analizirana je problematika društveno odgovornog računovodstva, dok se treći odjeljak bavi pitanjem rodne ravnopravnosti koja može biti posmatrana i kao element inkluzije, ali i kao element marginalizacije u računovodstvenoj profesiji. Na kraju, u zaključku, istaknuti su problemi koji dovode do marginalizacije i predstavljeni prijedlozi za eventualne pravce djelovanja, koji bi mogli dovesti do pravedne inkluzije i pozitivne javne uloge u društvu, koja se od računovodstva, kao odgovorne i značajne profesije u suštini i očekuje.

1. PREGLED LITERATURE

Iako prepoznato kao profesionalna praksa koja od računovođa zahtijeva da svoje profesionalne obaveze obavljaju nezavisno, objektivno i u skladu s etičkim načelima, čak i u situacijama kada to nije u interesu njihovih klijenata, istraživanja su pokazala da ekonomski poticaji i profesionalni interesi vrlo često imaju prednost nad javnim interesom računovodstva. Pojedini autori (Dellaportas and Davenport 2008, 1089) izvijestili su da iako računovođe mogu navesti formalne definicije javnog interesa, njihova praktična primjena je nedosljedna, pri čemu u konfliktnim situacijama često prevladava vlastiti interes. U literaturi se često ukazuje na postojanje trajne napetosti između komercijalnih imperativa i profesionalne odgovornosti prema javnom interesu. Tako su neki autori (Desai and Dharmapala 2006, 177) u svom istraživanju identifikovali sve učestalije postojanje aktivnosti izbjegavanja plaćanja poreza i njihovog povećanog uticaja na

donošenje finansijskih odluka u kompanijama, dok neki autori (Sikka and Willmott 2010, 353) naglašavaju da korišćenje transfernih cijena u svrhu izbjegavanja plaćanja poreza predstavlja veliki izazov u ponašanju kao društveno odgovorne organizacije. „Takvi sukobi iznova naglašavaju ulogu stručnjaka i računovodstvenih tehnika u oblikovanju raspodjele dohotka i bogatstva.“ Istovremeno, neka istraživanja (Parker 2005, 845) ukazuju na rastući fokus računovodstvene i porezne profesije na društvenu odgovornost, transparentnost i služenje javnom interesu. U tom kontekstu, savremeni trendovi sugeriraju postepeni pomak od uskog fokusa na interese klijenata ka širem pristupu koji uključuje potrebe različitih zainteresovanih strana. S tim u vezi, novija literatura sve više prepoznaje pomak ka jačanju profesionalne odgovornosti i naglašavanju uloge javnog interesa, posebno kroz regulatorne inicijative i rastuću društvenu pažnju usmjerenu na etiku i transparentnost u poreskoj praksi. Sjarlis et al. (2018, 377) dokumentovali su kako upravljački, politički i interesi privatnog sektora mogu dominirati ili nadjačati javnu dobrobit u provođenju računovodstvenih reformi. Sawabe (2005, 634) smatra da kada preovlada shvatanje da su privatni i javni interes povezani, odnosno da možda i nisu nezavisni jedan od drugoga i da svako od nas pojedinačno u stvari čini javnost, tada bi se moglo tvrditi da se javni interes ponekad nalazi u individualnim preferencijama. Canning and O'Dwyer (2001, 726), ističu da se javni interes i propratna briga za odgovornost i transparentnost koriste samo kao prikladan mehanizam za izbjegavanje kritike i državne regulacije od strane članova struke. Sikka et al. (1989, 65) pružili su dokaze da disciplinskim i regulatornim mehanizmima, odnosno strukovnim udruženjima često nedostaje transparentnosti, odgovornosti i pravednosti, kako bi služili zaštiti profesionalnih interesa. Autori smatraju da administrativnu nesposobnost, kako je nazivaju, treba tumačiti kao simptom, a ne uzrok njihove nesposobnosti da služe javnom interesu, osim u slučajevima kada je potrebno zaštititi vlastite sektorske interese. Huber (2015, 269) smatra da je javni interes mit stvoren s ciljem prikrivanja činjenice da profesionalno računovodstvo, državna i privatna regulatorna i standardizacijska tijela, zapravo, služe i štite interes tržišta, a nikako interes javnosti. Problematika inkluzivnosti u računovodstvenoj profesiji uslovljena je postojanjem sistemskih, organizacijskih i kulturnih barijera koje uzrokuju nedovoljnu participaciju pripadnika rasnih i etničkih manjinskih grupa, osoba s invaliditetom i žena u obrazovnom procesu i vršenju visoko pozicioniranih liderskih funkcija. Problematiku inkluzivnosti moguće je sintetizovati iz tri ugla posmatranja: (1) obrazovna inkluzivnost i pedagoški pristupi, (2) profesionalna različitost i zastupljenost i (3) organizacijsko upravljanje i izvještavanje o raznolikosti. Musundwa (2025, 913) je identifikovao problem crnih afričkih studenata u južnoafričkom računovodstvenom obrazovanju koji se suočavaju s izazovima vezanim uz socijalizaciju, identitet i pismenost, pri čemu sistematski nedostaci u vještinama računanja i pismenosti doprinose marginalizaciji. Kako bi se prebrodile ove prepreke studija preporučuje podsticanje prilagođene tehnike učenja usmjerene na studenta, stvaranje lične relevantnosti kroz povezivanje nastavnog sadržaja sa prethodnim znanjem i iskustvom studenata, poboljšanje vještina kritičkog razmišljanja, korišćenje fleksibilnih metoda ocjenjivanja, podsticanje uključivosti i izgradnju povezanog razumijevanja gradiva. Anderson-Gough et al. (2005,) konstatuju da su se, posmatrana u istorijskom kontekstu, osnovna načela uspjeha u računovodstvenoj karijeri zasnivala na sposobnosti uklapanja, iskazivanja etike napornog rada i davanja prioriteta potrebama klijenata, što predstavlja prakse koje su pogodovale napredovanju bijelih muškaraca kao idealnih radnika. Iako su uloženi napor za povećanje raznolikosti u profesijama u kojima dominiraju muškarci, kritičari su primijetili da takve inicijative ne dovode uvijek do značajnih promjena i mogu dodatno učvrstiti marginalni položaj manjinskih grupa (Ashcraft 2005, 69). Lodh and Nandy (2017, 344) sugeriraju da žene i osobe s invaliditetom imaju niže plate u poređenju s muškarcima i osobama bez invaliditeta. Diferencijalne stope plaćanja se upravo i primjenjuju kako bi se marginalizovali računovodstveni stručnjaci s invaliditetom. Osim toga, autori zaključuju da nedostatak sredstava u doba finansijskih kriza ograničava poslodavce u prilagođavanju računovođama s invaliditetom, zbog čega se identifikuje negativan trend rasta studenata s invaliditetom u visokom

obrazovanju iz računovodstva. Međunarodni okviri računovodstvenog obrazovanja i profesionalne kvalifikacije često nedovoljno adresiraju potrebe studenata iz marginalizovanih i ranjivih grupa, uključujući osobe s invaliditetom, etničke manjine i studente nižeg socio-ekonomskog statusa, čime se reprodukuju postojeće nejednakosti u pristupu računovodstvenoj profesiji. Abayadeera and Watty (2016) ističu postojanje jaza između očekivanja i uspješnosti u računovodstvenom obrazovanju, što ukazuje na to da diplomantima često nedostaju bitne generičke vještine potrebne za profesionalni uspjeh. Taj je jaz posebno problematičan za studente iz nepovoljnijih sredina, jer sistemi računovodstvenog obrazovanja imaju tendenciju naglašavati tehničke kompetencije, a zanemarivati širi razvoj vještina, čime se pojačavaju postojeće nejednakosti u pristupu profesiji. Slično tome, Guthrie and Parker (2016,4) u okviru kritičke literature o računovodstvenom obrazovanju ističu da dominantni profesionalni standardi mogu ograničiti inkluzivnost i održavati strukturne barijere za ulazak u profesiju. U skladu s tim, vrlo je važno integrisati inkluzivne pedagoške pristupe i prilagođavati kurikule kako bi se osiguralo ravnopravnije učešće različitih društvenih grupa u profesionalnom obrazovanju. Bujaki et al. (2020, 497-499) ispitivali su zastupljenost žena i nebijelih osoba u osam najvećih kanadskih firmi za javno računovodstvo. Istraživanje sugerira da u javnim računovodstvenim firmama možda postoji hijerarhija koja privileguje bijele muškarce, zatim bijele žene, a nakon njih nebijele osobe. Uprkos činjenici da čine gotovo polovinu zaposlenih, žene i nebijele osobe se tretiraju kao autsajderi s podređenim ulogama u računovodstvenim firmama, što implicira postojanje razlika u mogućnostima za napredovanje u karijeri. Put ka većem prihvatanju raznolikosti i uključivosti autori vide u jačanju svijesti o postojanju diskriminacije, stipendiranju određenih demografskih grupa kao podsticajem za pridruživanje profesiji, identifikovanju žena i nebijelaca kao uzora te predstavljanju slike profesije koja je u skladu s raznolikošću i uključivošću. Kugelberg (2006, 152) smatra da uprkos značajnom napretku u ekonomiji, tehnologiji, društveno-socijalnim pitanjima i politikama, poput one koja naglašava neophodnost rodne ravnopravnosti, rodna segregacija je još uvijek značajno prisutna i dominantna. Mehnaz and Yang (2025, 45,51) ističu da iako su prethodne studije pokazale da veća zastupljenost žena unaprijeđuje finansijske i nefinansijske performanse kompanija, njihovo prisustvo na različitim liderskim pozicijama poput menadžerskih, direktorskih, partnerskih, članova upravnih odbora i slično, je još uvijek na vrlo niskom nivou. Autori smatraju da problematika veće inkluzije žena na liderske pozicije u mnogim zemljama proizilazi i iz patrijarhalne kulture, koja ograničava žensku aktivnost i potencijal. S tim u vezi, naglašavaju da su mentorstvo, promocija bez predrasuda, politike prilagođene porodici, rodni ciljevi, progresivno zakonodavstvo (poput roditeljskog dopusta) i regulatorne smjernice za raznolikost u upravnom odboru načini za veći angažman žena kako na računovodstvenim, tako i na liderskim pozicijama. Marginalizacija u segmentu računovodstva, pak s druge strane, ne mora se manifestovati kroz otvorenu diskriminaciju. Tu se ponajprije radi o strukturalnom isključivanju i fokusu na ograničen spektar ekonomskih ciljeva. Hayes and Jacobs (2017, 567) su utvrdili da je na ulazak žena u anglo-australsku računovodstvenu profesiju uticala klasna i etnička pripadnost, pri čemu se žene koje nemaju dominantu britansku, bijelu, srednjo-klasnu pozadinu, suočavaju s velikim preprekama i poteškoćama u zapošljavanju. Ufodike (2025, 507) naglašava kako su zapadni računovodstveni standardi bili saučesnici u oduzimanju imovine i ugnjetavanju autohtonih naroda. Vidwans and De Silva (2023, 254) ističu ulogu računovodstva kao alata imperijalizma u post kolonijalnom periodu, koje je autohtone narode dovelo do njihovog potčinjavanja, marginalizacije i obespravljanja. Gallhofer et al. (1999, 799) kritikuju evropski usmjerenu prirodu računovodstvenog obrazovanja i prakse na Novom Zelandu, tvrdeći da te institucije podstiču marginalizaciju Maora nametanjem zapadnih vrijednosti i praksi. S tim u vezi, autori, između ostalog, sugeriraju da bi transformacija računovodstvenih obrazovnih institucija u smjeru većeg prihvatanja Maorske kulture mogla uticati na povećanje učešća Maora u računovodstvenom obrazovanju. Miley and Read (2018, 471) ističu kako je odsutnost ili neuspjeh računovodstvenih mehanizama, kroz neispunjavanje zakonom

definiranih računovodstvenih zahtjeva značajno doprinijelo kontinuiranoj stigmatizaciji i siromaštvu autohtonog australskog stanovništva. Marginalizacija, kao posljedica strukturalnih prepreka, bila je predmetom istraživanja nekolicine autora. Pa tako, Lombardi (2016) analizira dominaciju neautohtonih stručnjaka u računovodstvu. Jayasinghe and Thomas (2009, 374) konstatuju da uprkos značajnoj institucionalnoj podršci koju pružaju nevladine organizacije i država i značajno visokom nivou pismenosti, autohtone podređene grupe u Šri Lanki ne žele ili ne mogu promijeniti svoje računovodstvene prakse. Autori smatraju da je jedan od puteva za racionalnu transformaciju računovodstvenih sistema podređenih društava uključivanje fenomenološke analize svih prevladavajućih patronažnih političkih sistema koji dominiraju podređenim društvenim strukturama tokom vremena. Vezano za organizaciono upravljanje Khlif and Achek (2017, 629) identifikuju da zastupljenost žena u upravnim i revizijskim odborima te višem menadžmentu vodi ka konzervativnijem izvještavanju kroz povećani računovodstveni konzervativizam, većim fokusom na društveno i ekološko objavljivanje, manjom poreskom agresivnošću te manjim namjerama za počinjenje prevara u finansijskim izvještajima.

2. DRUŠTVENO ODGOVORNO RAČUNOVODSTVO

Računovodstvena struka se u zadnjih desetak godina našla na udaru kritika koje se pojavljuju zbog činjenice da računovodstvo ne ispunjava zadatke koji su mu namijenjeni, a odnose se na ulogu posrednika između ulagačke i neulagačke javnosti, s jedne strane, odnosno korporativnih preduzeća, s druge strane (Zhang and Andrew 2014). Ova posrednička uloga trebala bi biti takva da omogućiti računovodstvenoj struci da štiti i prijavljuje svako kršenje javnog interesa nastalog zbog cilja maksimiziranja bogatstva kojeg promovišu velika korporativna društva. S tim u vezi, od rada računovođa se u prvom redu očekuje da smanje, ako ne i potpuno ponište, informacijsku asimetriju za koju se pretpostavlja da je sadržana u finansijskim izvještajima. Generalno posmatrano, to bi značilo da takvi finansijski izvještaji trebaju uzeti u obzir interes javnosti. Slažući se s ovom tvrdnjom, Kaidonis (2008, 4) je izrazila mišljenje da je javni interes rijetko skup ideala i da mogu postojati konkurentski interesi (korporacija ili pojedinačnih dioničara). S tim u vezi, potrebno je naglasiti važnost prihvatanja službe javnom interesu, poštovanja javnog povjerenja i potpunog promovisanja profesionalnog ponašanja. Kada se sve ovo uzme u obzir postaje sasvim jasno zbog čega uloge i odgovornosti računovođa i računovodstvene struke postaju predmet interesovanja javnosti i rastu kako se u korporativnom poslovnom svijetu pojavljuju novi događaji i neuspjesi. Prema Tiron-Tudor (2013, 931) problemi u poslovanju i bankroti nekih velikih kompanija, koji su u nekim slučajevima bili uzrokovani lažnim ili izmišljenim finansijskim izvještajima, narušili su povjerenje javnosti ne samo u računovođe i revizore, već i u cijelu računovodstvenu profesiju. Mattli and Bütthe (2005, 419) upućuju kritike računovodstvenoj profesiji zbog činjenice da su računovodstveni i revizorski standardi isuviše subjektivni i kao takvi ne mogu reflektovati interese i vrijednosti šire društvene zajednice, čime se ozbiljno dovodi u pitanje društveni angažman računovodstva i time i sposobnost računovođa i revizora da rade i služe javnom interesu. S tim u vezi, autori naglašavaju moć koju pojedine grupe kompanija imaju u tradicionalnom političkom lobiranju, koje se proteže čak i do uticaja na Međunarodni odbor za standarde finansijskog izvještavanja (IASB) da „revidira svoje računovodstvene standarde u vezi s tretmanom transakcija devizama, preispita kadrovske odluke, promijeni svoja pravila glasanja i odustane od planova za knjiženje opcija na dionice kao troškove.“ Zbog obaveza koje proizilaze iz statusa krovne računovodstvene organizacije, IFAC je 2003. godine iznova razmotrilo svoje regulatorne odgovornosti s ciljem vraćanja povjerenja u računovodstvenu profesiju i jačanja vlastitog uticaja na stvaranje okruženja koje će omogućiti da računovodstvena struka zaista služi javnom interesu. S tim u vezi i u svrhu definisanja pojma javnog dobra, IFAC je kreiralo konceptualni okvir zasnovan na tri kriterija: (1) razmatranje troškova i koristi za društvo u cjelini, (2) poštovanje demokratskih načela i procesa i (3) poštovanje kulturne i

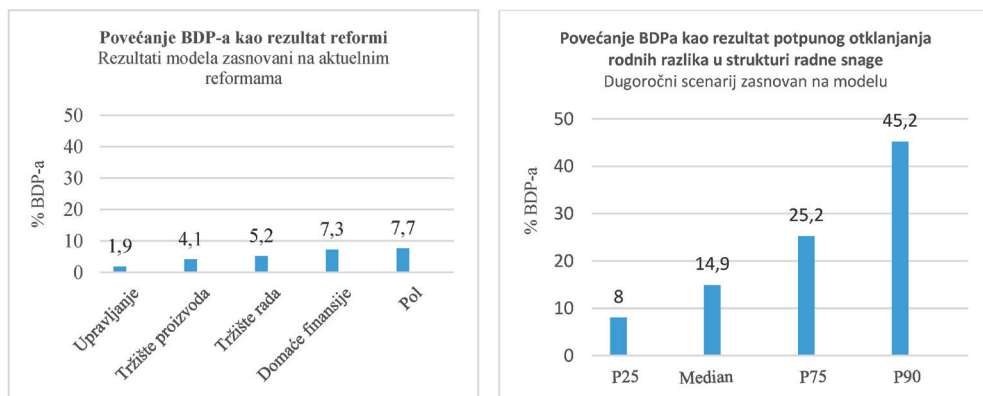
etničke raznolikosti (IFAC 2010, 4). Prvi kriterij zahtijeva procjenu javnog interesa posmatranog iz ugla pozitivnih i negativnih ishoda do kojih računovodstvena profesija dovodi utičući na ljude, organizacije, tržišta kapitala i vlade. Drugi kriterij zahtijeva da odluke ili akcije koje računovodstvena profesija donosi ili preduzima u javnom interesu moraju sadržavati sve elemente demokratskog procesa: kvalitet upravljanja, javno učešće i javnu odgovornost. Treći kriterij zahtijeva procjenu u kojoj mjeri je određeno pitanje ili politika od javnog interesa primjenjiva, uzimajući u obzir kulturološku i etničku diversifikaciju društvenih zajednica, pogotovo u situacijama kada kompanije internalizuju svoje poslovanje. IFAC smatra da realizacija zahtjeva koji se odnosi na javnu odgovornost računovodstvene profesije nije u potpunosti moguća bez preciznog definisanja šta se podrazumijeva pod pojmovima javnost i interes. Pojam „javnost“ obuhvata sve korisnike finansijskih informacija i donosiocce odluka u lancu finansijskog izvještavanja: računovođe koje sastavljaju finansijske izvještaje, upravne odbore kompanija, zainteresovane strane, revizore, vlade, komponente finansijske industrije (banke, osiguravajuća društva, pružaocce pravnih i investicijskih usluga), porezne obveznike i sve građane koji se nalaze pod uticajem fiskalnih odluka svojih vlada o javnim rashodima i raspodjeli javnih resursa (IFAC 2010, 5). „Interesi“ obuhvataju prava i privilegije, poput imovinskih prava, ekonomskih sloboda i političke moći (IFAC 2010, 6). Poseban fokus stavljen je na unapređenje etičkog kodeksa za profesionalne računovođe kroz razvoj, usvajanje i implementaciju visokokvalitetnih međunarodnih etičkih standarda, posebno u domenu nezavisnosti profesionalnih računovođa i sukoba interesa, s naglaskom na javni interes. Javni interes i društvena odgovornost nisu i ne mogu biti fokusirani isključivo na finansijsko izvještavanje korisnika. Problematika društvene pravednosti u računovodstvu podrazumijeva i pitanje odnosa tradicionalnih računovodstvenih standarda i praksi kreiranih unutar tržišnih i kapitalističkih principa, prema socijalnim, kulturnim, religijskim i rodno ravnopravnim dimenzijama poslovanja. Računovodstveni standardi često reflektuju univerzalistički pristup koji ne prepoznaje lokalne kulturne i religijske specifičnosti. Lewis (2001, 113) smatra da se standardi razvijeni u okviru zapadnih ekonomskih modela teško prilagođavaju etičkim i vjerskim principima koji vladaju u islamskim zemljama, a koji teže ekonomskoj pravdi, zajedničkom riziku i etičkoj odgovornosti. Zbog toga islamske finansijske institucije primjenjuju paralelno Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) standarde i Međunarodne standarde finansijskog izvještavanja (MSFI), kao način integracije religijskih i internacionalnih računovodstvenih standarda. Lehman (2005, 976-980) naglašava da proces harmonizacije kroz MSFI nije neutralan, već ideološki vođen. U literaturi se ovaj fenomen analizira kroz koncept epistemološke dominacije i kolonijalizma znanja, pri čemu se globalni računovodstveni standardi i prakse oblikuju i šire iz dominantnih ekonomskih centara, uz ograničeno uvažavanje lokalnih institucionalnih i ekonomskih specifičnosti. Cooper and Robson (2006, 416-418) u okviru istraživanja institucionalne teorije naglašavaju da difuzija računovodstvenih praksi nije neutralan proces, već odraz odnosa moći i institucionalnog pritiska koji oblikuje „prihvatljive“ oblike izvještavanja na globalnom nivou. Sikka (2008, 271-272) tvrdi da je globalna standardizacija računovodstva usko povezana s ekspanzijom neoliberalnih ekonomskih struktura, koje imaju tendenciju favorizirati interese dominantnih ekonomskih aktera, istovremeno marginalizirajući alternativne lokalne prakse i produbljujući asimetrije između razvijenih i manje razvijenih ekonomija. Međunarodni standardi se, s tim u vezi, često prezentuju kao tehnički neutralni, iako u praksi reflektuju institucionalne interese dominantnih aktera. U tom smislu, proces harmonizacije računovodstvenih standarda može se posmatrati kao oblik epistemološke hegemonije koji ograničava prostor za lokalnu prilagodbu i razvoj kontekstualno adekvatnih praksi. Ovo dovodi do toga da manjine i zemlje u razvoju nemaju adekvatno predstavljanje u strukturama poput IASB-a, što rezultira marginalizacijom lokalnih potreba i razvojnih prioriteta siromašnih zajednica i nerazvijenih regija. U siromašnim i nerazvijenim ekonomijama, u kojima mala i neformalna preduzeća predstavljaju okosnicu privrednog razvoja, primjena MSFI standarda nailazi na poteškoće zato što su tehnički složeni, fi-

nansijski zahtjevni i nerijetko irelevantni. Rodna dimenzija računovodstva otkriva dodatni sloj strukturne nejednakosti. Rodna pristrasnost vidljiva je kako u računovodstvenoj profesiji, tako i u računovodstvenim standardima i računovodstvenoj praksi. Broadbent (1998, 289-290) smatra da računovodstvena teorija i praksa nameće „muške“ vrijednosti poput efikasnosti, kontrole, kvantifikacije i profita, dok se vrijednosti koje se povezuju sa ženama, poput brige, etike, zajedništva i socijalne odgovornosti marginalizuju ili potpuno zanemaruju. Osim toga, žene su u računovodstvenoj profesiji bivale sistemski potisnute u niže i administrativne pozicije, dok su prestižne i upravljačke uloge ostajale dominantno muške (Kirkham and Loft 1993, 523). Takav pristup doveo je do toga da se i kroz MSFI nameću patrijarhalni ideali ekonomskog ponašanja koji zanemaruju socijalne i etičke dimenzije poslovanja. Zbog toga Broadbent (1998, 287) sugerije da računovodstvena profesija mora doživjeti transformaciju u smislu prepoznavanja i promovisanja rodne ravnopravnosti i veće društvene i etičke odgovornosti. Slična problematika se odnosi i na osobe s invaliditetom, koje su gotovo nevidljive u tradicionalnim računovodstvenim okvirima. Osobe s invaliditetom su nerijetko suočene sa značajnim barijerama u profesionalnoj računovodstvenoj edukaciji i profesionalnom razvoju. Strukturne prepreke uključuju fizičke ograničenosti u učionicama i laboratorijama, nedostatak asistivnih tehnologija, kao i obrazovni materijali koji nisu prilagođeni različitim vrstama invaliditeta, poput vizuelnih ili motoričkih oštećenja. Profesionalne certifikacije u računovodstvu (npr. Certified Public Accountant-CPA, Association of Chartered Certified Accountants-ACCA) često su strukturisane na način koji može reprodukovati postojeće društvene nejednakosti, umjesto da isključivo mjeri individualne sposobnosti, pri čemu se nedostatak fleksibilnih oblika evaluacije i podrške može dodatno odraziti na pristup profesiji. Posljedica ovih ograničenja je niska zastupljenost osoba s invaliditetom u računovodstvenim i revizorskim firmama, posebno na rukovodećim i strateškim pozicijama, čime se dodatno produbljuje profesionalna marginalizacija. Ovakvim pristupom ne samo da se umanjuju ekonomske i socijalne mogućnosti osoba s invaliditetom, već se i ograničava razvoj inkluzivnih računovodstvenih praksi koje bi mogle prepoznati i vrednovati doprinos svih članova profesije (Duff and Ferguson 2007, 147-149). Kritički pristupi stoga ističu potrebu za reformom obrazovnih i profesionalnih standarda, uključujući prilagođene ispitne procedure, asistivne tehnologije i fleksibilne radne aranžmane, kako bi računovodstvo postalo inkluzivno i pristupačno svima. Iz navedenog proizlazi da tradicionalni računovodstveni standardi, iako formalno neutralni, u praksi reflektuju društvene i ekonomske hijerarhije koje privileguju kapital nad socijalnom pravdom. U tom smislu, računovodstvo ne može biti shvaćeno isključivo kao tehnička disciplina, već kao normativni okvir koji proizvodi i reprodukuje društvenu nejednakost.

3. RODNA RAVNOPRAVNOST KAO KOMPONENTA INKLUZIVNOG RAČUNOVODSTVA

U vrijeme kada se isključivi fokus na profitabilnost sve više pomjera ka dugoročno održivom poslovanju, odnosno njihovom povezivanju, postaje jasno da društvena komponenta, posebno ljudski kapital, prerasta u jedan od najvažnijih elemenata uspjeha u konkurentskom nadmetanju na tržištu. S tim u vezi, nameće se posebno važna tematika, koja se u kontekstu pitanja koja se vezuju za inkluziju, odnosi na rodnu ravnopravnost i karijerne izazove s kojima se suočavaju žene u računovodstvenoj profesiji. Zahtjevi za usmjeravanje globalnog fokusa na pitanja rodne raznolikosti, jednakosti i inkluzije, potekli su od feminističkih udruga, poput #HeForShe, Principa za osnaživanje žena (Women's Empowerment Principles – WEPs), UN Konvencije o uklanjanju svih oblika diskriminacije žena (CEDAW) i strategija, poput Rezolucije Vijeća sigurnosti UN-a: „Žene, mir, sigurnost“. S tim u vezi, interesantno je istaći International Business Report izvještaj za 2025. godinu kreiran na osnovu istraživanja koje je proveo Grant Thornton International. Istraživanje je obuhvatilo srednja preduzeća iz 31 svjetske ekonomije i ticalo

se zastupljenosti žena u strukturama višeg menadžmenta pomenutih preduzeća. Istraživanje je pokazalo da u 2025. godini udio žena iznosi 34,0% što predstavlja povećanje od 0,5 postotnih bodova u odnosu na 2024. godinu i nalazi se iznad trenda posljednjih pet godina. Ako bi trend ostao nepromijenjen, očekuje se da bi jednaka zastupljenost muškaraca i žena u najvišim upravljačkim strukturama bila dostignuta tek 2051. godine, što predstavlja nemali period od četvrt stoljeća. Brojni autori, poput El-Dyasty and Elamer (2023); Mnif and Cherif (2021) su u svojim istraživanjima ustanovili da zastupljenost žena u upravnim odborima kompanija povećava njegovu efikasnost, utiče na povećanje profitabilnosti, osigurava transparentije objave, povećava tržišnu vrijednost i potiče ESG performanse. Uz to, rodna raznolikost ima pozitivan uticaj na čitav niz poslovnih performansi, poput donošenja kvalitetnijih poslovnih odluka, inovacija i poboljšanja finansijskih rezultata te unapređenja poslovne kulture. Time se ne unapređuje samo status pojedinačnih uposlenika i kompanije u cjelini, već se može i značajno pozitivno uticati i na kretanja u cjelokupnoj privredi zemlje (Grant Thornton 2025). S tim u vezi, zanimljivo je spomenuti istraživanje koje je proveo Međunarodni monetarni fond (MMF), koje sugerise da bi smanjenje rodni razlika na tržištima u razvoju moglo povećati BDP u tim zemljama u prosjeku za 23% (slika 1). Vezano za pitanja ESG performansi potrebno je naglasiti da članice uprave nadmašuju svoje muške kolege u strateškim i nadzornim ulogama koje se vezuju za ovu problematiku. Žene pokazuju veću osjetljivost vezanu za etička pitanjima (García-Sánchez et al. 2015, 684) i sklonije su davati prioritet interesima zainteresovanih strana (Issa and Hanaysha 2023, 626). Direktorice takođe obično imaju viši nivo obrazovanja (Singh et al. 2008, 50), što doprinosi višestrukoj perspektivi ESG pitanja. Njihova socijalizacija usmjerena na izbjegavanje rizika (Byrnes et al. 1999, 377-378) dovodi do proaktivnih pristupa upravljanju rizicima. Adams and Ferreira (2009, 292) su dokazali da upravni odbori kompanija u čijem se sastavu nalaze žene, puno češće pozivaju izvršne direktore na odgovornost zbog loših rezultata poslovanja, dok su Bear et al. (2010, 218) dokazali pozitivan uticaj rodne raznolikosti u smislu da prisustvo žena u upravnim odborima poboljšava ugled kompanije i pozitivno utiče na finansijsku uspješnost.



Slika 1. Povećanje BDP uslovljeno strukturnim reformama i većim učešćem ženske radne snage (preuzeto od: International Monetary Fund 2024, 8)

Slika 1 prikazuje potencijalni uticaj reformi upravljanja, tržišta proizvoda i rada te domaćih finansija na povećanje BDP, uz simulaciju zasnovanu na modelu koji se bazira na smanjenju rodni razlika. „Na lijevoj strani slike prikazano je povećanje BDP od stvarnih strukturnih reformi i smanjenja rodni razlika u skladu s onim što je 5% zemalja s najboljim rezultatima postiglo tokom perioda 2014-2019. godine. Rezultati sugeriraju da bi smanjenje rodni razlika u skladu s prosječnim smanjenjem uočenim u pomenutih 5% zemalja moglo rezultovati prosječnim porastom BDP od 7,7 posto. Desna strana slike ilustruje potencijalna povećanja BDP od smanjenja

rodnih razlika u 128 zemalja, što je dugoročniji scenario. Povećanje BDP moglo bi u prosjeku doseći 23 posto. Da bi se to ostvarilo, trebalo bi se pozabaviti preprekama i neskladom, poput finansijskih prepreka i neformalnosti, što zahtijeva i široke makrostrukturne reforme i specifične reforme za rješavanje nesklada koji ometaju smanjenje rodni razlika“ (IMF 2024, 8). Rezultati sveobuhvatne globalne akcije polako postaju vidljivi i na nacionalnim nivoima. Pa tako, Norveška i Francuska provode kvote (30%-40%) za žene direktorice u upravnim odborima, dok brojne zemlje poput Finske i Indije zahtijevaju prisutnost barem jedne direktorice. Norveški zakon je uveden 2006. godine, a firmama je omogućen period od dvije godine za prilagođavanje. Prema podacima norveških statističkih izvještaja, od februara 2008. godine, 93% javnih firmi ispunjavalo je zahtjeve. U aprilu 2008. norveška vlada je objavila potpuno usklađivanje. Napori za unapređenje rodne ravnopravnosti vidljivi su i unutar profesionalnih tijela. Institut ovlaštenih računovođa u Engleskoj i Walesu (ICAEW), pokrenuo je Zajednicu žena u vodstvu i Program žena u vodstvu. U SAD su osnovane slične mrežne grupe, poput Saveza žena u računovodstvu i finansijama (Mehnaz and Yang 2025). Sistematska analiza istraživanja na temu rodne ravnopravnosti koja je provedena u periodu 1990-2025. i koja je obuhvatala područja: Evrope, globalno (Evropa, Sjeverna Amerika, Azija), Indonezije, Japana, Ujedinjenog Kraljevstva, Šri Lanke, Irske i Australije (Komori 2008; Flynn et al. 2015; García Lara et al. 2016; Khelif and Achek 2017; Faragalla and Tiron-Tudor 2019; Mehnaz and Yang 2025;) pokazala su da je, unatoč pozitivnim promjenama u nacionalnim i kompanijskim politikama, računovodstvena profesija još uvijek opterećena rodnom nejednakošću i predrasudama. Ovo posebno zabrinjava zbog činjenice da su skoro dvije trećine zaposlenih u računovodstvenoj profesiji upravo žene. Uprkos dramatičnom pomaku u odnosu na istorijsku dominaciju muškaraca, ovo kvantitativno povećanje ženske radne snage nije se prenijelo u proporcionalnu zastupljenost na višim nivoima upravljanja. Provedena istraživanja na ovu temu, posmatrana kroz prizmu geografskog konteksta, pokazala su postojanje jedinstvenog obrasca: iako se broj zaposlenih žena na početnom nivou znatno povećao, vertikalna segregacija i dalje postoji, a žene se bore za dostizanje vodećih pozicija uprkos činjenici da su većina na nižim nivoima u nekim zemljama (tabela 1).

Tabela 1. Geografski kontekst zastupljenosti žena u računovodstvenoj profesiji i na liderskim pozicijama (autor)

Geografski okvir	Zastupljenost žena u odnosu na muškarce	Zastupljenost žena na liderskim pozicijama
Evropa	Žene čine gotovo 2/3 računovodstvene radne snage	Samo 29% u Big Four kompanijama (Deloitte, PricewaterhouseCoopers, Ernst and Young i KPMG).
Globalno	Napredak u rodnoj raznolikosti	Samo 25% finansijskih direktora i 11% izvršnih direktora su žene
Indonezija	Nema podataka	Samo 13% upravnih odbora, 7% odbora direktora i 5% odbora za reviziju imaju rodnu raznolikost
Šri Lanka	33% udjela ženske radne snage	Nema podataka
Ujedinjeno Kraljevstvo	Značajno povećanja udjela ženske radne snage (46%)	16,3% žena na liderskim pozicijama u top 100 računovodstvenih firmi

Jedna od najvećih prepreka karijernom napredovanju žena u računovodstvenoj profesiji je nevidljiva barijera poznata pod nazivom stakleni plafon. Radi se, naime, o tradicionalnom rodnom stereotipu pristrasnosti, koji se odnosi na opšta uvjerenja da su menadžeri prirodno muškarci, a žene prirodno majke. S tim u vezi se u računovodstvenim firmama žene stereotipno doživljavaju kao manje sposobne, u smislu nedostatka vještina potrebnih za napredak u karijeri, bez moći i kontrole te kao previše mekane i emocionalne (Adapa et al. 2016, 105). Tabela 2 prikazuje

problematiku prisustva ove barijere i njenog uticaja na profesionalni napredak žena u računovodstvenoj profesiji.

Tabela 2. Uticaj fenomena staklenog plafona na karijerni napredak žena u računovodstvenoj profesiji (autor)

Geografski okvir	Postojanje staklenog plafona	Karijerni napredak
Irska	Postoji	Ženama je potrebno 13,5 godina da postanu partnerice u odnosu na 6,33 godina za muškarce
Globalno	Vertikalna segregacija i dalje postoji	Žene se suočavaju sa izazovima zbog rodnih stereotipa i patrijarhalnih sistema
Japan	Ženama se pružaju veće mogućnosti	Žene uvode promjene kroz „jedinstveni ženski pristup“

„Umjesto da ih se doživljava kao „inferiorne“, muškarci svoje japanske kolegice izuzetno poštuju zbog njihove podrške međuzavisnom partnerstvu kroz njihovu društvenu ulogu „supruge i majke“. Posljedično, one strpljivo odlučuju promišljati i prilagođavati svoje stavove u svjetlu svakodnevnih iskustava na radnom mjestu kojim dominiraju muškarci, istovremeno iskorištavajući jedinstveni položaj žena u japanskom društvu“ (Komori 2008, 533). Posebno važna problematika odnosi se na prisutnu razliku u platama među spolovima za obavljanje istih poslova. Na nižim računovodstvenim pozicijama plate su iste ili čak i veće za žene, međutim jaz se izrazito povećava na višim partnerskim pozicijama. Pa tako, istraživanje koje je 2024. godine provedeno u Australiji i Novom Zelandu, je pokazalo da je na početku karijere razlika u platama između polova minimalna, međutim značajno se povećava nakon tridesete godine života. Pa tako npr. razlika u platama iznad šezdesete godine života u Australiji je 31%, a na Novom Zelandu 28% u korist muških zaposlenika (Chartered Accountants Australia and New Zealand 2024, 20).

Tabela 3. Polno uslovljena razlika u platama (autor)

Geografski okvir	Polno uslovljena razlika u platama
UK	Prosječne osnovne plate žena iznose 83% onih koje se dodjeljuju muškarcima
EU	U 11 država članica EU razlika u platama u finansijskom i osiguravateljskom sektoru posebno je izražena, s bruto satnicom za žene više od 30% nižom od one za muškarce
Šri Lanka	Širi sektor finansijskih usluga odražava nacionalni trend gdje žene u prosjeku zarađuju 30–36% manje od muškaraca

Postoji niz prepreka s kojima se žene računovođe suočavaju u privatnom i poslovnom životu, a koje ometaju njihov karijerni napredak: predrasude, prekomjerno radno vrijeme, ograničen pristup organizacijskom znanju, teret porodičnih odgovornosti i potreba za potiskivanjem vlastite ženstvenosti kako bi uspjele (Lupu 2012, 353 ; Crompton and Lyonette 2011, 233).

Tabela 4. Vrste i uzroci barijera s kojima se suočavaju žene računovođe (autor)

Kategorija barijere	Specifične barijere	Uzroci
Organizaciona	Prakse zapošljavanja, odabira i napredovanja; nedostatak vidljivosti; ograničen pristup organizacijskom znanju	„Stakleni plafon“- nevidljive barijere ukorijenjene u organizacijskim strukturama i predrasudama koje sprječavaju žene da napreduju prema višim pozicijama

Strukturalna/ institucionalna	Tradicionalna muška dominacija, vertikalna segregacija	Hijerarhijska struktura i standardizacija radnih procesa, stvaranje rodno uslovljenog okruženja
Društvena/kulturna	Rodni stereotipi; patrijarhalni maskulinitet	Idealni menadžer konceptuiran kao muškarac; društvena očekivanja u vezi s porodičnim obavezama
Individualna/porodična	Majčinstvo i odgovornost za brigu o djeci i starijima	Očekuje se da će žene dati prednost porodičnim potrebama nad karijerom
Diskriminacija	Diskriminacija je ključni faktor koji objašnjava uočene rodne razlike	

ZAKLJUČAK

Koncept računovodstva u javnom interesu podrazumijeva aktivnosti koje donose korist široj društvenoj zajednici ne izostavljajući, pri tome, poštovanje principa transparentnosti, objektivnosti i odgovornosti. Međutim, problem s kojim se suočava profesija uslovljen je pritiscima koji dolaze iz pravca komercijalnih interesa, što može dovesti do kompromitovanja etičkih standarda. Istraživanja su pokazala da, iako su precizno definisani i promovisani od strane profesionalnih tijela ista, vrlo često, nemaju efikasne mehanizme koji bi omogućili nadzor i sankcionisanje nepoštovanja etičkih i principa javnog interesa. S tim u vezi, neophodna je aktivnija uloga računovodstvenih komora i regulatornih tijela u pravcu jačanja mehanizama nadzora, kontinuirane edukacije i javne odgovornosti svojih članova. Pored toga, važno je raditi na promociji kulture etike i integriteta, kao temeljnih stubova računovodstvene profesije i prakse. Problematika se dodatno usložnjava nedostacima koje pokazuju obrazovni sistemi, koji u svojim nastavnim planovima i programima ne posvećuju potrebnu pažnju edukaciji o javnom interesu i etičkoj svijesti kod budućih računovođa, što može ugroziti integritet profesije. Kada je u pitanju problematika obrazovanja potrebno je istaći i poteškoće s kojima se u obrazovnom sistemu susreću osobe s invaliditetom i pripadnici manjinskih zajednica. Obrazovanje mora biti dostupno svakom pojedincu u akademskoj zajednici mora uložiti veće napore da se to zaista i realizuje u praksi. Usmjerenost računovodstvenih standarda i finansijskog izvještavanja isključivo ka interesima kapitala, dovodi do „pokrivanja“ uticaja poslovanja na društvo, u smislu transparentnog izvještavanja o pravima radnika, rodnoj nejednakosti, zapošljavanju osoba s invaliditetom i drukčijom polnom orijentacijom, uticaju na lokalne zajednice i sl. S tim u vezi, važno je istaći da patrijarhalni sistemi, rodni stereotipi i predrasude ne prepoznaju i ne prihvataju žene kao ravnopravne partnerice na visokim, liderskim pozicijama. Iako istraživanja pokazuju da ženski lideri stvaraju bolju organizacionu kulturu i unapređuju poslovne performanse, u mnogim kulturama se žene još uvijek tretiraju kao slabije i nesposobnije, predodređene isključivo za obavljanje nižih, izvršnih poslova. Majčinstvo i briga za uzdržavane članove porodice vrlo često se javljaju kao kamen spoticanja, suočavajući žene s nejednakošću i diskriminacijom u odnosu na njihove muške kolege. Iako se status žena posljednjih godina mijenja u pozitivnom pravcu, morati će proći još dosta vremena kako bi se razbile predrasude i kako bi se žene izborile za jednak tretman koji imaju njihove muške kolege.

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Review

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ACCOUNTING AS A FUNCTION OF PUBLIC INTEREST: CHALLENGES OF INCLUSIVENESS AND RISKS OF MARGINALIZATION

Summary: *The traditional perception of accounting is based on the approach that it is a neutral discipline focused exclusively on the issue of technical accuracy and compliance with regulatory frameworks. Recently, however, there has been an increasingly loud discussion about the role accounting plays in shaping social relations and creating structural inequalities. In this regard, this paper explores the concept of accounting focused on the public interest, by pointing out the possibilities and ways by which accounting practices can contribute to the inclusion of different social groups, or, on the contrary, their marginalization through normative standards, reporting methods, and narratives in financial statements, and institutional mechanisms. Following these efforts, the goal of the paper is to present the various conclusions reached by the authors in their research through a focus on relevant works in this area. The subject of the analysis is the identification of areas in which modern accounting does not sufficiently take into account the interests of socially vulnerable groups, such as ethnic minorities, poor communities, women, persons with disabilities, and senior citizens, and determining approaches that could contribute to overcoming these shortcomings. Scientific methods of description and compilation were used in the work in order to highlight the main goal of the work, which is reflected in pointing out the potential of accounting transformation from a tool used exclusively for business purposes, to a mechanism that actively contributes to the creation of an environment of social justice and inclusive development, on the one hand, that is, the academically correct presentation of other people's conclusions and findings, on the other hand. The results of the research point to the need to introduce a broader view into the education of accountants, as well as to redefine reporting standards and regulatory frameworks, all with the aim of enabling accounting to truly serve the public interest.*

Keywords: *public interest, inclusiveness, marginalization, social justice, gender equality*

JEL classification: *M 41, M 51*

INTRODUCTION

As a professional discipline and information system, accounting plays a key role in the functioning of modern economies and institutions. Its primary purpose, traditionally understood as recording, classifying, and reporting on financial flows, has been expanded in the modern context in which the importance of accounting in the realization of the public interest is increasingly recognized. Talking about the public interest in accounting implies, first of all, requiring the profession to serve a wider social goal, and not exclusively the economic interests of individuals. Accountants are hereby morally obliged to respect and apply the principles of integrity, objectivity, professional competence, confidentiality, and professional conduct in their

professional work. Professional ethics in accounting emphasizes the preservation of public trust and a balance between technical accuracy and social responsibility. In this context, the concept of accounting in the public interest implies responsible and ethically based accounting that does not ignore the needs of various interested parties, such as citizens, communities, non-governmental organizations, and other marginalized groups, which often remain outside the dominant economic discourses. This is precisely the reason why, in accounting practice, there is often a “conflict” between inclusiveness and marginalization. Marginalization appears in various forms, such as exclusion from professional or higher education, obstacles in employment, i.e., professional advancement, or unequal representation in management structures of people with learning difficulties, members of certain ethnic groups, women, people with a specific sexual orientation, cultural background, or socioeconomic status. Inclusiveness is expected to point out the evident existence of marginalization in the first place, and then to break through and erase the aforementioned barriers through the adoption of strategies that will enable the recognition of the rights and needs of marginalized groups, and their active inclusion in accounting tasks and processes. Based on the above, the subject and goal of the research are defined, which relate to the identification and description of accounting as a socially responsible profession, that is, the analysis of accounting as a possible instrument of social inclusion, but also a mechanism that, if used selectively or unethically, can support or hide marginalization. The realization of the set research goal was achieved by applying the method of analysis of secondary sources, which included a review of relevant domestic and international literature, professional articles, laws, reports of regulatory bodies (such as IFAC, IESBA, IASB) and professional ethical standards, and a systematic analysis of literature on contemporary research in accounting aimed at marginalized social groups with a special focus on women, through the prism of gender diversity, equality and inclusiveness. The research showed that, although the concept of accounting in the public interest is recognized by the profession, its actual application remains limited by a series of obstacles - from an insufficiently developed regulatory framework, through commercial pressures, to the weak inclusion of the study of professional ethics in the subject curricula of higher education institutions. There was also a clear need to strengthen institutional and educational support in order to affirm professional values that go beyond purely commercial interests. Accounting, as a trustworthy profession, must act to protect the wider social community through compliance with the highest standards of integrity, responsibility, and transparency. Given that the concept of public interest is focused on the issues of inclusivity and marginalization in accounting, in the section that follows, an analysis of the reference literature that deals with the mentioned issues was first performed. In the second section, the problem of socially responsible accounting is analyzed, while the third section deals with the issue of gender equality, which can be seen as an element of inclusion, but also as an element of marginalization in the accounting profession. Finally, in the conclusion, the problems that lead to marginalization are highlighted, and suggestions are presented for possible courses of action, which could lead to fair inclusion and a positive public role in society, which is expected from accounting, as a responsible and significant profession.

1. LITERATURE REVIEW

Although recognized as a professional practice that requires accountants to perform their professional duties independently, objectively, and in accordance with ethical principles, even in situations where this is not in the interest of their clients, research has shown that economic incentives and professional interests very often take precedence over the public interest of accounting. Dellaportas and Davenport (2008, 1089) reported that although accountants may cite formal definitions of public interest, their practical application is inconsistent, with self-interest often prevailing in conflict situations. The literature frequently highlights the existence of a

persistent tension between commercial imperatives and professional responsibility toward the public interest. Desai and Dharmapala (2006, 177) identified in their research an increasingly frequent occurrence of tax avoidance activities and their growing influence on corporate financial decision making, while Sikka and Willmott (2010, 353) emphasise that the use of transfer pricing for the purpose of tax avoidance represents a significant challenge to behaving as a socially responsible organisation. They argue that „such conflicts repeatedly highlight the role of professionals and accounting techniques in shaping the distribution of income and wealth.“ At the same time, studies such as Parker (2005, 845) indicate an increasing emphasis within the accounting and taxation professions on social responsibility, transparency, and service to the public interest. In this context, contemporary trends suggest a gradual shift away from a narrow focus on client interests towards a broader approach that incorporates the needs of multiple stakeholders. In this regard, the positive trend of changing the focus of serving the narrow private interests of clients towards the professional service of the public interest and a larger number of interested parties is increasingly becoming evident. Sjarlis et al. (2018, 377) documented how managerial, political, and private sector interests can dominate or override public welfare in the implementation of accounting reforms. Sawabe (2005, 634) believes that when the understanding prevails that private and public interest are connected, i.e., that they may not be independent of each other and that each of us individually actually constitutes the public, then it could be argued that the public interest is sometimes found in individual preferences. Canning and O'Dwyer (2001, 726) point out that the public interest and accompanying concern for accountability and transparency are used only as an appropriate mechanism to avoid criticism and state regulation by members of the profession. Sikka et al. (1989, 65) provided evidence that disciplinary and regulatory mechanisms, i.e., professional associations, often lack transparency, accountability, and fairness, in order to serve to protect professional interests. The authors believe that administrative incompetence, as they call it, should be interpreted as a symptom and not a cause of their inability to serve the public interest, except in cases where it is necessary to protect one's own sectoral interests. Huber (2015, 269) believes that the public interest is a myth created with the aim of concealing the fact that professional accounting, state and private regulatory and standardization bodies actually serve and protect the interests of the market, and by no means the interests of the public. The issue of inclusiveness in the accounting profession is conditioned by the existence of systemic, organizational, and cultural barriers that cause insufficient participation of members of racial and ethnic minority groups, persons with disabilities, and women in the educational process and in holding highly positioned leadership positions. The problem of inclusivity can be synthesized in three angles of observation: (1) educational inclusiveness and pedagogical approaches; (2) professional diversity and representation, and (3) organizational diversity management and reporting. Musundwa (2025, 913) identified the problem of black African students in South African accountancy education facing challenges related to socialization, identity, and literacy, with systematic deficits in numeracy and literacy skills contributing to marginalization. In order to overcome these obstacles, the study recommends encouraging customized student-centered learning techniques, creating personal relevance by connecting teaching content to students' prior knowledge and experience, improving critical thinking skills, using flexible assessment methods, promoting inclusiveness, and building a connected understanding of the material. Anderson-Gough et al. (2005) contend that, from a historical perspective, the core determinants of success in an accounting career were grounded in the ability to conform, exhibit a strong work ethic, and prioritize client needs, which represent practices that tended to favor the advancement of white men as the ideal employees. Although efforts have been made to enhance diversity in male-dominated professions, critics have observed that such initiatives do not always translate into substantive change and may, in some cases, further entrench the marginal position of minority groups (Ashcraft 2005, 69). Lodh and Nandy (2017, 344) suggest that women and people with disabilities have lower wages compared

to men and people without disabilities. Differential payment rates are applied precisely to marginalize accounting professionals with disabilities. In addition, the authors conclude that the lack of funds in the era of financial crises limits employers in accommodating accountants with disabilities, which is why a negative trend in the growth of students with disabilities in higher education in accounting is identified. International frameworks for accounting education and professional qualifications often fail to adequately address the needs of students from marginalised and vulnerable groups, including individuals with disabilities, ethnic minorities, and students from lower socio-economic backgrounds, thereby reproducing existing inequalities in access to the accounting profession. Abayadeera and Watty (2016) highlight the existence of an expectation–performance gap in accounting education, indicating that graduates often lack essential generic skills required for professional success. This gap is particularly problematic for students from disadvantaged backgrounds, as accounting education systems tend to emphasise technical competencies while neglecting broader skill development, thereby reinforcing existing inequalities in access to the profession. Similarly, Guthrie and Parker (2016, 4), within the critical literature on accounting education, argue that dominant professional standards may constrain inclusivity and sustain structural barriers to entry into the profession. In this regard, it is essential to integrate inclusive pedagogical approaches and adapt curricula in order to ensure more equitable participation of diverse social groups in professional education. Bujaki et al. (2020, 497-499) examined the representation of women and non-whites in eight of Canada’s largest public accounting firms. The research suggests that there may be a hierarchy in public accounting firms that privileges white men, then white women, and then non-whites. Despite the fact that they make up almost half of the workforce, women and non-whites are treated as outsiders with subordinate roles in accounting firms, implying disparities in career advancement opportunities. The authors see the path to greater acceptance of diversity and inclusion in strengthening awareness of the existence of discrimination, providing scholarships to certain demographic groups as an incentive to join the profession, identifying women and non-whites as role models, and presenting an image of the profession that is in line with diversity and inclusion. Kugelberg (2006, 152) argues that, despite significant progress in areas such as the economy, technology, social policy, and political frameworks, including those emphasizing the necessity of gender equality, gender segregation remains highly prevalent and continues to be a dominant feature. Mehnaz and Yang (2025, 45,51) point out that although previous studies have shown that a greater representation of women improves the financial and non-financial performance of companies, their presence in various leadership positions, such as managers, directors, partners, members of management boards, and the like, is still at a very low level. The authors believe that the problem of greater inclusion of women in leadership positions in many countries stems from patriarchal culture, which limits women’s activity and potential. In this regard, they believe that mentoring, promotion without prejudice, family-friendly policies, gender targets, progressive legislation (such as parental leave), and regulatory guidelines for board diversity are ways to increase women’s engagement in both accounting and leadership positions. Marginalization in the accounting segment, on the other hand, does not have to be manifested through open discrimination. This is primarily about structural exclusion and focus on a limited range of economic goals. Hayes and Jacobs (2017, 567) found that women’s entry into the Anglo-Australian accountancy profession was influenced by class and ethnicity, with women not from a dominant British, white, middle-class background facing major barriers and difficulties in employment. Ufodike (2025, 507) highlights how Western accounting standards have been complicit in the dispossession and oppression of indigenous peoples. Vidwans and De Silva (2023, 254) highlight the role of accounting as a tool of imperialism in the post-colonial period, which led indigenous peoples to their subjugation, marginalization, and disenfranchisement. Gallhofer et al. (1999, 799) criticize the European-oriented nature of accounting education and practice in New Zealand, arguing that these institutions promote the marginalization of Maori by imposing

Western values and practices. In this regard, the authors suggest, among other things, that the transformation of accounting education institutions in the direction of greater acceptance of Maori culture could influence the increase of Maori participation in accounting education. Miley and Read (2018, 471) point out that the absence or failure of accounting mechanisms, through failure to meet legally defined accounting requirements, has significantly contributed to the continued stigmatization and poverty of the indigenous Australian population. Marginalization, as a consequence of structural obstacles, has been the subject of research by several authors. Thus, Lombardi (2016) analyzes the dominance of non-indigenous experts in accounting; Jayasinghe and Thomas (2009, 374) note that, despite substantial institutional support provided by NGOs and the state and remarkably high levels of literacy, indigenous subordinate groups in Sri Lanka are unwilling or unable to change their accounting practices. The authors believe that one of the ways for the rational transformation of the accounting systems of subordinate societies is the inclusion of a phenomenological analysis of all prevailing patronage political systems that dominate subordinate social structures over time. Related to organizational management, Khlif and Achek (2017, 629) identify that the representation of women in administrative and audit committees, and in senior management, leads to more conservative reporting through increased accounting conservatism, a greater focus on social and environmental disclosure, less tax aggressiveness, and fewer intentions to commit fraud in financial statements.

2. SOCIALLY RESPONSIBLE ACCOUNTING

In the last ten years, the accounting profession has come under the attack of criticism that appears due to the fact that accounting does not fulfill the tasks intended for it, which refer to the role of mediator between the investing and non-investing public, on the one hand, or corporate companies, on the other hand (Zhang and Andrew 2014). This intermediary role should be such as to enable the accounting profession to protect and report any violation of the public interest arising from the goal of wealth maximization promoted by large corporate societies. In this regard, the work of accountants is primarily expected to reduce, if not completely cancel, the information asymmetry that is assumed to be contained in financial statements. Generally speaking, this would mean that such financial statements should take into account the public interest. Agreeing with this statement, Kaidonis (2008, 4) expressed the opinion that the public interest is rarely a set of ideals and that there may be competing interests (of corporations or individual shareholders). In this regard, it is necessary to emphasize the importance of accepting service in the public interest, respecting public trust, and fully promoting professional behavior. When all this is taken into account, it becomes quite clear why the roles and responsibilities of accountants and the accounting profession are becoming the subject of public interest and growing as new events and failures appear in the corporate business world. According to Tiron-Tudor (2013, 931), the business problems and bankruptcies of some large companies, which in some cases were caused by false or fabricated financial statements, undermined public confidence not only in accountants and auditors, but also in the entire accounting profession. Mattli and Buthe (2005, 419) criticize the accounting profession due to the fact that accounting and auditing standards are too subjective and, as such, cannot reflect the interests and values of the wider social community, which seriously calls into question the social engagement of accounting and thus the ability of accountants and auditors to work and serve the public interest. In this regard, the authors emphasize the power that certain groups of companies have in traditional political lobbying, which even extends to influencing the International Financial Reporting Standards Board (IASB) to “revise its accounting standards regarding the treatment of foreign exchange transactions, review personnel decisions, change its voting rules, and abandon plans to expense stock options.” Due to the obligations arising from the status of an umbrella accounting organization, in 2003, IFAC reconsidered its regulatory responsibilities with the aim of restoring confidence in the accounting profession and strengthening its

own influence in creating an environment that will allow the accounting profession to truly serve the public interest. In this regard and for the purpose of defining the concept of public good, IFAC created a conceptual framework based on three criteria: (1) consideration of costs and benefits for society as a whole; (2) respect for democratic principles and processes, and (3) respect for cultural and ethnic diversity (IFAC 2010, 4). The first criterion requires an assessment of the public interest viewed from the angle of positive and negative outcomes that the accounting profession leads to by influencing people, organizations, capital markets, and governments. The second criterion requires that the decisions or actions that the accounting profession makes or undertakes in the public interest must contain all the elements of the democratic process: quality of management, public participation, and public accountability. The third criterion requires an assessment of the extent to which a certain issue or policy of public interest is applicable, taking into account the cultural and ethnic diversification of social communities, especially in situations where companies internalize their operations. IFAC believes that the implementation of the requirements related to the public responsibility of the accounting profession is not fully possible without a precise definition of what is meant by the terms public and interest. The term “public” includes all users of financial information and decision-makers in the financial reporting chain: accountants who prepare financial statements, company boards, stakeholders, auditors, governments, components of the financial industry (banks, insurance companies, legal and investment service providers), taxpayers and all citizens who are influenced by their governments’ fiscal decisions on public expenditures and the distribution of public resources (IFAC, 2010, 5). “Interests” include rights and privileges, such as property rights, economic freedoms, and political power (IFAC, 2010, 6). Special focus is placed on improving the code of ethics for professional accountants through the development, adoption, and implementation of high-quality international ethical standards, especially in the domain of professional accountants’ independence and conflicts of interest, with an emphasis on the public interest (IESBA, 2018). Public interest and social responsibility are not and cannot be focused exclusively on the financial reporting of users. The issue of social justice in accounting also includes the question of the relationship between traditional accounting standards and practices, created within market and capitalist principles, according to the social, cultural, religious, and gender equality dimensions of business. Accounting standards often reflect a universalist approach that does not recognize local cultural and religious specificities. Lewis (2001, 113) believes that the standards developed within Western economic models are difficult to adapt to the ethical and religious principles that rule in Islamic countries, which strive for economic justice, joint risk, and ethical responsibility. That is why Islamic financial institutions apply the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) standards and International Financial Reporting Standards (IFRS) in parallel, as a way of integrating religious and international accounting standards. Lehman (2005, 976-980) emphasizes that the process of harmonization through IFRS is not neutral, but ideologically driven. In the literature, this phenomenon is examined through the concepts of epistemological dominance and knowledge colonialism, whereby global accounting standards and practices are shaped and disseminated from dominant economic centres, with limited consideration of local institutional and economic specificities. Cooper and Robson (2006, 416-418), within the framework of institutional theory, emphasise that the diffusion of accounting practices is not a neutral process, but rather a reflection of power relations and institutional pressures that shape “acceptable” forms of reporting at the global level. Sikka (2008, 271-272) argues that the global standardisation of accounting is closely intertwined with the expansion of neoliberal economic structures, which tends to privilege the interests of dominant economic actors while marginalising alternative local practices and reinforcing asymmetries between developed and less developed economies. In this regard, international standards are often presented as technically neutral, although in practice they reflect the institutional interests of dominant actors. Accordingly, the process of accounting harmonisation can be understood as a form of epistemological hegemony that constrains the space for local adaptation and the development of contextually ap-

appropriate practices. This results in minorities and developing countries not having adequate representation in structures like the IASB, resulting in the marginalization of local needs and development priorities of poor communities and underdeveloped regions. In poor and underdeveloped economies, where small and informal enterprises represent the backbone of economic development, the application of IFRS standards encounters difficulties because they are technically complex, financially demanding, and often irrelevant. The gender dimension of accounting reveals an additional layer of structural inequality. Gender bias is visible both in the accounting profession and in accounting standards and accounting practice. Broadbent (1998, 289-290) believes that accounting theory and practice impose “masculine” values such as efficiency, control, quantification, and profit, while values associated with women, such as care, ethics, community, and social responsibility, are marginalized or completely ignored. In addition, women in the accounting profession were systematically relegated to lower and administrative positions, while prestigious and managerial roles remained predominantly male (Kirkham and Loft 1993, 523). Such an approach led to the imposition of patriarchal ideals of economic behavior through IFRS, which ignore the social and ethical dimensions of business. Therefore, Broadbent (1998, 287) suggests that the accounting profession must undergo a transformation in terms of recognizing and promoting gender equality and greater social and ethical responsibility. A similar problem applies to people with disabilities, who are almost invisible in traditional accounting frameworks. People with disabilities are often faced with significant barriers in professional accounting education and professional development. Structural barriers include physical limitations in classrooms and laboratories, a lack of assistive technologies, and educational materials that are not adapted to different types of disabilities, such as visual or motor impairments. Professional certifications in accounting (e.g., Certified Public Accountant-CPA, Association of Chartered Certified Accountants-ACCA) are often structured in a way that can reproduce existing social inequalities, instead of solely measuring individual abilities, whereby the lack of flexible forms of evaluation and support can additionally reflect on access to the profession. The consequence of these restrictions is the low representation of persons with disabilities in accounting and auditing firms, especially in managerial and strategic positions, which further deepens professional marginalization. This approach not only reduces the economic and social opportunities of people with disabilities but also limits the development of inclusive accounting practices that could recognize and value the contribution of all members of the profession (Duff and Ferguson 2007, 147-149). Critical approaches, therefore, highlight the need for reform of educational and professional standards, including adapted examination procedures, assistive technologies, and flexible working arrangements, to make accounting inclusive and accessible to all. It follows from the above that traditional accounting standards, although formally neutral, in practice reflect social and economic hierarchies that privilege capital over social justice. In this sense, accounting cannot be understood exclusively as a technical discipline, but as a normative framework that produces and reproduces social inequality.

3. GENDER EQUALITY AS A COMPONENT OF INCLUSIVE ACCOUNTING

At a time when the exclusive focus on profitability is increasingly moving towards long-term sustainable business, that is, their connection, it becomes clear that the social component, especially human capital, is growing into one of the most important elements of success in competitive competition on the market. In this connection, a particularly important topic arises, which, in the context of issues related to inclusion, refers to gender equality and career challenges faced by women in the accounting profession. Demands for a global focus on issues of gender diversity, equality, and inclusion have come from feminist organizations, such as #HeForShe, the Women’s Empowerment Principles (WEPs), the UN Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), and strategies such as the UN Security Council Resolution: “Women, Peace, Security”. In this regard, it is interesting to point out the International Business Report for

2025, created on the basis of research conducted by Grant Thornton International. The research covered medium-sized companies from 31 world economies and concerned the representation of women in the senior management structures of the aforementioned companies. The research showed that in 2025, the share of women is 34.0%, which represents an increase of 0.5 percentage points compared to 2024 and is above the trend of the last five years. If the trend were to remain unchanged, it is expected that the equal representation of men and women in the highest management structures would be reached only in 2051, which is not a small period of a quarter of a century. Numerous authors, such as El-Dyasty and Elamer (2023); Mnif and Cherif (2021), found in their research that the representation of women in company boards of directors increases their efficiency, affects profitability, ensures transparency of announcements, increases market value, and encourages ESG performance. In addition, gender diversity has a positive impact on a whole range of business performance, such as making better business decisions, innovation, improvement of financial results, and improvement of business culture. This not only improves the status of individual employees and the company as a whole, but can also have a significant positive impact on the overall economy of the country (Grant Thornton 2025). In this regard, it is interesting to mention research conducted by the International Monetary Fund (IMF), which suggests that reducing gender diversity in developing markets could increase GDP in those countries by an average of 23% (Figure 1). Regarding issues of ESG performance, it should be emphasized that female members of the management team outperform their male colleagues in strategic and supervisory roles related to this issue. Women show greater sensitivity related to ethical issues (García-Sánchez et al. 2015, 684) and are more inclined to prioritize the interests of stakeholders (Issa and Hanaysha 2023, 626). Female directors also tend to have a higher level of education (Singh et al. 2008, 50), which contributes to a multiple perspective on ESG issues. Their socialization aimed at avoiding risk (Byrnes et al. 1999, 377-378) leads to proactive approaches to risk management. Adams and Ferreira (2009, 292) proved that the boards of directors of companies in which there are women are much more likely to call executive directors to account for poor business results, while Bear et al. (2010, 218) proved the positive impact of gender diversity in the sense that the presence of women on boards of directors improves the reputation of the company and has a positive effect on financial performance.

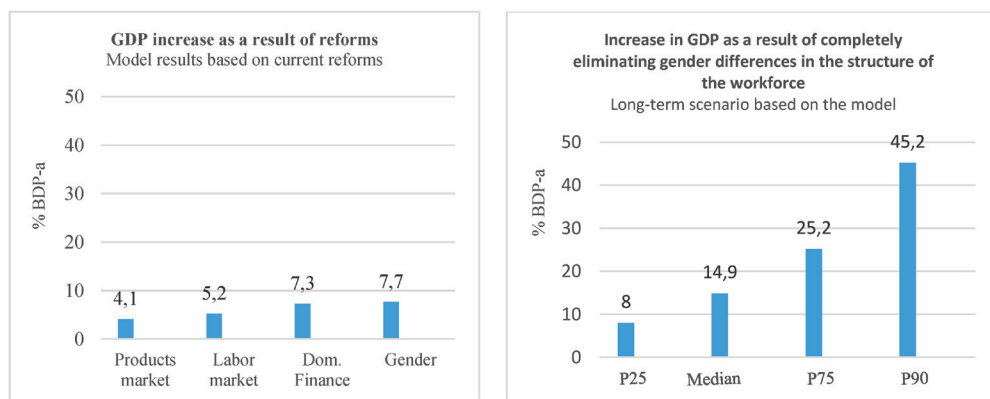


Figure 1. GDP growth conditioned by structural reforms and greater female labor force participation
(Taken from: International Monetary Fund 2024, 8)

Figure 1 shows the potential impact of reforms in governance, product and labor markets, and domestic finances on GDP growth, with a simulation based on a model that reduces gender gaps. “The left side of the figure shows the increase in GDP from actual structural reforms and the reduction of the gender gap in line with what the top 5% of countries achieved during the period

2014-2019. The results suggest that a reduction in the gender gap in line with the average reduction observed in the mentioned 5% of countries could result in an average increase in GDP of 7.7 percent. The right side of the figure illustrates the potential increases in GDP from the reduction of the gender gap in 128 countries, which is a longer-term scenario. GDP growth could reach 23 percent on average. To achieve this, obstacles and disparities, such as financial barriers and informality, would need to be addressed, which requires both broad macrostructural reforms and specific reforms to address the disparities that hinder the reduction of gender gaps” (IMF 2024, 8). The results of comprehensive global action are slowly becoming visible at national levels as well. Thus, Norway and France implement quotas (30%-40%) for female directors on boards of directors, while numerous countries, such as Finland and India, require the presence of at least one female director. The Norwegian law was introduced in 2006, and companies were given two years to comply. According to Norwegian statistical reports, by February 2008, 93% of public companies had met the requirements. In April 2008, the Norwegian government announced full compliance. Efforts to improve gender equality are also visible within professional bodies. The Institute of Chartered Accountants in England and Wales (ICAEW) has launched the Women in Leadership Fellowship and the Women in Leadership Program. Similar networking groups have been established in the USA, such as the Alliance of Women in Accounting and Finance (Mehnaz and Yang 2025). A systematic analysis of research on gender equality, which was conducted in the period 1990-2025 and includes the following areas: Europe, Global (Europe, North America, Asia), Indonesia, Japan, the United Kingdom, Sri Lanka, Ireland, and Australia (Komori 2008; Flynn et al. 2015; García Lara et al. 2016; Khlif and Achek 2017; Faragalla and Tiron-Tudor 2019; Mehnaz and Yang 2025;) showed that, despite positive changes in national and company policies, the accounting profession is still burdened by gender inequality and prejudices. This is particularly worrying due to the fact that almost two-thirds of employees in the accounting profession are women. Despite a dramatic shift from historical male dominance, this quantitative increase in the female workforce has not translated into proportional representation at higher levels of management. The research conducted on this topic, viewed through the prism of the geographical context, showed the existence of a unique pattern: although the number of employed women at the entry level has increased significantly, vertical segregation still exists, and women struggle to reach leadership positions despite the fact that the majority are at lower levels in some countries (Table 1).

Table 1. Geographic context of representation of women in the accounting profession and in leadership positions (Author)

Geographical framework	Representation of women in relation to men	Representation of women in leadership positions
Europe	Women make up almost 2/3 of the accounting workforce	Only 29% in the Big Four companies (Deloitte, PricewaterhouseCoopers, Ernst and Young and KPMG).
Globally	Progress in gender diversity	Only 25% of CFOs and 11% of CEOs are women
Indonesia	No data	Only 13% of boards of directors, 7% of boards of directors, and 5% of audit committees have gender diversity
Sri Lanka	33% share of the female workforce	No data
United Kingdom	Significant increase in the share of the female workforce (46%)	16.3% of women in leadership positions in the top 100 accounting firms

One of the biggest obstacles to women’s career advancement in the accounting profession is the invisible barrier known as the glass ceiling. Namely, it is about the traditional gender stereotype of bias, which refers to the general beliefs that managers are naturally men and women are naturally mothers. In this regard, in accounting firms, women are stereotypically perceived as less capable, in terms of lack of skills needed for career advancement, without power and control, and as too soft and emotional (Adapa et al. 2016, 105). Table 2 shows the problem of the presence of this barrier and its impact on the professional progress of women in the accounting profession.

Table 2. The impact of the glass ceiling phenomenon on the career advancement of women in the accounting profession (Author)

Geographical framework	The existence of a glass ceiling	Career advancement
Ireland	Exists	It takes 13.5 years for women to become partners compared to 6.33 years for men.
Globally	Vertical segregation still exists	Women face challenges due to gender stereotypes and patriarchal systems
Japan	Women are given greater opportunities	Women bring change through a “unique female approach.”

“Instead of being perceived as ‘inferior’, men greatly respect their Japanese counterparts for their support of an interdependent partnership through their social role of ‘wife and mother.’ As a result, they patiently decide to reflect and adjust their attitudes in light of their daily experiences in the male-dominated workplace, while taking advantage of the unique position of women in Japanese society” (Komori 2008, 533). A particularly important issue relates to the present gender pay gap for performing the same jobs. In lower accounting positions, wages are the same or even higher for women, but the gap increases markedly in higher partner positions. Thus, research conducted in Australia and New Zealand in 2024 showed that at the beginning of the career, the difference in wages between the sexes is minimal, but it increases significantly after the age of 30. So, for example, the difference in wages over the age of 60 in Australia is 28% in favor of male employees (Chartered Accountants Australia and New Zealand, 2024).

Table 3. Gender-based salary difference (Author)

Geographical framework	The gender wage gap
UK	The average basic salaries of women are 83% of those awarded to men.
EU	In 11 EU member states, the wage gap in the financial and insurance sectors is particularly pronounced, with gross hourly wages for women more than 30% lower than for men.
Sri Lanka	The broader financial services sector reflects a national trend where women earn, on average, 30-36% less than men.

There are a number of obstacles that women accountants face in their private and professional lives, which hinder their career progress: prejudice, excessive working hours, limited access to organizational knowledge, the burden of family responsibilities, and the need to suppress one’s own femininity in order to succeed (Lupu 2012, 353; Crompton and Lyonette 2011, 233).

Table 4. Types and causes of barriers faced by female accountants (Author)

Barrier category	Specific barriers	Causes
Organizational	Recruitment, selection, and promotion practices; lack of visibility; limited access to organizational knowledge	“Glass ceiling” - invisible barriers rooted in organizational structures and prejudices that prevent women from advancing to higher positions
Structural/institutional	Traditional male dominance, vertical segregation	Hierarchical structure and standardization of work processes create a gendered environment.
Social/cultural	Gender stereotypes; patriarchal masculinity	The ideal manager is conceptualized as a man; social expectations regarding family obligations.
Individual/family	Motherhood and responsibility for caring for children and the elderly	Women are expected to prioritize family needs over career
Discrimination	Discrimination is a key factor explaining the observed gender differences	

CONCLUSION

The concept of accounting in the public interest implies activities that bring benefit to the wider social community, while not omitting, at the same time, respect for the principles of transparency, objectivity, and responsibility. However, the problem faced by the profession is conditioned by pressures coming from the direction of commercial interests, which can lead to compromising ethical standards. Research has shown that, although they are precisely defined and promoted by professional bodies, they very often do not have effective mechanisms that would enable monitoring and sanctioning non-compliance with ethical and public interest principles. In this regard, a more active role of accounting chambers and regulatory bodies is necessary in the direction of strengthening mechanisms of supervision, continuous education and public responsibility of their members. In addition, it is important to work on the promotion of a culture of ethics and integrity as the fundamental pillars of the accounting profession and practice. The problem is further complicated by the deficiencies shown by the educational systems, which in their curricula do not pay the necessary attention to the education of public interest and ethical awareness among future accountants, which can threaten the integrity of the profession. When it comes to the issue of education, it is necessary to point out the difficulties faced by persons with disabilities and members of minority communities in the education system. Education must be accessible to every individual, and the academic community must make greater efforts to actually realize it in practice. The orientation of accounting standards and financial reporting exclusively towards the interests of capital leads to the “concealment” of the impact of business on society, in the sense of transparent reporting on workers’ rights, gender inequality, employment of persons with disabilities, and different sexual orientations, impact on local communities, etc. In this regard, it is important to point out that patriarchal systems, gender stereotypes, and prejudices do not recognize and accept women as equal partners in high leadership positions. Although research shows that female leaders create a better organizational culture and improve business performance, in many cultures, women are still treated as weaker and less capable, destined exclusively for lower, executive jobs. Motherhood and caring for dependent family

members very often appear as a stumbling block, confronting women with inequality and discrimination in relation to their male counterparts. Although the status of women has been changing in a positive direction in recent years, it will take a long time for prejudices to be broken and for women to fight for equal treatment with their male counterparts.

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MONTE KARLO SIMULACIJA U USLOVIMA NEIZVESNOSTI

Rezime: *Primarni cilj ovog teorijskog istraživanja usmeren je ka proširivanju fundamentalnih postavki o značaju i aplikativnoj vrednosti simulacionog modelovanja, sa posebnim fokusom na Monte Karlo simulaciju kao jednu od ključnih metoda za analizu kompleksnih sistema u uslovima neizvesnosti. Rad istražuje konvergenciju Monte Karlo metode i algoritama veštačke inteligencije, apostrofirajući njihovu ulogu u analizi pouzdanosti, optimizaciji i predikciji ponašanja složenih struktura. Inicijalni deo rada sistematizuje teorijske osnove, istorijski razvoj i probabilističke principe zasnovane na teoriji verovatnoće. Detaljno je elaborirana metodologija implementacije, koja obuhvata definisanje problemskog okvira, selekciju distribucija verovatnoće, algoritamske sekvence, kao i procese verifikacije i validacije. Istraživanje identifikuje prednosti i ograničenja u poređenju sa determinističkim pristupima, uz kritički osvrt na računarsku složenost i „prokletstvo dimenzionalnosti“. Poseban doprinos rada ogleda se u analizi hibridnih modela koji integrišu tehnike mašinskog učenja, poput neuronskih mreža i regresionih stabala, čime se postiže ubrzana konvergencija uz visoku preciznost. Rezultati ukazuju na to da ovi sinergijski sistemi konstituišu novu paradigmu u prediktivnoj analitici, omogućavajući proaktivno donošenje odluka u realnom vremenu unutar visokostohastičkih okruženja.*

Ključne riječi: *Monte Karlo simulacija, model, neizvesnost, veštačka inteligencija*

JEL klasifikacija: *C15, C63, D81*

UVOD

Evolucija modernih sistema u okviru inženjerskih, prirodnih i društvenih disciplina, a naročito u ekonomiji, uslovlja je porast kompleksnosti problema koji zahtevaju dublja numerička i analitička istraživanja. Zbog prisustva brojnih međuzavisnih faktora, nelinearnih veza i inherentne stohastičke prirode procesa, često je nemoguće doći do egzaktnih analitičkih rešenja. U ambijentu koji karakterišu neizvesni parametri i oskudne informacije, simulaciono modeliranje se profilise kao ključni metodološki okvir za objektivnu analizu i donošenje odluka utemeljenih na egzaktnim podacima. Pored ove metode svakako je značajna analiza osetljivosti i metoda scenarija kao jedna od veoma bitnih metoda u donošenju odluka u uslovima neizvesnosti i rizika (Mičić i Čičković 2020,11). Monte Karlo simulacija (MCS) predstavlja jedan od najfleksibilnijih i najšire primenjivanih metodoloških okvira u domenu simulacionog modelovanja, čija se arhitektura temelji na postulatima matematičke statistike i teorije verovatnoće. Osnovni operativni princip ove metode počiva na korišćenju pseudoslučajnih brojeva za generisanje stohastičkih ulaznih varijabli, čime se

kroz iterativne simulacione eksperimente vrši procena dinamike posmatranog sistema. Ovakav pristup omogućava preciznu aproksimaciju očekivanih vrednosti, varijanse i gustine raspodele izlaznih veličina, pružajući kritičan uvid u ekstremne ishode i devijacije, što je od ključnog značaja za analizu kompleksnih sistema sa visokim stepenom entropije i neizvesnosti.

Komparativna prednost Monte Karlo simulacije (MCS) ogleda se u njenoj efikasnosti pri rešavanju problema gde konvencionalni deterministički algoritmi pokazuju značajnu neadekvatnost ili računarsku neefikasnost. Za razliku od rigidnih numeričkih pristupa, MCS ne počiva na restriktivnim pretpostavkama o linearnosti ili simplifikaciji modela, već omogućava rad sa proizvoljnim distribucijama verovatnoće i visokostepenim strukturnim kompleksnostima. Zahvaljujući ovoj inherentnoj fleksibilnosti, metoda je postala nezamenljiv analitički instrument u širokom spektru disciplina, od kvantifikacije pouzdanosti tehničkih sistema i energetskog planiranja, preko sofisticiranog finansijskog modeliranja i upravljanja rizicima, pa sve do kompleksnih procesa u hemijskoj kinetici, nuklearnoj fizici i savremenoj biomedicini.

Aplikativni dometi Monte Karlo simulacije doživeli su eksponencijalni rast paralelno sa tehnološkim progresom i masovnom dostupnošću visokoperformansnih računarskih resursa. Savremeni hardverski kapaciteti omogućavaju procesuiranje miliona iteracija u minimalnom vremenskom intervalu, čime se direktno minimizuje statistička greška i postiže visoka preciznost procene kroz bržu konvergenciju rezultata. Paralelno sa hardverskom ekspanzijom, razvoj sofisticiranih metodoloških modifikacija, poput tehnika za redukciju varijanse i algoritama zasnovanih na Markovljevim lancima dodatno je optimizovao računarsku efikasnost i proširio analitički opseg ove metode na visokodimenzionalne i nelinearne probleme.

U savremenom naučnom i poslovnom okruženju, sposobnost predviđanja ishoda pod uslovima neizvesnosti postala je ključna konkurentna prednost. Monte Karlo simulacija decenijama predstavlja primarni alat za rešavanje problema koji su previše složeni za analitička rešenja. Od svog nastanka u okviru projekta Menhetn, Monte Karlo simulacija je evoluirala iz alata za nuklearnu fiziku u univerzalnu metodu probabilističkog zaključivanja (Metropolis i Ulam 1949, 335). Eksponencijalna proliferacija podataka i rastuća kompleksnost savremenih sistema, poput pametnih elektroenergetskih mreža i personalizovanih medicinskih protokola, nameću nove izazove pred tradicionalnu Monte Karlo simulaciju. Primarno ograničenje ove metode ogleda se u visokoj računarskoj intenzivnosti. Naime, postizanje željene statističke preciznosti često zahteva milionske iteracije, što je neodrživo u operativnim okruženjima koja zahtevaju odziv u realnom vremenu. U tom kontekstu, integracija veštačke inteligencije predstavlja ključni iskorak. Sinergija algoritama veštačke inteligencije i Monte Karlo metode omogućava implementaciju mehanizama pametnog uzorkovanja i nelinearnu aproksimaciju funkcija, čime se drastično redukuje broj potrebnih simulacionih koraka uz zadržavanje visokog nivoa pouzdanosti rezultata. Dok su tradicionalne metode poput analize osetljivosti i scenario metode pružile osnovu za ocenu investicija (Mičić i Čičković, 2020), Monte Karlo simulacija omogućava dublji uvid u stohastičku prirodu tržišnih varijabli.

1. ZNAČAJ SIMULACIONOG MODELIRANJA

Simulaciono modelovanje se definiše kao kompleksna naučna i inženjerska disciplina posvećena projektovanju i analizi modela realnih sistema sa primarnim ciljem ispitivanja njihove dinamike u varijabilnim uslovima eksploatacije. Predmet proučavanja ove discipline je apstraktna reprezentacija sistemске strukture i ponašanja, pri čemu se primenom algoritamskih, logičkih i matematičkih modela tradicionalni fizički eksperimenti supstituišu simulacionim postupcima. Implementacija ovakvog metodološkog pristupa omogućava dubinsku evaluaciju sistema koji su previše složeni, ekonomski neisplativi ili visokorizični za ispitivanje u realnom okruženju, kao i sistema za koje ne postoje egzaktna analitička rešenja. Shodno prirodi posmatranog fenomena i definisanim istraživačkim ciljevima, simulacioni modeli se klasifikuju na determinističke ili stohastičke, odnosno na diskretne ili kontinuirane modele.

Jedan od fundamentalnih aspekata simulacionog modelovanja ogleda se u njegovoj sposobnosti da integralno obuhvati elemente slučajnosti i neizvesnosti koji su inherentni brojnim kompleksnim sistemima. S obzirom na to da ulazni parametri u velikom broju praktičnih problema nisu determinisani sa apsolutnom sigurnošću, njihova reprezentacija putem distribucija verovatnoće predstavlja metodološki imperativ. Poseban značaj ovog pristupa za analizu rizika i strateško donošenje odluka leži u činjenici da se finalni rezultati ne svode na izolovane numeričke vrednosti, već artikulišu celokupne raspodele potencijalnih ishoda, čime se omogućava dublji uvid u varijabilnost posmatranog fenomena.

Zbog isplativosti ili uticaja okoline, u mnogim slučajevima, nije praktično moguće započeti sastavljanje sistema (Bisai 2018). Upravo modeliranje i simulacija to omogućava pa istraživači mogu pokrenuti svoje sisteme kako bi u stvarnim sistemima proizveli fenomene koji se javljaju. Modeliranje i simulacija se danas mogu šire koristiti, jer su softverski programi i hardveri jeftiniji, fleksibilniji i moćniji. Dok su potrebe za modeliranjem i simulacijom sve više povećane, ograničenja nisu data na akcentu analize sistema, već i na predviđanje ponašanja, optimizaciju (Barzegar 2017) i projektovanje.

Simulaciono modelovanje dobija na sve većem značaju usled svoje ekstenzivne primene u raznolikim tehničkim i naučnim disciplinama. U domenu ekonomije, ovi modeli su nezaobilazni za evaluaciju finansijskih rizika, pružanje podrške procesima strateškog odlučivanja, kao i za dubinsku analizu tržišnih fluktuacija. Istovremeno, u inženjerstvu je primena ovog vida modelovanja esencijalna za projektovanje kompleksnih tehničkih sistema. Pored toga, simulaciono modelovanje zauzima ključno mesto u prirodnim naukama i medicini, gde služi za istraživanje dinamike širenja bolesti, analizu bioloških sistema i simulaciju fizičkih fenomena. Upravo ta izražena interdisciplinarnost pozicionira simulaciono modelovanje kao jedan od najrelevantnijih istraživačkih instrumenata savremene nauke.

Pojedini modeli za evaluaciju tržišnog rizika koji se oslanjaju na Monte Karlo simulaciju počivaju na pretpostavci da su varijacije u bazičnim faktorima rizika ishod specifičnih stohastičkih procesa. Kroz generisanje dovoljnog broja iteracija, omogućava se formiranje simulirane distribucije za svaki pojedinačni faktor rizika, koja progresivno konvergira ka stvarnoj raspodeli. Proces kvantifikacije tržišnog rizika upotrebom ovih modela realizuje se kroz nekoliko sukcesivnih faza, koje obuhvataju precizno definisanje procesa, konfiguraciju relevantnih faktora izloženosti i finalno utvrđivanje vrednosti pod rizikom.

Simultano sa evolucijom Monte Karlo simulacije, oblast veštačke inteligencije prošla je kroz značajnu transformaciju — od rane simboličke logike do savremenih arhitektura dubokog učenja. U aktuelnim naučnim okvirima, veštačka inteligencija se više ne tretira isključivo kao instrument za identifikaciju obrazaca, već kao primarni mehanizam za strukturnu optimizaciju simulacionih procedura. Sinergija ove dve discipline najeksplicitnije se manifestuje kroz koncept surogat modelovanja. U ovom okviru, nakon sprovedene faze inicijalnog učenja, model zasnovan na veštačkoj inteligenciji preuzima ulogu računski zahtevnog procesa simulacije, čime se postiže drastično ubrzanje uz očuvanje preciznosti rezultata.

2. TEORIJSKE OSNOVE MONTE KARLO SIMULACIJE

2.1. Istorijski razvoj Monte Karlo metode

Potreba za numeričkim metodama sposobnim da reše složene fizičke probleme koji su prevazilazili tadašnje analitičke pristupe, dovela je do nastanka Monte Karlo metode sredinom XX veka. Na projektu Menhetn, prvi put se razvija ova metoda, sa potrebom modelovanja procesa koji su vezani za transport neutrona i lančane reakcije. Tokom istraživanja prvi put je upotreba slučajnog uzorkovanja pokazala da se na efikasan način aproksimuju rešenja problema visoke dimenzionalnosti, pa su tako postavljeni prvi temelji Monte Karlo simulacije kao numeričke

metode (Eckhardt 1987, 133).

Sam naziv metode „Monte Karlo” pripisuje se Stanislavu Ulamu, koji je uočio podudaranja između slučajnog uzorkovanja u matematičkim problemima i igara na sreću koje su bile karakteristične za kazina u Monte Karlu. Ulam je zajedno sa Džonom fon Nojmanom i Nikolasom Metropolisom, razvio osnovne principe metode, a zatim doprineo formalizaciji u kontekstu numeričkih proračuna. Upravo ovakvi radovi, poslužili su za postavljanje teorijske i praktične osnove za dalji razvoj ove metode, kao i njenu širu primenu u inženjerstvu i nauci (Metropolis i Ulam 1949).

Dalja evolucija Monte Karlo metode neraskidivo je povezana sa progresom računarske tehnologije. Pojava prvih digitalnih računara omogućila je potpunu automatizaciju generisanja pseudo-slučajnih brojeva i izvođenje masovnih simulacionih iteracija, što je fundamentalno unapredilo preciznost i praktičnu primenljivost ovog pristupa. Tokom druge polovine dvadesetog veka, primena Monte Karlo simulacije doživela je ekspanziju izvan okvira nuklearne fizike, prodirući u domene statističke mehanike, teorije redova čekanja i numeričke integracije. Ovakav istorijski razvoj potvrđuje njenu prirodu univerzalnog numeričkog instrumenta koji je primenljiv u najrazličitijim naučnim disciplinama.

Ključnu prekretnicu u evolucionom razvoju Monte Karlo metode predstavlja implementacija Markovog lanca Monte Karlo (eng. Markov Chain Monte Carlo – MCMC), čime je omogućeno visokoefikasno uzorkovanje iz kompleksnih, višedimenzionalnih raspodela verovatnoće. Konceptualni pomak koji su doneli algoritmi poput Metropolis-Hastings i Gibsovog uzorkovanja (eng. Gibbs sampling) transformisao je metodu iz bazične numeričke tehnike u sofisticiran istraživački instrumentarijum. Ovakav metodološki iskorak suštinski je unapredio kapacitete Bajesove inferencije, mašinskog učenja i savremene statističke analize, pozicionirajući Monte Karlo simulaciju kao nezaobilazan okvir unutar divergentnih naučnih disciplina koje se bave modelovanjem visokokompleksnih sistema.

U savremenom naučnom paradigmi, Monte Karlo metoda konstituise fundamentalni stub numeričke analize i simulacionog modelovanja kompleksnih sistema. Istorijska evolucija ovog pristupa svedoči o transformaciji inicijalnog koncepta zasnovanog na stohastičkim procesima u rigorozan i moćan matematički aparat, čiji se aplikativni domen kontinuirano ekspandira usled eksponencijalnog razvoja komputacionih resursa i algoritamskih inovacija. Analiza hronološkog razvoja ove metode ne pruža samo duboki uvid u njene probabilističke osnove, već i eksplicitno argumentuje razloge zbog kojih ona zauzima centralno mesto u savremenoj arhitekturi simulacionog modelovanja, služeći kao bazična platforma za rešavanje problema visoke dimenzionalnosti u uslovima neizvesnosti.



Slika 1. Naučnici koji su doprineli stvaranju Monte Karlo simulacije: Stanislaw Ulam, Džon fon Nojman i Nikolas Metropolis (Metropolis 1987)

2.2. Osnovni principi slučajnosti i probabilističkog modeliranja

Tokom modeliranja realnih sistema, slučajnost predstavlja fundamentalni koncept, budući da mnogi procesi u prirodi, tehnici i društvu ne mogu biti opisani determinističkim zakonima. Uvođenje slučajnih promenljivih u model zahteva se u takvim sistemima, gde ponašanje pojedinih elemenata zavisi od faktora koji su nedovoljno poznati ili nepredvidivi. Monte Karlo simulacija se upravo oslanja na formalizovanu upotrebu slučajnosti kako bi se aproksimiralo ponašanje sistema kroz veliki broj realizacija, pri čemu se pojedinačni ishodi posmatraju kao rezultat slučajnih eksperimenata (Ross 2014).

Izbor odgovarajućih distribucija verovatnoće za opis ulaznih promenljivih, predstavlja ključni element probabilističkog modeliranja. Ovaj izbor može biti zasnovan na empirijskim podacima, ekspertskim procenama ili teorijskim pretpostavkama. Validnost rezultata simulacije se može narušiti ukoliko su neadekvatno odabrane distribucije, pa se iz tog razloga posebna pažnja posvećuje statističkoj analizi podataka i proveru pretpostavki modela. Probabilističko modeliranje, u tom smislu, zahteva interdisciplinarni pristup koji kombinuje statistiku, teoriju verovatnoće i domensko znanje o posmatranom sistemu (Law 2015).

U okviru Monte Karlo simulacije, fenomen slučajnosti se operacionalizuje putem generisanja pseudoslučajnih brojeva, koji služe kao osnova za proces uzorkovanja iz unapred definisanih distribucija verovatnoće. Uprkos činjenici da su ovi brojevi proizvod determinističkih algoritama, njihova statistička svojstva omogućavaju adekvatnu aproksimaciju istinske slučajnosti u praktičnim primenama. Postulati uniformnosti i međusobne nezavisnosti generisanih nizova predstavljaju fundament za preciznost simulacionih ishoda i validnost celokupnog probabilističkog modelovanja, pri čemu se poseban akcenat stavlja na kvalitet i pouzdanost generatora slučajnih brojeva.

3. METODOLOGIJA IMPLEMENTACIJE MONTE KARLO SIMULACIJE

Metodološki okvir implementacije Monte Karlo simulacije otpočinje preciznom definicijom istraživačkog problema i ciljeva analize. Ova početna faza zahteva egzaktnu identifikaciju izlaznih veličina koje su predmet procene, kao i determinisanje relevantnih ulaznih parametara i njihovih međusobnih korelacija unutar sistema. Pravilna formulacija problema predstavlja ključni korak, s obzirom na to da ona direktno determiniše selekciju modela, izbor odgovarajućih distribucija verovatnoće i finalnu interpretaciju dobijenih rezultata. Bez obzira na tehničku preciznost samog simulacionog procesa, neadekvatna definicija polaznih osnova može rezultirati pogrešnim zaključcima i narušiti validnost istraživanja.

Kada se definiše problem, sledi izbor i specifikacija ulaznih distribucija verovatnoće. Ovaj korak podrazumeva prikupljanje i analizu dostupnih podataka, kao i donošenje pretpostavki o obliku distribucija u slučajevima kada empirijski podaci nisu potpuni. U zavisnosti od prirode procesa koji se modelira, ulazne promenljive mogu biti opisane kontinuiranim ili diskretnim distribucijama. Ulazne pretpostavke direktno određuju statističke karakteristike izlaznih veličina, pa tačnost simulacionih rezultata u velikoj meri zavisi od kvaliteta ovog koraka (Law 2015). Centralni segment implementacije Monte Karlo simulacije obuhvata generisanje pseudoslučajnih brojeva i proces uzorkovanja iz unapred definisanih raspodela verovatnoće. Pseudoslučajni nizovi se primenjuju za kreiranje realizacija ulaznih varijabli, pri čemu je od suštinske važnosti njihova statistička nezavisnost i uniformna distribuiranost. Na temelju ovih realizacija, simulacioni model se podvrgava masovnim iterativnim procesima, gde se ishodi svakog pojedinačnog ciklusa registruju za potrebe naknadne statističke obrade. Da bi se osigurala metodološka stabilnost i konvergencija dobijenih procena, neophodno je obezbediti adekvatno visok broj simulacionih ponavljanja.

Nakon izvršavanja simulacije, sledi statistička obrada i analiza dobijenih rezultata. Ova faza obuhvata procenu intervala poverenja, izračunavanje osnovnih deskriptivnih statistika, kao i analizu osetljivosti izlaznih veličina na promene ulaznih parametara. Posebna pažnja posvećuje se proveru konvergencije rezultata i proceni greške simulacije. Statistička analiza omogućava donošenje zaključaka o značaju dobijenih procena i pouzdanosti, čime se rezultati simulacije pretvaraju u korisne informacije za odlučivanje (Ross 2014).

3.1. Definisanje problema i modela sistema

Definisanje problema predstavlja početni i jedan od najkritičnijih koraka (Zarev i Stojković Terzić i Trifunović 2025) u procesu simulacionog modeliranja. Ova faza zahteva da se jasno formuliše cilj simulacije, tj. da se odrede koje se pojave ili odluke sistema analiziraju. Identifikacija sistema koji se posmatra treba biti obuhvaćena precizno definisanim problemom, relevantnim ulaznim i izlaznim promenljivim, granicama sistema i vremenskom analizom. Ukoliko se problem ne definiše jasno i precizno, to može dovesti do razvoja modela koji ne odgovara stvarnim potrebama analize, pa bi tako bila umanjena vrednost simulacionih rezultata.

Model sistema se definiše kao uprošćena, ali formalno strukturirana reprezentacija realiteta koja zadržava isključivo one ključne karakteristike relevantne za predmetni istraživački problem. Proces simulacionog modelovanja podrazumeva konstruisanje modela putem matematičkih relacija, logičkih pravila i algoritamskih procedura. Prilikom izrade, istraživač formuliše niz pretpostavki o strukturi sistema, modalitetima interakcije i međuzavisnosti njegovih konstitutivnih elemenata. S obzirom na to da ove pretpostavke direktno determinišu validnost i preciznost simulacionih ishoda, neophodno je da one budu teorijski utemeljene i transparentno dokumentovane.

Determinisanje adekvatnog nivoa apstrakcije predstavlja jedan od fundamentalnih aspekata u procesu definisanja modela sistema. Suviše redukovani model nosi rizik od zanemarivanja kritične dinamike sistema, dok preterano detaljna reprezentacija može rezultirati komputacionom zahtevnošću i smanjenom transparentnošću. U okviru Monte Karlo simulacije, idealan model treba da bude projektovan tako da zadrži dovoljnu jednostavnost radi omogućavanja masovnih simulacionih eksperimenata, ali istovremeno i visok stepen realizma radi verodostojne refleksije uticaja stohastičkih varijabli. Postizanje optimalnog balansa između računске efikasnosti i vernosti prikaza realiteta ključno je za uspeh simulacionog modelovanja.

Proces definisanja modela sistema obuhvata i preciznu identifikaciju determinističkih i stohastičkih komponenti koje konstituišu posmatrani fenomen. Prilikom formulisanja determinističkih segmenata, neophodno je integralno obuhvatiti izvore poremećenih dejstava koji su prisutni u realnim procesima, a koji mogu imati deterministički, stohastički ili mešoviti karakter. U okviru Monte Karlo simulacije, upravo stohastički elementi zauzimaju centralnu poziciju, budući da omogućavaju modelovanje varijabilnosti sistema i preciznu kvantifikaciju neizvesnosti. Jasna distinkcija između ovih komponenti značajno olakšava kasniju implementaciju algoritama i interpretaciju dobijenih rezultata.

Finalna etapa procesa definisanja problema i modela sistema podrazumeva sprovođenje preliminarne verifikacije smislenosti modela, što uključuje komparativnu analizu sa dostupnim empirijskim i teorijskim saznanjima, kao i konsultacije sa ekspertima iz predmetne oblasti. Radi sistematičnog uobličavanja problemskog okvira i transparentnog prikaza strukture simulacionog modela, u Tabeli 1 su sistematizovani ključni elementi i parametri Monte Karlo simulacije. Tabela pruža uvid u bazične komponente modela, obuhvatajući specifičnosti posmatranog sistema, definisane ciljeve, ulazne i izlazne varijable, kao i teorijske pretpostavke i operativna ograničenja. Ovakav pristup obezbeđuje koherentnu i preglednu osnovu za dalju realizaciju simulacionog eksperimenta.

Tabela 1. Ključni elementi i parametri simulacionog modela (autori)

Element modela	Opis	Primer vrednosti
Cilj simulacije	Procena ponašanja sistema pod uticajem neizvesnosti	Procena vrednosti zagušenja sistema
Posmatrani sistem	Sistem sa stohastičkim ponašanjem	Telekomunikaciona mreža / servisni sistem
Ulazne promenljive	Slučajne promenljive koje utiču na sistem	Vreme dolaska, vreme obrade
Ulazne distribucije	Verovatnoće raspodele ulaznih veličina	Eksponecijalna, normalna
Izlazne promenljive	Veličine koje se procenjuju simulacijom	Prosečno vreme čekanja
Broj iteracija	Broj nezavisnih ponavljanja	104 - 106
Pretpostavke modela	Uslovi pod kojima model važi	Nezavisnost događaja
Ograničenja modela	Faktori koji utiču na tačnost	Aproksimacija realnog sistema

3.2. Izbor ulaznih distribucija verovatnoće

Jedan od najvažnijih koraka u implementaciji Monte Karlo simulacije, predstavlja izbor ulaznih distribucija verovatnoće, jer direktno utiče na interpretaciju i validnost dobijenih rezultata. Ulazne promenljive u simulacionom modelu često predstavljaju veličine koje su podložne slučajnim fluktuacijama, kao što su trajanje procesa, vreme dolaska zahteva, opterećenje resursa ili gubici u sistemu. Ove veličine se opisuju odgovarajućim distribucijama verovatnoće, umesto determinističkog pristupa, čime se omogućava realističniji prikaz ponašanja sistema u uslovima neizvesnosti (Law 2015). Proces izbora distribucija može biti zasnovan na teorijskim pretpostavkama ili empirijskim podacima o prirodi posmatranog procesa.

U Monte Karlo simulacijama često se koriste standardne teorijske distribucije, kao što su normalna, uniformna, Puasonova ili ekspanencijalna raspodela. Pravilno razumevanje je ključno za adekvatno modeliranje sistema, jer svaka od distribucija ima specifična svojstva i oblast primene. Na primer, ekspanencijalna raspodela se često koristi za modeliranje vremena između događaja u sistemima sa slučajnim dolascima, dok se normalna raspodela primenjuje za veličine koje predstavljaju zbir velikog broja nezavisnih slučajnih uticaja (Ross 2014).

Unutar domena telekomunikacija, selekcija ulaznih distribucija zauzima kritično mesto usled varijabilnog opterećenja mreže i inherentne stohastičke prirode saobraćajnih tokova. Dok se tradicionalni saobraćajni procesi u telekomunikacionim sistemima učestalo modeluju primenom Puasonovih i ekspanencijalnih raspodela, savremene mrežne arhitekture zahtevaju implementaciju distribucija sa teškim repovima radi preciznijeg opisa rafalnog karaktera saobraćaja. Adekvatno modelovanje predstavlja fundament za pouzdanu simulaciju ključnih performansi sistema, kao što su kašnjenje, propusni opseg i verovatnoća gubitka paketa. Nakon odabira odgovarajućih funkcija raspodele verovatnoće, neophodno je izvršiti verifikaciju njihove adekvatnosti primenom testova slaganja, analiza osetljivosti ili specijalizovanih grafičkih metoda.

3.3. Algoritamski koraci Monte Karlo simulacije

Algoritamska struktura Monte Karlo simulacije zasniva se na jasno definisanom nizu koraka koji omogućavaju sistematsko sprovođenje simulacionog eksperimenta. Formalna specifikacija

simulacionog modela podrazumeva prvi korak koji uključuje definisanje ulaznih promenljivih, njihove međusobne zavisnosti i distribuciju verovatnoće. Tokom ove faze takođe se definišu izlazne veličine od interesa i kriterijuma na osnovu kojih se analiziraju simulacije. Osnova za pravilnu implementaciju algoritma i kasniju interpretaciju rezultata predstavlja se preciznom formalizacijom modela (Law 2015).

Nakon precizne specifikacije modela, pristupa se generisanju pseudoslučajnih brojeva koji predstavljaju fundamentalnu osnovu za proces uzorkovanja iz prethodno definisanih distribucija verovatnoće. Navedeni brojevi se, primenom metoda inverzne transformacije ili drugih specijalizovanih tehnika uzorkovanja, konvertuju u konkretne realizacije ulaznih promenljivih. Validnost celokupne Monte Karlo simulacije direktno je uslovljena pretpostavkama o uniformnosti i statističkoj nezavisnosti generisanih nizova, s obzirom na to da ovi parametri neposredno determinišu preciznost i pouzdanost statističkih procena izvedenih putem simulacionog eksperimenta.

Centralni deo Monte Karlo algoritma čini iterativno izvršavanje simulacionog modela. U svakoj iteraciji generiše se novi skup ulaznih vrednosti, na osnovu kojih se računa odgovarajući ishod sistema. Ponavljanje ovog postupka vrši se više puta, pri čemu se rezultati svake iteracije beleže radi dalje obrade. U skladu sa željenom preciznošću rezultata i dostupnim računarskim resursima se bira broj iteracija, jer statistička greška opada sa porastom broja simulacionih ponavljanja (Ross 2014). Posle završetka simulacionih iteracija, sledi faza statističke obrade dobijenih rezultata.

Nakon generisanja relevantnih statističkih procena, nastupa finalna algoritamska etapa Monte Karlo simulacije koja obuhvata interpretaciju rezultata i formulisane naučnih zaključaka. Ovaj proces podrazumeva rigoroznu komparaciju dobijenih simulacionih ishoda sa teorijskim postavkama, empirijskim podacima ili alternativnim modelima radi potvrde validnosti istraživanja. U cilju precizne evaluacije uticaja varijacija ulaznih parametara na izlazne performanse sistema, sprovodi se analiza osetljivosti. Ovakav metodološki pristup omogućava identifikaciju ključnih faktora koji determinišu dinamiku sistema, čime se stvara osnova za donošenje informisanih i naučno utemeljenih odluka.

3.4. Validacija i verifikacija simulacionog modela

Proces provere u kome se gleda da li je model pravilno implementiran u skladu sa njegovom matematičkom i konceptualnom specifikacijom predstavlja verifikaciju simulacionog modela. Cilj ovog postupka jeste identifikovati programske greške, logičke nedoslednosti i nepravilne implementacije algoritama. Verifikacija, u kontekstu Monte Karlo simulacije, obuhvata pravilnost uzorkovanja uloženi promenljivih, tačnost generisanja pseudoslučajnih brojeva kao i ispravnost izlaznih veličina koje se izračunavaju u svakoj iteraciji simulacije (Law 2015).

Validacija simulacionog modela predstavlja kritički proces evaluacije stepena u kojem model verodostojno reflektuje realni sistem ili posmatrani proces. Primarna intencija ovog postupka ogleda se u utvrđivanju teorijske i praktične relevantnosti simulacionih ishoda u komparaciji sa empirijskim podacima ili projektovanim ponašanjem sistema pod specifičnim okolnostima. U kontekstu primene Monte Karlo simulacije, postupak validacije se najčešće realizuje kroz rigorozno poređenje dobijenih rezultata sa analitičkim rešenjima, prethodno verifikovanim istraživanjima ili dostupnim istorijskim podacima iz realnog okruženja.

Statistička komparacija simulacionih ishoda sa empirijskim merenjima ili prethodno utvrđenim vrednostima sistema predstavlja jednu od fundamentalnih tehnika validacije. Ovaj metodološki okvir obuhvata primenu testova statističkih hipoteza, analizu rezidualnih grešaka i konstrukciju intervala poverenja, čime se obezbeđuje visoka statistička značajnost dobijenih zaključaka. Ovakva analitička procedura omogućava preciznu identifikaciju potencijalnih izvora devijacija, kao i egzaktnu kvantitativnu evaluaciju kvaliteta projektovanog modela. Pored rigoroznih kvantitativnih metoda, proces validacije neretko integriše i kvalitativne pristupe, poput ekspertske procene i ispitivanja odziva modela u ekstremnim ili graničnim uslovima eksploatacije.

4. METODOLOGIJA INTEGRACIJE VEŠTAČKE INTELIGENCIJE I MONTE KARLO SIMULACIJE

Metodološki okvir koji integriše veštačku inteligenciju u proces Monte Karlo simulacije ne predstavlja puku automatizaciju postojećih operacija, već označava suštinsku transformaciju modaliteta uzorkovanja prostora stanja i obrade generisanih rezultata. Dok se konvencionalna Monte Karlo simulacija primarno oslanja na metodu grube sile, hibridni modeli koji objedinjuju Monte Karlo simulaciju i veštačku inteligenciju koriste napredne kognitivne kapacitete algoritama za identifikaciju kompleksnih nelinearnih zavisnosti unutar samog modela. Aplikativna vrednost ovih hibridnih pristupa danas je naročito istaknuta u strateškim sektorima poput ekološkog inženjerstva, gde se primenjuju za optimizaciju trodimenzionalnih elektrohemijskih tretmana otpadnih voda putem visoko preciznog modelovanja hemijskih reakcija. Upotrebom veštačke inteligencije za predviđanje ishoda na osnovu Monte Karlo parametara, istraživači postižu visoku efikasnost uz minimalne troškove energije (Voravich, Merenghege, i Trzcinski 2024, 41). Biomedicina i nanomedicina u terapiji kancera za precizna doziranja zračenja koristi Monte Karlo simuliranje za modeliranje putanja čestica, dok veštačka inteligencije pomaže u prilagođavanju plana zračenja u realnom vremenu na osnovu anatomske promene pacijenta (Chow 2025, 15). U građevinarstvu i geotehnici, analiza stabilnosti kosina podložnih anizotropiji zahteva ogromne resurse. Mašinsko učenje omogućava da se Monte Karlo simulacija fokusira na kritične tačke pucanja, čime se proces ubrzava i do deset puta (Aminpour et al. 2022). Savremeni pristupi u investicionoj analizi koriste mašinsko učenje za interpretaciju ogromnog broja podataka dobijenih Monte Karlo simulacijom. Kako navode autori (Kozlova, Collan, i Tapani 2022), integracija omogućava automatizovanu klasifikaciju ishoda i identifikaciju najprofitabilnijih putanja u uslovima visoke tržišne volatilnosti, što značajno ubrzava proces donošenja strateških odluka.

U kontekstu finansijskih tržišta, tradicionalni modeli procene rizika često ne uspevaju da obuhvate ekstremne tržišne potrebe. Pojedini autori (Stojanović et al. 2023) ističu da integracija Monte Karlo simulacije sa veštačkim neuronskim mrežama omogućava preciznije predviđanje indikatora tržišnih rizika, jer neuronske mreže efikasnije prepoznaju nelinearne obrasce u istorijskim podacima koje simulacija potom koristi za generisanje budućih scenarija.

4.1. Koncept surogat modeliranja (Metamodelling)

Centralna tačka integracije je razvoj surogat modela. Proces započinje izvršavanjem ograničenog broja visokopreciznih, ali računski skupih Monte Karlo simulacija koje služe kao trening set. Na ovim podacima se obučava algoritam mašinskog učenja. Nakon obuke, model veštačke inteligencije preuzima ulogu "proksija" koji predviđa ishode za preostalih milion iteracija u milisekundama. Prema istraživanjima (Aminpour et al. 2022), ovakav pristup smanjuje računsko vreme za preko 85%, uz zanemariv pad preciznosti, što je ključno za analizu pouzdanosti u realnom vremenu. Pored strukturne pouzdanosti, hibridni pristup koji kombinuje Monte Karlo simulaciju i duboko učenje (Deep Learning) pokazuje izuzetne rezultate u predviđanju pouzdanosti složenih industrijskih sistema, gde se veštačka inteligencija koristi za modelovanje vremenskih serija otkaza koje bi klasična simulacija predugo procesuirala (Li et al. 2024).

4.2. Adaptivno uzorkovanje i redukcija varijanse

Jedan od fundamentalnih komputacionih izazova u implementaciji Monte Karlo simulacije odnosi se na nisku stopu konvergencije. Metodološki progres postignut integracijom veštačke inteligencije reflektuje se primarno kroz razvoj mehanizama adaptivnog uzorkovanja. Umesto kon-

vencionalne stohastičke selekcije ulaznih parametara, algoritmi veštačke inteligencije sprovode kontinuiranu evaluaciju rezultata radi identifikacije domena „visoke entropije“ ili „kritičnih pragova otkaza“. Ovakva ciljana fokusiranost na kritične zone (kao što su ekstremne vrednosti mehaničkog opterećenja u inženjerstvu), u literaturi se definiše kao inteligentno uzorkovanje (eng. smart sampling). Implementacijom ovog pristupa direktno se optimizuje varijansa modela, čime se sprečava neefikasna distribucija računarskih resursa na predvidive i stabilne ishode, značajno ubrzavajući proces postizanja statistički relevantnih rezultata.

Problem niske verovatnoće otkaza kod složenih konstrukcija, koji zahteva ogroman broj iteracija u standardnoj Monte Karlo metodi, efikasno se rešava integracijom algoritama mašinskog učenja koji služe za inteligentnu identifikaciju kritičnih domena uzorkovanja (Guo et al. 2024). Integracija algoritama veštačke inteligencije omogućava razvoj surogat modela koji drastično redukuju broj potrebnih simulacionih koraka (Guo et al. 2024), čime se rešava problem visoke računarske intenzivnosti tradicionalne Monte Karlo metode.

4.3. Algoritamska arhitektura hibridnog procesa

Tipičan radni tok integrisanog modela obuhvata četiri ključne faze. Prva faza je generisanje uzoraka, korišćenje kvazi-Monte Karlo metoda za inicijalno pokrivanje prostora (Dick, Kuo, i Sloan 2013). Druga faza je obuka, mapiranje ulaznih parametara na izlazne rezultate pomoću algoritama veštačke inteligencije. Treća faza je predikcija, masovna simulacija nad surogat modelom. Poslednja faza je validacija, izvršavanje kontrolnih Monte Karlo simulacija na nasumičnim tačkama radi potvrde tačnosti modela veštačke inteligencije. U specifičnim oblastima, poput fizike plazme, ova metodologija omogućava modeliranje interakcija čestica koje bi bez akceleracije veštačke inteligencije zahtevale mesece superkompjuterskog rada (Bisai i Kaw 2018). U nanomedicini, ovaj proces omogućava da se simulacija putanje čestica zračenja prilagodi trenutnom položaju tumora, što predstavlja vrhunac precizne terapije (Chow 2025, 15). Savremena istraživanja ukazuju na to da surogat modeli zasnovani na dubokom učenju mogu uspešno zameniti kompleksne Monte Karlo simulacije u protonskoj radioterapiji kod pacijenata sa tumorom mozga, zadržavajući visoku preciznost uz značajno smanjenje potrebnih računarskih resursa (Starke et al. 2024).

U sektoru energetike i investicionog planiranja, hibridni modeli se koriste za analizu realnih opcija. Istraživanje (Kozlova, Collan, i Tapani 2022) pokazuje da primena ovih metoda kod projekata obnovljivih izvora energije omogućava menadžmentu da preciznije proceni trenutak investiranja, smanjujući rizik od gubitaka koji su posledica nepredvidivih promena cena na tržištu.

U sferi finansijske stabilnosti i finansijskog sektora (Myers 1977; Myers and Majluf 1984; Myers 1993; Duvnjak 2021) integracija Monte Karlo simulacije sa mašinskim učenjem postaje standard za sprovođenje stres testova. Ovi modeli omogućavaju simulaciju ekstremnih tržišnih scenarija uz istovremenu analizu pomoću veštačke inteligencije međuzavisnosti različitih faktora rizika u realnom vremenu. Istraživanje ukazuje na to da ovakvi modeli omogućavaju precizniju identifikaciju sistemskih rizika u uslovima ekstremne tržišne volatilnosti, što je od ključnog značaja za moderni bankarski sektor (Zhang et al. 2023).

ZAKLJUČAK

Monte Karlo simulacija se pozicionirala kao jedna od najznačajnijih i najšire primenljivih metoda u domenu savremenog simulacionog modelovanja, naročito u okviru analize sistema koje odlikuju visoka neizvesnost, strukturalna složenost i nelinearnost. U ovom radu su detaljno sintetizovani teorijski temelji, istorijska geneza, proces implementacije, kao i aktuelna, eksten-

zivna primena u modernim naučnim i inženjerskim disciplinama. Poseban akcenat je stavljen na ulogu slučajnosti i probabilističkog modelovanja, koji omogućavaju znatno realističniju reprezentaciju ponašanja sistema u poređenju sa rigidnim determinističkim modelima, pružajući time dublji uvid u stohastičku prirodu realnih procesa.

Pravilna interpretacija ishoda Monte Karlo simulacije od krucijalnog je značaja s obzirom na inherentni probabilistički karakter dobijenih rezultata. Formiranje pouzdanih zaključaka neposredno zavisi od dubinskog razumevanja ključnih statističkih pokazatelja, prvenstveno varijanse, intervala poverenja i konvergencije simulacionih nizova. Shodno tome, Monte Karlo metodu ne bi trebalo tretirati isključivo kao izolovan numerički alat, već kao sveobuhvatan analitički okvir koji istraživaču omogućava precizan uvid u dinamiku i ponašanje sistema pod permanentnim uticajem stohastičkih faktora.

U okviru rada razmatrani su ključni domeni primene Monte Karlo simulacije, sa posebnim osvrtom na analizu pouzdanosti, složene inženjerske strukture, računarske i telekomunikacione sisteme, kao i procese u biomedicini koje karakteriše izražena neizvesnost. Navedeni primeri nedvosmisleno potvrđuju da Monte Karlo metod predstavlja univerzalni numerički instrument, sposoban da odgovori na kompleksne izazove modeliranja u različitim naučnim okvirima. Njegova primena je naročito nezamenljiva u situacijama gde su egzaktna analitička rešenja nedostupna ili njihova praktična implementacija nije izvodljiva zbog visokog stepena kompleksnosti sistema.

U radu su detaljno analizirana ograničenja i prednosti metode, pri čemu je poseban akcenat stavljen na njenu robusnost, fleksibilnost i konceptualnu jednostavnost u praktičnoj primeni. Nasuprot ovim benefitima, identifikovani su izazovi koji se odnose na imperativ visokog kvaliteta ulaznih podataka, kao i na značajnu računarsku složenost i vremenske zahteve pri izvršavanju procesa. Ipak, savremena ekspanzija računarskih tehnologija, razvoj paralelnih sistema i duboka integracija sa mašinskim učenjem i veštačkom inteligencijom, otvaraju nove horizonte za fundamentalno unapređenje efikasnosti i preciznosti Monte Karlo simulacije.

Glavna prednost ove sinergije Monte Karlo simulacije i veštačke inteligencije je dramatično smanjenje vremena potrebnog za dobijanje rezultata. Poseban izazov u simulacionom modelovanju predstavljaju sistemi spinskih stakala, koji zbog svoje frustrirane energetske strukture i velikog broja lokalnih minimuma služe kao reper za testiranje efikasnosti algoritama. Upravo kod ovakvih nelinearnih problema, klasične Monte Karlo metode pokazuju ograničenja, dok populaciono simulirano kaljenje omogućava prevazilaženje energetskih barijera, obezbeđujući konvergenciju ka globalnom optimumu sistema (Barzegar et al. 2017). Uprkos značajnim prednostima, integracija naprednih tehnologija nosi određene rizike, prvenstveno zbog mogućnosti da modeli veštačke inteligencije postanu netransparentne strukture, takozvane „crne kutije“, unutar kojih istraživač gubi jasan uvid u kauzalnost generisanih ishoda. Za razliku od konvencionalne Monte Karlo simulacije, koja počiva na egzaktnim i matematički proverljivim principima, hibridni modeli su esencijalno uslovljeni kvalitetom dostupnih podataka za učenje. Ukoliko su inicijalni simulacioni parametri pristrasni, veštačka inteligencija teži amplifikaciji te pristrasnosti, zbog čega se imperativ stavlja na rigorozne metode verifikacije i validacije. Sinergija ove dve discipline transformiše razumevanje kompleksnosti: dok Monte Karlo simulacija obezbeđuje strogi statistički okvir, veštačka inteligencija doprinosi komputacionom efikasnošću. Budući razvoj usmeren je ka adaptivnim simulacijama sposobnim za autonomnu rekonfiguraciju parametara u realnom vremenu, što za discipline poput medicine, energetike i ekonomije označava prelazak na proaktivne i visokoprecizne paradigme planiranja. Rezultati analize potvrđuju da kombinovani model Monte Karlo simulacije i veštačke inteligencije nadmašuje tradicionalne determinističke metode, jer, prema nalazima autora (Kozlova i Collan i Tapani 2022), omogućava obuhvatanje nelinearnih zavisnosti između varijabli koje klasična

statistika često zanemaruje. Rezultati domaćih istraživanja (Stojanović et al. 2023) potvrđuju da hibridni modeli smanjuju grešku predviđanja u uslovima visoke volatilnosti, što je od strateškog značaja za institucionalne investitore i aktuarsku praksu u regionu. Rad doprinosi literaturi kroz predlog hibridnog modela koji integriše surogat modeliranje i adaptivno uzorkovanje, čime se postiže visoka preciznost uz značajnu redukciju računarskih resursa. Buduća istraživanja trebalo bi da se fokusiraju na razvoj kvantnih Monte Karlo simulacija, koje bi mogle dramatično smanjiti vreme potrebno za rešavanje problema spinskih stakala i drugih složenih optimizacija koje su trenutno ograničene procesorskom snagom klasičnih računara. Implementacija hibridnih modela omogućava prelazak sa reaktivnog upravljanja krizama na proaktivno modelovanje scenarija, čime se nivo poslovnog rizika svodi na minimum, čak i u uslovima ekstremne tržišne nestabilnosti. Poseban izazov ostaje očuvanje transparentnosti modela. Neophodno je insistirati na razvoju objašnjive veštačke inteligencije (Explainable AI) unutar simulacionog okvira, kako bi rezultati dobijeni hibridnim putem ostali matematički proverljivi i etički prihvatljivi za kritične sektore poput medicine i energetike. Zaključno, Monte Karlo simulacija nije samo istorijski važan numerički metod, već dinamična platforma koja, u sinergiji sa kognitivnim kapacitetima veštačke inteligencije, definiše novu epohu u razumevanju i predviđanju složenih sistema. Aktuelna geopolitička nestabilnost na Bliskom istoku i prateća neizvesnost na globalnom tržištu energenata dodatno naglašavaju neophodnost primene naprednih simulacionih modela. U uslovima potencijalne naftne krize, hibridni pristupi koji kombinuju Monte Karlo simulaciju sa algoritmima veštačke inteligencije omogućavaju preciznije predviđanje fluktuacija cena sirove nafte i identifikaciju rizika u lancima snabdevanja. Za razliku od tradicionalnih ekonomskih modela, ovi sistemi mogu simultano procesuirati hiljade stohastičkih varijabli – od rizika zatvaranja ključnih pomorskih ruta do naglih promena u nivoima proizvodnje – pružajući donosiocima odluka kvantifikovanu verovatnoću različitih scenarija. Ovakva proaktivna analitika transformiše način na koji se države i korporacije pripremaju za energetske šokove, omogućavajući formiranje otpornijih ekonomskih strategija u visoko volatilnom okruženju.

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MONTE CARLO SIMULATION UNDER UNCERTAINTY

Summary: *The primary objective of this theoretical research is directed towards expanding the fundamental propositions regarding the significance and applicative value of simulation modeling, with a specific focus on Monte Carlo simulation as one of the key methods for analyzing complex systems under uncertainty. The paper investigates the convergence of the Monte Carlo method and artificial intelligence algorithms, emphasizing their role in reliability analysis, optimization, and behavior prediction of complex structures. The initial part of the study systematizes the theoretical foundations, historical development, and probabilistic principles based on probability theory. The implementation methodology is elaborated in detail, encompassing the definition of the problem framework, selection of probability distributions, algorithmic sequences, as well as verification and validation processes. The research identifies advantages and limitations compared to deterministic approaches, providing a critical review of computational complexity and the “curse of dimensionality.” A particular contribution of the paper is reflected in the analysis of hybrid models that integrate machine learning techniques, such as neural networks and regression trees, thereby achieving accelerated convergence with high precision. The results indicate that these synergistic systems constitute a new paradigm in predictive analytics, enabling proactive real-time decision-making within highly stochastic environments.*

Key words: Monte Carlo simulation, model, uncertainty, artificial intelligence

JEL classification: C15, C63, D81

INTRODUCTION

The evolution of modern systems within engineering, natural, and social disciplines, particularly in economics, has led to an increase in the complexity of problems requiring deeper numerical and analytical research. Due to the presence of numerous interdependent factors, non-linear relationships, and the inherent stochastic nature of processes, it is often impossible to derive exact analytical solutions. In an environment characterized by uncertain parameters and scarce information, simulation modeling emerges as a key methodological framework for objective analysis and data-driven decision-making. Alongside this method, sensitivity analysis and the scenario method are certainly significant as highly important tools for decision-making under conditions of uncertainty and risk (Mičić and Čičković 2020, 11).

Monte Carlo simulation (MCS) represents one of the most flexible and widely applied methodological frameworks in the domain of simulation modeling, with an architecture founded on the

postulates of mathematical statistics and probability theory. The core operational principle of this method relies on the use of pseudorandom numbers to generate stochastic input variables, whereby iterative simulation experiments are conducted to evaluate the dynamics of the observed system. Such an approach enables a precise approximation of expected values, variance, and probability density functions of the output variables, providing critical insight into extreme outcomes and deviations. This is of crucial importance for the analysis of complex systems characterized by high levels of entropy and uncertainty.

The comparative advantage of Monte Carlo simulation (MCS) lies in its efficiency when solving problems where conventional deterministic algorithms exhibit significant inadequacy or computational inefficiency. Unlike rigid numerical approaches, MCS does not rely on restrictive assumptions regarding linearity or model simplification; instead, it allows for the handling of arbitrary probability distributions and high-level structural complexities. Due to this inherent flexibility, the method has become an indispensable analytical instrument across a broad spectrum of disciplines—ranging from reliability quantification of technical systems and energy planning to sophisticated financial modeling and risk management, as well as complex processes in chemical kinetics, nuclear physics, and contemporary biomedicine.

The applicative scope of Monte Carlo simulation has experienced exponential growth in tandem with technological progress and the widespread availability of high-performance computing resources. Modern hardware capacities enable the processing of millions of iterations within a minimal time interval, thereby directly minimizing statistical error and achieving high estimation precision through faster convergence of results. Parallel to this hardware expansion, the development of sophisticated methodological modifications, such as variance reduction techniques and Markov Chain-based algorithms, has further optimized computational efficiency and expanded the analytical scope of this method to high-dimensional and non-linear problems. In the contemporary scientific and business environment, the ability to predict outcomes under conditions of uncertainty has become a key competitive advantage. For decades, Monte Carlo simulation has represented the primary tool for solving problems too complex for analytical solutions. Since its inception within the Manhattan Project, Monte Carlo simulation has evolved from a tool for nuclear physics into a universal method of probabilistic inference (Metropolis and Ulam 1949, 335). The exponential proliferation of data and the increasing complexity of modern systems—such as smart power grids and personalized medical protocols—pose new challenges to traditional Monte Carlo simulation. The primary limitation of this method lies in its high computational intensity; specifically, achieving the desired statistical precision often requires millions of iterations, which is unsustainable in operational environments requiring real-time response. In this context, the integration of artificial intelligence represents a pivotal step forward. The synergy between artificial intelligence algorithms and the Monte Carlo method enables the implementation of smart sampling mechanisms and non-linear function approximation, thereby drastically reducing the number of required simulation steps while maintaining a high level of result reliability. While traditional methods, such as sensitivity analysis and the scenario method, have provided a basis for investment appraisal (Mičić and Čičković 2020), Monte Carlo simulation allows for a deeper insight into the stochastic nature of market variables.

1. THE SIGNIFICANCE OF SIMULATION MODELING

Simulation modeling is defined as a complex scientific and engineering discipline dedicated to the design and analysis of real-world system models, with the primary objective of examining their dynamics under variable operational conditions. The subject of study in this discipline is the abstract representation of system structure and behavior, whereby traditional physical experiments are substituted with simulation procedures through the application of algorithmic, logical, and mathematical models. The implementation of such a methodological approach enables an in-depth evaluation of systems that are too complex, economically unfeasible, or high-risk for testing in a

real-world environment, as well as systems for which no exact analytical solutions exist. Depending on the nature of the observed phenomenon and the defined research objectives, simulation models are classified as deterministic or stochastic, as well as discrete or continuous models.

One of the fundamental aspects of simulation modeling is reflected in its ability to integrally encompass elements of randomness and uncertainty inherent in numerous complex systems. Given that input parameters in a large number of practical problems are not determined with absolute certainty, their representation through probability distributions constitutes a methodological imperative. The particular significance of this approach for risk analysis and strategic decision-making lies in the fact that the final results are not reduced to isolated numerical values, but instead articulate entire distributions of potential outcomes, thereby enabling a deeper insight into the variability of the observed phenomenon.

Due to cost-effectiveness or environmental impact, in many cases, it is practically impossible to commence the physical assembly of a system (Bisai 2018). Modeling and simulation precisely enable this, allowing researchers to run their systems to replicate phenomena that occur in real-world systems. Today, modeling and simulation can be used more extensively as software programs and hardware have become more affordable, flexible, and powerful. While the demands for modeling and simulation continue to increase, the emphasis is no longer placed solely on system analysis, but also on behavior prediction, optimization (Barzegar 2017), and design. Simulation modeling is gaining increasing significance due to its extensive application across diverse technical and scientific disciplines. In the field of economics, these models are indispensable for evaluating financial risks, supporting strategic decision-making processes, and conducting in-depth analyses of market fluctuations. Simultaneously, in engineering, the application of this form of modeling is essential for designing complex technical systems. Furthermore, simulation modeling holds a key position in the natural sciences and medicine, where it is used to investigate disease spread dynamics, analyze biological systems, and simulate physical phenomena. It is precisely this pronounced interdisciplinarity that positions simulation modeling as one of the most relevant research instruments in contemporary science.

Certain market risk evaluation models that rely on Monte Carlo simulation are based on the assumption that variations in underlying risk factors are the outcomes of specific stochastic processes. By generating a sufficient number of iterations, it becomes possible to form a simulated distribution for each individual risk factor, which progressively converges toward the actual distribution. The process of quantifying market risk using these models is realized through several successive phases, encompassing the precise definition of the process, the configuration of relevant exposure factors, and the final determination of Value at Risk (VaR).

Simultaneously with the evolution of Monte Carlo simulation, the field of artificial intelligence has undergone a significant transformation—from early symbolic logic to modern deep learning architectures. In current scientific frameworks, artificial intelligence is no longer treated solely as an instrument for pattern identification, but as a primary mechanism for the structural optimization of simulation procedures. The synergy between these two disciplines is most explicitly manifested through the concept of surrogate modeling. Within this framework, following an initial learning phase, the AI-based model takes over the computationally intensive simulation process, thereby achieving drastic acceleration while preserving the precision of the results.

2. THEORETICAL FOUNDATIONS OF MONTE CARLO SIMULATION

2.1. Historical development of the Monte Carlo method

The need for numerical methods capable of solving complex physical problems that surpassed the analytical approaches of the time led to the emergence of the Monte Carlo method in the mid-20th century. This method was first developed during the Manhattan Project, driven by the necessity to model processes related to neutron transport and chain reactions. During this research, the use of random sampling demonstrated for the first time an efficient way to approx-

imate solutions to high-dimensional problems, thereby laying the initial foundations of Monte Carlo simulation as a numerical method (Eckhardt 1987, 133).

The name “Monte Carlo” itself is attributed to Stanislaw Ulam, who observed the parallels between random sampling in mathematical problems and the games of chance characteristic of the casinos in Monte Carlo. Together with John von Neumann and Nicholas Metropolis, Ulam developed the core principles of the method and subsequently contributed to its formalization within the context of numerical computation. These seminal works served to establish the theoretical and practical basis for the further evolution of the method, as well as its broader application in engineering and science (Metropolis and Ulam 1949).

The further evolution of the Monte Carlo method is inextricably linked to the progress of computing technology. The emergence of the first digital computers enabled the complete automation of pseudorandom number generation and the execution of massive simulation iterations, which fundamentally enhanced the precision and practical applicability of this approach. During the second half of the twentieth century, the application of Monte Carlo simulation expanded beyond the scope of nuclear physics, penetrating the domains of statistical mechanics, queueing theory, and numerical integration. This historical development confirms its nature as a universal numerical instrument applicable across a wide range of scientific disciplines.

A key turning point in the evolutionary development of the Monte Carlo method is the implementation of Markov Chain Monte Carlo (MCMC), which enabled highly efficient sampling from complex, high-dimensional probability distributions. The conceptual shift brought about by algorithms such as Metropolis-Hastings and Gibbs sampling transformed the method from a basic numerical technique into a sophisticated research toolkit. This methodological leap essentially enhanced the capacities of Bayesian inference, machine learning, and modern statistical analysis, positioning Monte Carlo simulation as an indispensable framework within divergent scientific disciplines dealing with the modeling of highly complex systems.

In the contemporary scientific paradigm, the Monte Carlo method constitutes a fundamental pillar of numerical analysis and simulation modeling of complex systems. The historical evolution of this approach bears witness to the transformation of an initial concept based on stochastic processes into a rigorous and powerful mathematical apparatus, whose applicative domain continuously expands due to the exponential development of computational resources and algorithmic innovations. An analysis of the chronological development of this method provides not only a profound insight into its probabilistic foundations but also explicitly argues the reasons why it occupies a central place in the modern architecture of simulation modeling, serving as a basic platform for solving high-dimensional problems under conditions of uncertainty.



Figure 1. Scientists who contributed to the creation of Monte Carlo simulation: Stanislaw Ulam, John von Neumann, and Nicholas Metropolis (Metropolis 1987)

2.2. Basic principles of randomness and probabilistic modeling

During the modeling of real-world systems, randomness represents a fundamental concept, as many processes in nature, technology, and society cannot be described by deterministic laws. The introduction of random variables into a model is required in systems where the behavior of individual elements depends on factors that are insufficiently known or unpredictable. Monte Carlo simulation specifically relies on the formalized use of randomness to approximate system behavior through a large number of realizations, where individual outcomes are observed as the result of random experiments (Ross 2014).

The selection of appropriate probability distributions to describe input variables represents a key element of probabilistic modeling. This choice may be based on empirical data, expert estimates, or theoretical assumptions. The validity of simulation results can be compromised if the distributions are inadequately selected; for this reason, special attention is paid to statistical data analysis and the verification of model assumptions. In this sense, probabilistic modeling requires an interdisciplinary approach that combines statistics, probability theory, and domain knowledge of the observed system (Law 2015).

Within the framework of Monte Carlo simulation, the phenomenon of randomness is operationalized through the generation of pseudorandom numbers, which serve as the basis for the sampling process from pre-defined probability distributions. Despite the fact that these numbers are the product of deterministic algorithms, their statistical properties enable an adequate approximation of true randomness in practical applications. The postulates of uniformity and mutual independence of the generated sequences constitute the foundation for the precision of simulation outcomes and the validity of the overall probabilistic modeling, with a particular emphasis placed on the quality and reliability of the random number generator.

3. IMPLEMENTATION METHODOLOGY OF MONTE CARLO SIMULATION

The methodological framework for implementing Monte Carlo simulation begins with a precise definition of the research problem and the analysis objectives. This initial phase requires the exact identification of the output variables under evaluation, as well as the determination of relevant input parameters and their mutual correlations within the system. The proper formulation of the problem represents a crucial step, given that it directly determines model selection, the choice of appropriate probability distributions, and the final interpretation of the results. Regardless of the technical precision of the simulation process itself, an inadequate definition of the starting assumptions can result in erroneous conclusions and compromise the validity of the research.

Once the problem is defined, the selection and specification of input probability distributions follow. This step involves collecting and analyzing available data, as well as making assumptions about the shape of distributions in cases where empirical data are incomplete. Depending on the nature of the process being modeled, input variables can be described by continuous or discrete distributions. Input assumptions directly determine the statistical characteristics of the output variables; therefore, the accuracy of simulation results largely depends on the quality of this step (Law 2015).

The central segment of Monte Carlo simulation implementation encompasses the generation of pseudorandom numbers and the sampling process from pre-defined probability distributions. Pseudorandom sequences are applied to create realizations of input variables, where their statistical independence and uniform distribution are of essential importance. Based on these realizations, the simulation model undergoes massive iterative processes, where the outcomes of each individual cycle are recorded for subsequent statistical processing. To ensure the methodological stability and convergence of the obtained estimates, it is necessary to provide an adequately high number of simulation repetitions.

Following the execution of the simulation, the statistical processing and analysis of the obtained results ensue. This phase includes estimating confidence intervals, calculating basic descriptive statistics, and conducting sensitivity analysis of output variables to changes in input parameters. Particular attention is paid to verifying the convergence of results and estimating the simulation error. Statistical analysis enables conclusions to be drawn regarding the significance and reliability of the obtained estimates, thereby transforming simulation results into actionable information for decision-making (Ross 2014).

3.1. Problem definition and system modeling

Problem definition represents the initial and one of the most critical steps (Zarev, Stojković Terzić, and Trifunović 2025) in the process of simulation modeling. This phase requires a clear formulation of the simulation goal—specifically, determining which system phenomena or decisions are being analyzed. The identification of the observed system should encompass a precisely defined problem, relevant input and output variables, system boundaries, and temporal analysis. If the problem is not defined clearly and precisely, it may lead to the development of a model that does not correspond to actual analytical needs, thereby diminishing the value of the simulation results.

The system model is defined as a simplified but formally structured representation of reality that retains only those key characteristics relevant to the specific research problem. The simulation modeling process involves constructing the model through mathematical relations, logical rules, and algorithmic procedures. During development, the researcher formulates a series of assumptions regarding the system structure, interaction modalities, and interdependencies of its constituent elements. Given that these assumptions directly determine the validity and precision of the simulation outcomes, it is essential that they be theoretically grounded and transparently documented.

Determining the adequate level of abstraction represents one of the fundamental aspects of the system model definition process. An overly reduced model carries the risk of neglecting critical system dynamics, while an excessively detailed representation can result in computational complexity and reduced transparency. Within the framework of Monte Carlo simulation, the ideal model should be designed to maintain sufficient simplicity to enable massive simulation experiments, while simultaneously ensuring a high degree of realism to faithfully reflect the influence of stochastic variables. Achieving an optimal balance between computational efficiency and the fidelity of the representation is key to the success of simulation modeling.

The process of defining the system model also encompasses the precise identification of the deterministic and stochastic components that constitute the observed phenomenon. When formulating deterministic segments, it is necessary to integrally include sources of disturbances present in real processes, which may have a deterministic, stochastic, or mixed character. Within Monte Carlo simulation, stochastic elements occupy the central position, as they enable the modeling of system variability and the precise quantification of uncertainty. A clear distinction between these components significantly facilitates subsequent algorithm implementation and the interpretation of results.

The final stage of the problem and system model definition process involves conducting a preliminary verification of the model's plausibility, which includes a comparative analysis with available empirical and theoretical knowledge, as well as consultations with domain experts. For the systematic shaping of the problem framework and a transparent display of the simulation model structure, Table 1 systematizes the key elements and parameters of the Monte Carlo simulation. The table provides insight into the basic components of the model, covering system specifics, defined objectives, input and output variables, as well as theoretical assumptions and operational constraints. Such an approach ensures a coherent and clear basis for the further execution of the simulation experiment.

Table 1. Key elements and parameters of the simulation model (Authors)

Model Element	Description	Example Value
Simulation Objective	Assessing system behavior under the influence of uncertainty	Assessment of system congestion levels
Observed System	A system characterized by stochastic behavior	Telecommunications network / Service system
Input Variables	Random variables that affect the system	Arrival time, processing time
Input Distributions	Probability distributions of input variables	Exponential, Normal
Output Variables	Variables estimated through simulation	Average waiting time
Number of Iterations	Number of independent repetitions	104 - 106
Model Assumptions	Conditions under which the model is valid	Independence of events
Model Constraints	Factors affecting accuracy	Real-system approximation

3.2. Selection of Input Probability Distributions

One of the most important steps in the implementation of Monte Carlo simulation is the selection of input probability distributions, as it directly impacts the interpretation and validity of the obtained results. Input variables in a simulation model often represent quantities subject to random fluctuations, such as process duration, request arrival times, resource loading, or system losses. These quantities are described by appropriate probability distributions rather than a deterministic approach, enabling a more realistic representation of system behavior under conditions of uncertainty (Law 2015). The process of selecting distributions can be based on theoretical assumptions or empirical data regarding the nature of the observed process.

Standard theoretical distributions, such as Normal, Uniform, Poisson, or Exponential distributions, are frequently utilized in Monte Carlo simulations. A proper understanding is crucial for adequate system modeling, as each distribution possesses specific properties and application domains. For instance, the exponential distribution is often used to model the time between events in systems with random arrivals, while the normal distribution is applied to quantities representing the sum of a large number of independent random influences (Ross 2014).

Within the telecommunications domain, the selection of input distributions occupies a critical place due to variable network loads and the inherent stochastic nature of traffic flows. While traditional traffic processes in telecommunication systems are frequently modeled using Poisson and exponential distributions, modern network architectures require the implementation of heavy-tailed distributions to more accurately describe the bursty nature of traffic. Adequate modeling constitutes the foundation for the reliable simulation of key system performance metrics, such as latency, throughput, and packet loss probability. Following the selection of appropriate probability density functions, it is essential to verify their adequacy using goodness-of-fit tests, sensitivity analysis, or specialized graphical methods.

3.3. Algorithmic Steps of Monte Carlo Simulation

The algorithmic structure of Monte Carlo simulation is based on a clearly defined sequence of steps that enable the systematic execution of the simulation experiment. The formal specification of the simulation model constitutes the first step, which includes defining the input variables, their mutual dependencies, and their probability distributions. During this phase, the

output variables of interest and the criteria for analyzing the simulations are also defined. A precise formalization of the model represents the foundation for the correct implementation of the algorithm and the subsequent interpretation of results (Law 2015).

Following the precise specification of the model, the generation of pseudorandom numbers proceeds, serving as the fundamental basis for the sampling process from previously defined probability distributions. These numbers are converted into specific realizations of the input variables through the application of the inverse transform method or other specialized sampling techniques. The validity of the entire Monte Carlo simulation is directly contingent upon the assumptions of uniformity and statistical independence of the generated sequences, given that these parameters directly determine the precision and reliability of the statistical estimates derived from the simulation experiment.

The central part of the Monte Carlo algorithm consists of the iterative execution of the simulation model. In each iteration, a new set of input values is generated, based on which the corresponding system outcome is calculated. This procedure is repeated multiple times, with the results of each iteration recorded for further processing. The number of iterations is chosen in accordance with the desired precision of the results and available computational resources, as the statistical error decreases with an increase in the number of simulation repetitions (Ross 2014). After the completion of the simulation iterations, the phase of statistical processing of the obtained results follows.

Upon generating the relevant statistical estimates, the final algorithmic stage of Monte Carlo simulation ensues, encompassing the interpretation of results and the formulation of scientific conclusions. This process involves a rigorous comparison of the obtained simulation outcomes with theoretical postulates, empirical data, or alternative models to confirm the research's validity. To precisely evaluate the impact of input parameter variations on the system's output performance, a sensitivity analysis is conducted. Such a methodological approach enables the identification of key factors determining system dynamics, thereby creating a basis for informed and scientifically grounded decision-making.

3.4. Validation and Verification of the Simulation Model

The process of checking whether a model has been correctly implemented in accordance with its mathematical and conceptual specification represents the verification of the simulation model. The objective of this procedure is to identify programming errors, logical inconsistencies, and improper algorithm implementations. In the context of Monte Carlo simulation, verification encompasses the correctness of input variable sampling, the accuracy of pseudorandom number generation, as well as the validity of the output variables calculated in each simulation iteration (Law 2015). Validation of the simulation model represents a critical evaluation process of the degree to which the model faithfully reflects the real-world system or the observed process. The primary intention of this procedure is to determine the theoretical and practical relevance of simulation outcomes in comparison with empirical data or the projected behavior of the system under specific circumstances. In the context of Monte Carlo simulation, the validation process is most commonly realized through a rigorous comparison of the obtained results with analytical solutions, previously verified research, or available historical data from the real-world environment. The statistical comparison of simulation outcomes with empirical measurements or previously established system values represents one of the fundamental validation techniques. This methodological framework includes the application of statistical hypothesis tests, residual error analysis, and the construction of confidence intervals, thereby ensuring high statistical significance of the derived conclusions. Such an analytical procedure enables the precise identification of potential sources of deviation, as well as an exact quantitative evaluation of the quality of the designed model. In addition to rigorous quantitative methods, the validation process often integrates qualitative approaches, such as expert elicitation and stress testing the model's response under extreme or boundary operating conditions.

4. METHODOLOGY FOR THE INTEGRATION OF ARTIFICIAL INTELLIGENCE AND MONTE CARLO SIMULATION

The methodological framework integrating Artificial Intelligence into the Monte Carlo simulation process does not represent mere automation of existing operations; rather, it signifies a fundamental transformation in the modalities of state-space sampling and the processing of generated results. While conventional Monte Carlo simulation primarily relies on brute-force methods, hybrid models combining Monte Carlo simulation and Artificial Intelligence leverage the advanced cognitive capacities of algorithms to identify complex, non-linear dependencies within the model itself.

The applicative value of these hybrid approaches is particularly prominent today in strategic sectors such as environmental engineering, where they are applied to optimize three-dimensional electrochemical wastewater treatments through high-precision modeling of chemical reactions. By using Artificial Intelligence to predict outcomes based on Monte Carlo parameters, researchers achieve high efficiency with minimal energy costs (Voravich, Merenghege, and Trzcinski 2024, 41). In biomedicine and nanomedicine for cancer therapy, Monte Carlo simulation is used to model particle trajectories for precise radiation dosing, while Artificial Intelligence assists in adjusting radiation plans in real-time based on the patient's anatomical changes (Chow 2025, 15). In civil engineering and geotechnics, analyzing the stability of slopes prone to anisotropy requires vast resources. Machine Learning enables Monte Carlo simulation to focus on critical failure points, accelerating the process by up to ten times (Aminpour et al. 2022).

Modern approaches in investment analysis utilize Machine Learning to interpret the vast amounts of data obtained through Monte Carlo simulation. As noted by authors (Kozlova, Colan, and Tapani 2022), this integration allows for the automated classification of outcomes and the identification of the most profitable pathways under conditions of high market volatility, significantly accelerating the strategic decision-making process.

In the context of financial markets, traditional risk assessment models often fail to capture extreme market shocks. Some authors (Stojanović et al. 2023) emphasize that the integration of Monte Carlo simulation with Artificial Neural Networks enables more precise prediction of market risk indicators, as neural networks more effectively recognize non-linear patterns in historical data, which the simulation then utilizes to generate future scenarios.

4.1. The Concept of Surrogate Modeling (Metamodeling)

The central point of integration is the development of a surrogate model. The process begins by executing a limited number of high-fidelity, but computationally expensive, Monte Carlo simulations that serve as a training set. A machine learning algorithm is then trained on this data. Once trained, the Artificial Intelligence model assumes the role of a “proxy,” predicting outcomes for the remaining million iterations in milliseconds. According to research (Aminpour et al. 2022), such an approach reduces computational time by over 85% with a negligible loss in precision, which is critical for real-time reliability analysis.

In addition to structural reliability, a hybrid approach combining Monte Carlo simulation and Deep Learning shows exceptional results in predicting the reliability of complex industrial systems. In these cases, Artificial Intelligence is utilized to model failure time series that a classical simulation would take too long to process (Li et al. 2024).

4.2. Adaptive Sampling and Variance Reduction

One of the fundamental computational challenges in implementing Monte Carlo simulation relates to the low convergence rate. The methodological progress achieved through the integration of Artificial Intelligence is primarily reflected in the development of adaptive sampling mech-

anisms. Instead of conventional stochastic selection of input parameters, Artificial Intelligence algorithms conduct a continuous evaluation of results to identify ‘high-entropy’ domains or ‘critical failure thresholds.’ This targeted focus on critical zones (such as extreme mechanical load values in engineering) is defined in the literature as smart sampling. By implementing this approach, the model variance is directly optimized, preventing the inefficient distribution of computational resources on predictable and stable outcomes, thereby significantly accelerating the process of achieving statistically relevant results.

The problem of low failure probability in complex structures, which requires an enormous number of iterations in the standard Monte Carlo method, is effectively solved by integrating Machine Learning algorithms that serve for the intelligent identification of critical sampling domains (Guo et al. 2024). The integration of Artificial Intelligence algorithms enables the development of surrogate models that drastically reduce the number of required simulation steps (Guo et al. 2024), thus resolving the issue of high computational intensity inherent in the traditional Monte Carlo method.

4.3. Algorithmic Architecture of the Hybrid Process

A typical workflow of an integrated model encompasses four key phases. The first phase is sample generation, utilizing Quasi-Monte Carlo methods for initial space-filling (Dick, Kuo, and Sloan 2013). The second phase is training, mapping input parameters to output results using Artificial Intelligence algorithms. The third phase is prediction, involving mass simulation over the surrogate model. The final phase is validation, executing control Monte Carlo simulations at random points to confirm the accuracy of the AI model.

In specific fields, such as plasma physics, this methodology enables the modeling of particle interactions that would otherwise require months of supercomputing effort without AI acceleration (Bisai and Kaw 2018). In nanomedicine, this process allows radiation particle trajectory simulations to be adjusted to the tumor’s instantaneous position, representing the pinnacle of precision therapy (Chow 2025, 15).

Modern research indicates that deep-learning-based surrogate models can successfully replace complex Monte Carlo simulations in proton radiotherapy for brain tumor patients, maintaining high precision while significantly reducing required computational resources (Starke et al. 2024).

In the energy sector and investment planning, hybrid models are utilized for real options analysis. Research (Kozlova, Collan, and Tapani 2022) shows that applying these methods to renewable energy projects enables management to more accurately assess investment timing, reducing the risk of losses resulting from unpredictable market price fluctuations.

In the sphere of financial stability and the financial sector, the integration of Monte Carlo simulation with Machine Learning is becoming the standard for conducting stress tests. These models enable the simulation of extreme market scenarios while simultaneously using Artificial Intelligence to analyze the interdependencies of various risk factors in real-time. Research indicates that such models allow for more precise identification of systemic risks under conditions of extreme market volatility, which is of critical importance for the modern banking sector (Zhang et al. 2023).

CONCLUSION

Monte Carlo simulation has positioned itself as one of the most significant and widely applicable methods in the domain of modern simulation modeling, particularly within the analysis of systems characterized by high uncertainty, structural complexity, and non-linearity. This paper has provided a detailed synthesis of its theoretical foundations, historical genesis, implementation processes, and its extensive current applications across modern scientific and engineering

disciplines. Special emphasis was placed on the role of randomness and probabilistic modeling, which allow for a significantly more realistic representation of system behavior compared to rigid deterministic models, thereby providing deeper insight into the stochastic nature of real-world processes.

The proper interpretation of Monte Carlo simulation outcomes is of crucial importance given the inherent probabilistic character of the results. Forming reliable conclusions directly depends on an in-depth understanding of key statistical indicators, primarily variance, confidence intervals, and the convergence of simulation sequences. Accordingly, the Monte Carlo method should not be treated merely as an isolated numerical tool, but as a comprehensive analytical framework that enables researchers to gain precise insight into system dynamics under the permanent influence of stochastic factors.

The paper examined key application domains, with a special focus on reliability analysis, complex engineering structures, computer and telecommunication systems, and processes in biomedicine characterized by pronounced uncertainty. These examples unequivocally confirm that the Monte Carlo method represents a universal numerical instrument capable of addressing complex modeling challenges across various scientific frameworks. Its application is particularly indispensable in situations where exact analytical solutions are unavailable or their practical implementation is unfeasible due to high system complexity.

The limitations and advantages of the method were analyzed in detail, emphasizing its robustness, flexibility, and conceptual simplicity in practical application. Conversely, challenges related to the imperative for high-quality input data, as well as significant computational complexity and time requirements, were identified. However, the contemporary expansion of computing technologies, the development of parallel systems, and deep integration with machine learning and artificial intelligence open new horizons for fundamentally improving the efficiency and precision of Monte Carlo simulations.

The primary advantage of this synergy between Monte Carlo simulation and Artificial Intelligence (AI) is the dramatic reduction in the time required to obtain results. A specific challenge in simulation modeling is represented by spin glass systems, which, due to their frustrated energy structures and numerous local minima, serve as a benchmark for testing algorithmic efficiency. In such non-linear problems, classical Monte Carlo methods show limitations, whereas population-based simulated annealing enables the overcoming of energy barriers, ensuring convergence toward the system's global optimum (Barzegar et al. 2017). Despite significant advantages, the integration of advanced technologies carries certain risks, primarily the possibility of AI models becoming opaque "black boxes" where the researcher loses a clear view of the causality behind generated outcomes. Unlike conventional Monte Carlo simulation, which rests on exact and mathematically verifiable principles, hybrid models are essentially conditioned by the quality of available training data. If initial simulation parameters are biased, AI tends to amplify that bias, making rigorous verification and validation methods an imperative.

This synergy transforms the understanding of complexity: while Monte Carlo simulation provides a strict statistical framework, Artificial Intelligence contributes computational efficiency. Future development is directed toward adaptive simulations capable of autonomous real-time parameter reconfiguration, marking a transition to proactive and high-precision planning paradigms for disciplines such as medicine, energy, and economics. The analysis results confirm that the combined model of Monte Carlo simulation and AI outperforms traditional deterministic methods because it captures non-linear dependencies between variables that classical statistics often overlook (Kozlova, Collan, and Tapani 2022). Findings from regional research (Stojanović et al. 2023) confirm that hybrid models reduce prediction errors in high-volatility conditions, which is of strategic importance for institutional investors and actuarial practice.

This paper contributes to the literature by proposing a hybrid model that integrates surrogate modeling and adaptive sampling, achieving high precision with a significant reduction in com-

putational resources. Future research should focus on the development of Quantum Monte Carlo simulations, which could dramatically reduce the time required to solve spin glass problems and other complex optimizations currently limited by classical processing power. The implementation of hybrid models enables a shift from reactive crisis management to proactive scenario modeling, minimizing business risk even under extreme market instability. A key challenge remains preserving model transparency. It is necessary to insist on the development of Explainable AI (XAI) within the simulation framework to ensure that hybrid results remain mathematically verifiable and ethically acceptable for critical sectors like medicine and energy.

In conclusion, Monte Carlo simulation is not merely a historically important numerical method, but a dynamic platform that, in synergy with the cognitive capacities of Artificial Intelligence, defines a new era in understanding and predicting complex systems. Current geopolitical instability and accompanying uncertainty in global energy markets further highlight the necessity of applying advanced simulation models. In conditions of potential energy crises, hybrid approaches enable more precise forecasting of crude oil price fluctuations and the identification of supply chain risks. Unlike traditional economic models, these systems can simultaneously process thousands of stochastic variables—from the risk of closing key maritime routes to sudden changes in production levels—providing decision-makers with a quantified probability of various scenarios. Such proactive analytics transform how states and corporations prepare for energy shocks, enabling the formation of more resilient economic strategies in a highly volatile environment.

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IZAZOVI FINANSIJSKOG UPRAVLJANJA U NEVLADINIM ORGANIZACIJAMA U BOSNI I HERCEGOVINI

Rezime: *Finansijsko upravljanje i kontrola predstavljaju ključne funkcije u radu nevladinih organizacija, posebno u uslovima ograničenih finansijskih resursa i izražene zavisnosti od eksternih izvora finansiranja. Njihova uloga ogleda se u obezbeđivanju usklađenosti sa donatorskim zahtjevima i važećim zakonskim propisima, kao i u osiguranju odgovornog i transparentnog korišćenja sredstava. Kroz adekvatno uspostavljen i implementiran sistem finansijskog upravljanja i kontrole stvaraju se pretpostavke za unapređenje finansijske discipline, jačanje transparentnosti i kvalitetnije finansijsko izveštavanje. Odgovornost za funkcionisanje ovih sistema snosi upravljačka struktura organizacije, čije odluke direktno utiču na efikasnost upravljanja finansijskim resursima. Predmet ovog rada je analiza ključnih izazova finansijskog upravljanja u nevladinim organizacijama u Bosni i Hercegovini, sa posebnim osvrtom na planiranje, kontrolu i finansijsko izveštavanje. U radu su korišteni deskriptivna metoda i anketni upitnik, na osnovu kojih su prikupljeni i analizirani podaci iz prakse nevladinog sektora. Rezultati istraživanja ukazuju da nestabilnost izvora finansiranja, nedostatak stručnog kadra i nedovoljno razvijene interne procedure predstavljaju dominantne izazove finansijskog upravljanja u nevladinom sektoru. Ovi faktori utiču na predvidivost budžeta, raspodjelu resursa, efikasnost internih kontrola i dugoročnu finansijsku održivost organizacija. Naučni doprinos rada ogleda se u empirijskoj analizi specifičnih izazova finansijskog upravljanja u nevladinom sektoru u Bosni i Hercegovini, čime se doprinosi proširivanju postojećih teorijskih saznanja i boljem razumijevanju prakse finansijskog upravljanja u ovom sektoru.*

Ključne riječi: *finansijsko upravljanje, nevladine organizacije, finansijsko izveštavanje, interni sistemi*

JEL klasifikacija: H83, M41, L31, G38

UVOD

Nevladine organizacije predstavljaju važan segment savremenog društva, posebno u kontekstu razvoja demokratije, zaštite ljudskih prava i pružanja različitih socijalnih usluga. Njihova uloga naročito je izražena u tranzicionim društvima, kao što je Bosna i Hercegovina, gdje kroz različite inicijative doprinose razvoju civilnog društva, jačanju participacije građana/ki i unapređenju institucionalnih kapaciteta. Uloga nevladinih organizacija u održivom društvenom razvoju ogleda se u njihovoj sposobnosti da odgovore na potrebe zajednice, povežu različite aktore i doprinesu razvoju participativnih modela djelovanja (Abiddin, Ibrahim, and Abdul Aziz 2022). Za razliku od profitnog sektora, nevladine organizacije djeluju u specifičnom okruženju koje karakterišu projektno finansiranje, vremenski ograničeni grantovi i složeni zahtjevi donatora.

Takav model rada povećava složenost procesa planiranja, kontrole i finansijskog izvještavanja, posebno u organizacijama koje nemaju stabilne i dugoročne izvore finansiranja. Finansijska održivost nevladinih organizacija u velikoj mjeri zavisi od njihove sposobnosti da razvijaju različite izvore prihoda, upravljaju ograničenim resursima i zadrže kontinuitet programskog djelovanja (Shava 2021).

Pored finansijske nestabilnosti, savremeno okruženje donosi i promjene u ponašanju donatora, modelima filantropije i načinima prikupljanja sredstava. Promjene u javnim politikama, ekonomskim okolnostima i finansijskom ponašanju donatora utiču na rad nevladinih organizacija i zahtijevaju fleksibilnije pristupe planiranju, komunikaciji i upravljanju resursima (Van Steenburg et al. 2022).

Upravo zbog navedenih specifičnosti, efikasno finansijsko upravljanje predstavlja jedan od ključnih preduslova za održivost i uspješno funkcionisanje nevladinih organizacija. Iako se u postojećoj literaturi prepoznaje značaj finansijskog upravljanja i internih kontrola, broj istraživanja koja se konkretno bave ovim pitanjem u nevladinom sektoru, posebno u Bosni i Hercegovini i širem regionalnom kontekstu i dalje je ograničen.

Predmet ovog rada je analiza izazova finansijskog upravljanja u nevladinim organizacijama u Bosni i Hercegovini, s posebnim fokusom na organizacione kapacitete, interne procedure i zahtjeve donatora. Cilj rada je identifikovati ključne izazove i analizirati njihov uticaj na efikasnost finansijskog upravljanja i kvalitet finansijskog izvještavanja. Istraživanje je provedeno primjenom anketnog upitnika, a prikupljeni podaci analizirani su korišćenjem metoda deskriptivne statistike. Polazeći od identificiranog istraživačkog problema, rad ispituje u kojoj mjeri finansijska nestabilnost, ograničeni kadrovski kapaciteti i nedovoljno razvijene interne procedure utiču na efikasnost finansijskog upravljanja u nevladinom sektoru.

1. OSNOVNE ODREDNICE FINANSIJSKOG UPRAVLJANJA U NEVLADINIM ORGANIZACIJAMA

Finansijsko upravljanje predstavlja skup međusobno povezanih aktivnosti koje obuhvataju planiranje, organizaciju, kontrolu i izvještavanje o finansijskim resursima organizacije. Njegov osnovni cilj je osigurati racionalno, efikasno i transparentno korišćenje sredstava u skladu s definisanim ciljevima, uz istovremeno smanjenje finansijskih rizika i očuvanje održivosti poslovanja.

U kontekstu nevladinih organizacija, finansijsko upravljanje dobija dodatnu dimenziju odgovornosti, jer uključuje upravljanje sredstvima iz različitih izvora, uključujući međunarodne donatore, fondacije i javne institucije. Razumijevanje fondacijskog finansiranja pokazuje da pristup resursima često nije ravnomjerno raspoređen, već zavisi od organizacionih kapaciteta, pozicioniranosti organizacije i odnosa s donatorima, što dodatno naglašava značaj strateškog pristupa finansijskom upravljanju (MacIndoe 2022).

Složenost upravljačkih procesa dodatno povećava činjenica da različiti donatori imaju specifične zahtjeve u pogledu budžetiranja, izvještavanja i opravdavanja troškova. Organizacije su često primorane da paralelno upravljaju većim brojem projekata s različitim pravilima i procedurama. U uslovima rastuće konkurencije za donatorska sredstva, tradicionalni modeli prikupljanja sredstava više nisu dovoljni, pa organizacije moraju razvijati jasnije finansijske strategije i jačati upravljačke kapacitete (Walk, Curley, and Levine Daniel 2022).

Uspostavljanje adekvatnog sistema internih kontrola predstavlja ključni element finansijskog upravljanja, jer doprinosi smanjenju rizika, unapređenju transparentnosti i povećanju pouzdanosti finansijskog izvještavanja. Finansijsko upravljanje i kontrola, iako najčešće razvijani u javnom sektoru, počivaju na principima odgovornosti, zakonitosti, ekonomičnosti, efikasnosti i

efektivnosti, koji su primjenjivi i na organizacije civilnog društva koje upravljaju namjenskim i donatorskim sredstvima (Vuković Perduv et al. 2024).

Finansijsko upravljanje u nevladinom sektoru predstavlja kompleksan i višedimenzionalan proces koji zahtijeva kombinaciju tehničkih znanja, organizacionih kapaciteta i razumijevanja specifičnog institucionalnog okruženja. U tom smislu, ovaj proces može se analizirati kroz operativnu, kontrolnu i stratešku dimenziju, pri čemu svaka od njih ima specifičnu ulogu u osiguravanju održivosti organizacije. U okviru teorijskog određenja, operativna dimenzija odnosi se na svakodnevno upravljanje finansijskim procesima, kontrolna dimenzija na mehanizme interne kontrole i upravljanja rizicima, dok strateška dimenzija obuhvata dugoročno planiranje i održivost organizacije.

2. SPECIFIČNOSTI I IZAZOVI FINANSIJSKOG UPRAVLJANJA U NVO SEKTORU

Finansijsko upravljanje u nevladinim organizacijama odvija se u kompleksnom i dinamičnom okruženju koje karakteriše visok stepen neizvjesnosti i zavisnosti od eksternih izvora finansiranja. Organizacije se suočavaju sa strukturnim izazovima koji uključuju zavisnost od donatora, složenost zahtjeva i ograničene organizacione kapacitete. Istovremeno, promjene u političkom i ekonomskom okruženju mogu dodatno ograničiti prostor djelovanja nevladinih organizacija, posebno u kontekstima u kojima se povećava pritisak na civilno društvo i smanjuje dostupnost finansijskih resursa (Adolph and Prakash 2022).

Složenost donatorskih procedura ogleda se u potrebi istovremenog poštovanja različitih standarda, pravila i formata izvještavanja koji često nisu međusobno usklađeni. U nedostatku jedinstvenog regulatornog okvira, organizacije su primorane kontinuirano prilagođavati interne procese, što povećava administrativno opterećenje i ograničava mogućnost strateškog razvoja finansijskog upravljanja. Digitalizacija finansijskog upravljanja i kontrolnih sistema može doprinijeti boljoj organizaciji procesa, ali zahtijeva jasne procedure, tehničke kapacitete i spremnost organizacija na promjene (Novaković, Milovanović, and Gligorić 2022).

Jedan od ključnih izazova odnosi se na nedostatak stručnog finansijskog kadra i ograničene kapacitete za uspostavljanje efikasnih sistema kontrole. Posebno u manjim i srednjim organizacijama, finansijske funkcije često obavljaju osobe koje istovremeno preuzimaju i programske ili administrativne zadatke, što povećava rizik od grešaka, neusklađenosti i kašnjenja u izvještavanju. U tom kontekstu, interna revizija i kontrolni mehanizmi imaju značajnu ulogu u unapređenju finansijskog upravljanja, jer omogućavaju pravovremeno prepoznavanje slabosti i jačanje odgovornosti u procesu upravljanja sredstvima (Rakonjac, Babić, and Mičić 2022).

Izazovi finansijskog upravljanja u nevladinom sektoru međusobno su povezani i proizlaze iz kombinacije eksternih zahtjeva i internih ograničenja. Nedostatak kadrova, nedovoljno razvijene procedure, neusklađenost različitih zahtjeva i ograničeni resursi predstavljaju ključne prepreke za efikasno upravljanje finansijama. Njihovi efekti se međusobno pojačavaju i direktno utiču na kvalitet finansijskog izvještavanja, transparentnost i ukupnu održivost organizacija. Nadalje, ova povezanost ukazuje na to da izazovi finansijskog upravljanja nisu izolovani problemi, već strukturno povezani faktori koji zahtijevaju integrisani pristup jačanju organizacionih kapaciteta i internih mehanizama upravljanja.

3. REZULTATI EMPIRIJSKOG ISTRAŽIVANJA

Informacije do kojih se došlo kao rezultat empirijskog istraživanja prikupljene su putem anketnog upitnika među predstavnicima/ama nevladinih organizacija u Bosni i Hercegovini, uključujući direktore/ice, finansijske menadžere, projektne koordinate i druge zaposlenike/ce koji/e

učestvuju u procesima finansijskog upravljanja. Većina pitanja u upitniku bila je zatvorenog tipa, uključujući pitanja sa ponuđenim odgovorima, pitanja višestrukog izbora, kao i pitanja zasnovana na Likertovoj skali intenziteta, dok je manji broj pitanja bio otvorenog tipa s ciljem prikupljanja dodatnih kvalitativnih uvida.

Dobijeni rezultati, zasnovani na procjeni izazova i identifikaciji njihovih dominantnih obrazaca, ukazuju da stabilnost finansiranja i dostupnost stručnog kadra predstavljaju ključne faktore efikasnog finansijskog upravljanja u nevladinim organizacijama. Organizacije koje raspolažu stabilnijim izvorima finansiranja i adekvatnim ljudskim resursima pokazuju viši nivo organizacione stabilnosti i efikasnosti u upravljanju finansijama.

Analiza rezultata istraživanja pokazuje da složenost donatorskih zahtjeva i neizvjesnost finansiranja značajno utiču na način upravljanja resursima. Organizacije su često suočene s potrebom paralelnog praćenja različitih pravila i procedura, što povećava administrativno opterećenje i otežava dugoročno planiranje finansijskih aktivnosti.

Dalji nalazi ukazuju da organizacione karakteristike, uključujući jasno definisane uloge, interne procedure i planiranje i praćenje budžeta, imaju značajan uticaj na efikasnost finansijskog upravljanja. Organizacije sa razvijenijim internim sistemima upravljanja lakše usklađuju svoje aktivnosti sa zahtjevima donatora i postižu veći nivo transparentnosti.

Rezultati istraživanja takođe ukazuju na nedostatak stručnog finansijskog kadra kao jedan od ključnih izazova, posebno u manjim organizacijama, gdje se finansijske funkcije često obavljaju paralelno s drugim poslovima. Ovakva praksa može negativno uticati na kvalitet finansijskog upravljanja i pravovremenost izvještavanja.

Specifičnost konteksta Bosne i Hercegovine ogleda se u dodatnim institucionalnim i regulatornim ograničenjima, koja dodatno komplikuju rad nevladinih organizacija i utiču na njihovu sposobnost prilagođavanja promjenama u okruženju.

Dobijeni rezultati u velikoj mjeri su u skladu sa savremenim istraživanjima koja ukazuju na značaj stabilnog finansiranja, organizacionih kapaciteta i prilagođavanja eksternim zahtjevima kao ključnih determinanti efikasnog finansijskog upravljanja (Shava 2021).

Rezultati istraživanja prikazani su tabelarno i grafički, uz odgovarajuću interpretaciju, kako bi se omogućilo bolje razumijevanje stanja finansijskog upravljanja u nevladinom sektoru i identifikacija oblasti koje zahtijevaju unapređenje.

3.1. Struktura ispitanika/ca

U istraživanju je učestvovalo 69 ispitanika/ca iz nevladinih organizacija u Bosni i Hercegovini, koje djeluju u različitim oblastima i imaju različite organizacione kapacitete. Analiza strukture ispitanika/ca prema poziciji pokazuje da najveći udio čine projektni koordinatori (39,1%, odnosno 27 ispitanika/ca), zatim direktori/ce (33,3%, odnosno 23 ispitanika/ca), što ukazuje na visok nivo uključenosti osoba koje direktno učestvuju u upravljanju projektima i organizacijama. Struktura ispitanika/ca prema poziciji prikazana je u tabeli 1.

Tabela 1. Struktura ispitanika/ca prema poziciji (autori, 2026)

Pozicija u organizaciji	Broj ispitanika/ca	%
Projektni koordinator	27	39,1
Direktor/ica	23	33,3
Programski menadžer	8	11,6
Ostali/e	11	16
Ukupno	69	100

Posmatrano prema dužini postojanja organizacija, najveći broj ispitanika/ca dolazi iz organizacija koje djeluju duže od 15 godina (42%, odnosno 29 organizacija), dok 29% ispitanika/ca (20 organizacija) dolazi iz organizacija koje postoje između 8 i 14 godina. Organizacije sa 4 do 7 godina djelovanja čine 20,3% uzorka (14 ispitanika/ca), dok je najmanji broj ispitanika/ca iz organizacija koje djeluju do 3 godine, što ukazuje na dominantno prisustvo organizacija s dužim iskustvom u sektoru.

Prema broju zaposlenih, najveći udio čine organizacije sa 0-2 zaposlene osobe (38,2%, odnosno 26 organizacija), zatim organizacije sa 3-5 zaposlenih (33,8%, odnosno 23 organizacije), dok organizacije sa 6-10 zaposlenih čine 14,7% uzorka. Ovi podaci ukazuju na to da u uzorku dominiraju manje organizacije sa ograničenim ljudskim kapacitetima, što je značajan faktor u kontekstu finansijskog upravljanja.

Kada je riječ o oblastima djelovanja, organizacije najčešće djeluju u oblasti rodne ravnopravnosti (29%, odnosno 20 organizacija), zatim u oblasti ljudskih prava (18,8%, odnosno 13 organizacija), socijalne zaštite (15,9%, odnosno 11 organizacija) i obrazovanja (10,1%, odnosno 7 organizacija), što potvrđuje raznolikost sektora i njegovu društvenu usmjerenost.

Posebno je značajan podatak da čak 91,3% ispitanika/ca (63 organizacije) koristi sredstva iz međunarodnih donacija i projekata, što dodatno potvrđuje visoku zavisnost nevladinog sektora od eksternih izvora finansiranja i naglašava važnost efikasnog finansijskog upravljanja u kontekstu donatorskih zahtjeva.

3.2. Organizacija finansijskog upravljanja

Rezultati istraživanja ukazuju na značajne razlike u načinu organizacije finansijskog upravljanja unutar nevladinih organizacija. Na pitanje da li organizacija ima osobu ili tim zadužen za finansijsko upravljanje, najveći broj ispitanika/ca, njih 53,6% (37 organizacija), naveo je da te poslove obavlja menadžment ili projektno osoblje, dok manji broj organizacija ima jasno definisanu finansijsku funkciju. Način organizacije finansijskog upravljanja prikazan je u tabeli 2.

Tabela 2. Način organizacije finansijskog upravljanja (autori, 2026)

Model upravljanja	Broj	%
Menadžment/projektno osoblje	37	53,6
Posebna finansijska funkcija	22	31,9
Više osoba	9	13,1
Knjigovodstvo	1	1,4
Ukupno	69	100

Ovakav rezultat ukazuje na nedovoljnu institucionalizaciju finansijskog upravljanja u značajnom broju organizacija, posebno imajući u vidu da finansijske aktivnosti zahtijevaju specifična znanja i kontinuirano praćenje. Preuzimanje finansijskih zadataka od strane osoblja koje primarno obavlja druge funkcije može dovesti do povećanog opterećenja, ali i potencijalnog rizika od grešaka i neusklađenosti.

Kada je riječ o postojanju internih procedura za finansijsko poslovanje, 42% ispitanika/ca navodi da njihova organizacija ima jasno definisane procedure, dok 34,8% organizacija ima djelimično razvijene procedure. Istovremeno, 23,2% organizacija nema formalizovane interne procedure, što ukazuje na značajan prostor za unapređenje ovog segmenta upravljanja.

Dobijeni rezultati potvrđuju da veliki broj organizacija funkcioniše bez u potpunosti razvijenih i standardizovanih finansijskih procedura, što može otežati usklađivanje sa donatorskim zahtjevima, ali i sa važećim zakonskim okvirom. Nedostatak jasno definisanih procedura dodatno

komplikuje procese planiranja, kontrole i izvještavanja te može negativno uticati na ukupnu efikasnost finansijskog upravljanja. Podaci o postojanju internih procedura prikazani su u tabeli 3.

Tabela 3. Postojanje internih finansijskih procedura (autori, 2026)

Status procedura	Broj	%
Postoje	29	42,0
Djelimično razvijene	24	34,8
Ne postoje	16	23,2
Ukupno	69	100

Posmatrano u kontekstu prethodno identifikovanih izazova, ovi nalazi ukazuju na potrebu za jačanjem institucionalnih kapaciteta organizacija, posebno u dijelu formalizacije finansijskih funkcija i razvoja internih procedura. Uspostavljanje jasnih pravila i odgovornosti u oblasti finansijskog upravljanja predstavlja jedan od ključnih preduslova za unapređenje transparentnosti i kvaliteta finansijskog izvještavanja u nevladinom sektoru.

Rezultati koji se odnose na oblasti obuhvaćene internim procedurama ukazuju na to da su procedure najčešće razvijene u operativnim segmentima finansijskog upravljanja. Najveći broj organizacija ima definisane procedure u oblasti nabavki i isplata odnosno plaćanja (60,3%), što ukazuje na fokus organizacija na kontrolu troškova i realizaciju finansijskih transakcija. Takođe, značajan broj organizacija ima definisane procedure za finansijsko izvještavanje i arhiviranje finansijske dokumentacije (po 50%), kao i za odobravanje troškova (48,5%).

S druge strane, nešto manji broj organizacija ima razvijene procedure za planiranje budžeta (44,1%), što može ukazivati na nedovoljnu razvijenost strateškog pristupa finansijskom upravljanju.

Kada je riječ o praćenju realizacije budžeta, rezultati pokazuju da najveći broj organizacija (49,3%) prati realizaciju budžeta po potrebi, dok 17,4% organizacija to čini na mjesečnom nivou, a 15,9% sedmično. Kvartalno praćenje prisutno je kod 13% organizacija, dok manji broj organizacija rijetko vrši poređenje planiranih i ostvarenih troškova. Učestalost praćenja budžeta prikazana je u tabeli 4.

Tabela 4. Učestalost praćenja budžeta (autori, 2026)

Učestalost praćenja budžeta	Broj	%
Po potrebi	34	49,3
Mjesečno	12	17,4
Sedmično	11	15,9
Kvartalno	9	13,0
Rijetko	3	4,3
Ukupno	69	100

Ovakva raspodjela ukazuje na nedovoljno sistematičan pristup praćenju budžeta u značajnom broju organizacija, s obzirom na to da se kontrola troškova u najvećoj mjeri vrši reaktivno, odnosno po potrebi, umjesto kroz unaprijed definisane i redovne mehanizme. Nedostatak kontinuiranog praćenja može negativno uticati na pravovremeno prepoznavanje odstupanja i donošenje adekvatnih korektivnih mjera.

U kontekstu prethodno identifikovanih izazova, ovi nalazi dodatno potvrđuju da finansijsko upravljanje u nevladinim organizacijama često nije u potpunosti strukturisano i standardizova-

no. Iako postoje određeni elementi kontrole, posebno u operativnim segmentima, nedostatak sistemskog pristupa planiranju i praćenju budžeta ukazuje na potrebu za jačanjem internih kapaciteta i unapređenjem procedura finansijskog upravljanja.

3.3. Ključni izazovi finansijskog upravljanja

Rezultati istraživanja koji se odnose na ključne izazove finansijskog upravljanja analizirani su na osnovu tvrdnji mjerenih Likertovom skalom, gdje su ispitanici/e izražavali stepen slaganja sa ponuđenim tvrdnjama. Prosječne ocjene ključnih izazova prikazane su u tabeli 5.

Tabela 5. Prosječne ocjene ključnih izazova (autori, 2026)

Tvrdnja	Prosječna ocjena
Neizvjesnost finansiranja	4,41
Dugoročno planiranje	4,26
Uticaj finansijskog upravljanja na kvalitet finansijskog izvještavanja u organizaciji	4,17
Donatorski zahtjevi	3,94
Nedostatak kadra	3,93
Usklađivanje računovodstvenih evidencija sa donatorskim zahtjevima	3,65
Interna kontrola	3,53
Kapaciteti za pravovremeno i tačno finansijsko izvještavanje	3,43
Promjene projektnih aktivnosti	3,24

Analiza pokazuje da se nevladine organizacije u najvećoj mjeri suočavaju sa izazovima u dugoročnom finansijskom planiranju (prosječna ocjena 4,26), pri čemu 82,6% ispitanika/ca izražava slaganje sa ovom tvrdnjom. Kao najizraženiji problem identifikovana je neizvjesnost izvora finansiranja (4,41), što potvrđuje da zavisnost od eksternih sredstava predstavlja centralni izazov finansijskog upravljanja.

Značajan izazov predstavljaju i zahtjevi donatora (3,94), kao i ograničeni ljudski resursi (3,93), što ukazuje na složenost upravljačkih procesa i nedostatak stručnog kadra. Usklađivanje računovodstvenih evidencija sa donatorskim zahtjevima (3,65) i nedovoljno razvijene interne kontrole (3,53) dodatno otežavaju efikasno upravljanje i povećavaju rizik od grešaka.

Kapaciteti za pravovremeno i tačno finansijsko izvještavanje ocijenjeni su umjereno (3,43), dok se promjene projektnih aktivnosti (3,24) izdvajaju kao najmanje izražen izazov. Istovremeno, ispitanici/ce jasno prepoznaju povezanost između kvaliteta finansijskog upravljanja i finansijskog izvještavanja (4,17), što ukazuje na visok nivo svijesti o značaju ovih procesa.

Na osnovu rezultata može se zaključiti da izazovi proizlaze iz kombinacije eksternih faktora (neizvjesnost finansiranja, zahtjevi donatora) i internih ograničenja (nedostatak kadra i procedura), što ukazuje na potrebu za sistemskim jačanjem kapaciteta i unapređenjem internih mehanizama upravljanja.

3.4. Najčešće identifikovani ključni izazovi finansijskog upravljanja

Na osnovu odgovora ispitanika/ca koji su imali mogućnost odabira više ponuđenih opcija, identifikovani su najčešći ključni izazovi finansijskog upravljanja sa kojima se nevladine organizacije suočavaju u praksi. Najčešće identifikovani izazovi prikazani su u tabeli 6.

Tabela 6. Najčešće identifikovani ključni izazovi (autori, 2026)

Izazov	Broj	%
Nestabilno finansiranje	58	84,1
Nedostatak kadra	33	47,8
Nedovoljno razvijene procedure	25	36,2
Donatorski zahtjevi	21	30,4
Neusklađenost projektnih i računovodstvenih zahtjeva	15	21,7
Administrativne prepreke	15	21,7
Kratki rokovi za izvještavanje	9	13

Rezultati pokazuju da kao dominantan izazov ispitanici/e izdvajaju nedostatak stabilnih izvora finansiranja, koji je prepoznalo 84,1% organizacija. Ovaj nalaz potvrđuje prethodne rezultate i ukazuje na izraženu zavisnost nevladinog sektora od eksternih i projektno ograničenih izvora sredstava.

Kao drugi po učestalosti identifikovan ključni izazov ističe se nedostatak stručnog finansijskog kadra (47,8%), što dodatno potvrđuje ograničene organizacione kapacitete i potrebu za sistemskim ulaganjem u razvoj ljudskih resursa. Nedovoljno razvijene interne procedure prepoznate su u 36,2% organizacija, dok složeni zahtjevi donatora (30,4%) imaju značajan, ali ne dominantan uticaj.

Manji procenat ispitanika/ca navodi neusklađenost projektnih i računovodstvenih zahtjeva (21,7%) i administrativne prepreke (21,7%), dok su kratki rokovi za izvještavanje najmanje izražen problem (13%). Ovi rezultati ukazuju da su operativni izazovi rjeđe prepoznati u odnosu na strukturne izazove.

Tabela 7. Najosjetljiviji segmenti finansijskog upravljanja u radu NVO (autori, 2026)

Segmenti finansijskog upravljanja	Broj	%
Interna kontrola	19	27,8
Planiranje budžeta	14	20,2
Likvidnost i upravljanje novčanim tokovima	13	18,8
Poštovanje donatorskih pravila	13	18,8
Finansijsko izvještavanje	10	14,4

Kada je riječ o najosjetljivijim segmentima finansijskog upravljanja, izdvajaju se interna kontrola (27,8%) i planiranje budžeta (20,2%), uz značaj pitanja likvidnosti i upravljanja novčanim tokovima (18,8%), kao i poštovanja donatorskih pravila (18,8%).

Tabela 8. Potreba za dodatnim obukama (autori, 2026)

Potreba za dodatnim obukama	Broj	%
Da	38	55,1
U određenoj mjeri	30	43,5
Ne	1	1,4

Posebno je značajan nalaz o potrebi za dodatnim obukama: 55,1% ispitanika/ca smatra da su one neophodne, dok 43,5% ističe da su potrebne u određenoj mjeri. Ovaj rezultat ukazuje na potrebu kontinuiranog unapređenja znanja i jačanja kapaciteta u oblasti finansijskog upravljanja.

Na osnovu navedenog može se zaključiti da su ključni izazovi finansijskog upravljanja u nevladinom sektoru dominantno strukturne prirode, dok potreba za obukama ukazuje na pravce unapređenja kroz jačanje ljudskih kapaciteta i razvoj internih sistema.

4. STAVOVI I PREPORUKE ISPITANIK/CA

Na osnovu analize odgovora na otvoreno pitanje, u kojem su ispitanici/e imali mogućnost da samostalno identifikuju najveće probleme finansijskog upravljanja u nevladinom sektoru u Bosni i Hercegovini, izdvojeno je nekoliko dominantnih tematskih cjelina.

Najveći broj odgovora odnosi se na nestabilnost i nepredvidivost izvora finansiranja, što ispitanici/e prepoznaju kao ključni sistemski problem. Organizacije u velikoj mjeri zavise od projektnih grantova ograničenog trajanja (najčešće 6-12 mjeseci), što otežava dugoročno planiranje, kontinuitet rada i zadržavanje zaposlenih. Ovakav model finansiranja dovodi do situacije u kojoj organizacije funkcionišu „od projekta do projekta“, bez mogućnosti strateškog razvoja.

Druga značajna tematska cjelina tiče se nedostatka stručnog kadra i ograničenih ljudskih kapaciteta. Ispitanici/e ističu da organizacije često nemaju dovoljno zaposlenih koji bi se isključivo bavili finansijskim upravljanjem te da su postojeći kadrovi preopterećeni ili nedovoljno stručno osposobljeni. Posebno je naglašena potreba za kontinuiranom edukacijom i unapređenjem znanja u oblasti finansijskog upravljanja.

Treći važan problem odnosi se na nedovoljno razvijene i neusklađene interne procedure, kao i nepostojanje standardizovanih obrazaca i sistema praćenja. Ispitanici/e navode da u mnogim organizacijama ne postoje jasno definisani procesi, podjela odgovornosti i kontrolni mehanizmi, što povećava rizik od grešaka i otežava finansijsko izvještavanje.

Značajan broj odgovora ukazuje i na kompleksnost i neusklađenost donatorskih zahtjeva, koji se često razlikuju od jednog donatora do drugog, ali i od važećih zakonskih propisa. Ova situacija zahtijeva dodatno prilagođavanje i administrativne napore, što dodatno opterećuje organizacije i smanjuje prostor za unapređenje sistema finansijskog upravljanja.

Pored navedenog, ispitanici/e ističu i zakonske i administrativne prepreke, uključujući poreske obaveze i regulatorni okvir koji nije u potpunosti prilagođen specifičnostima nevladinog sektora. Takođe, navodi se nedostatak sistemskog pristupa, nedovoljna transparentnost u pojedinim slučajevima, kao i potreba za digitalizacijom finansijskih procesa.

Na osnovu analize odgovora može se zaključiti da su problemi finansijskog upravljanja u nevladinom sektoru višedimenzionalni i međusobno povezani. Ključni izazovi proizlaze iz kombinacije nestabilnih izvora finansiranja, nedovoljnih kadrovskih kapaciteta, neusklađenih procedura i kompleksnog regulatornog i donatorskog okruženja.

Dobijeni rezultati dodatno potvrđuju nalaze kvantitativne analize i ukazuju na potrebu za sistemskim unapređenjem finansijskog upravljanja kroz jačanje kapaciteta organizacija, standardizaciju procedura i razvoj održivijih modela finansiranja. Kvalitativni nalazi dodatno produbljuju razumijevanje kvantitativnih rezultata, jer potvrđuju da ispitanici/ce dominantne izazove prepoznaju kao strukturne, a ne isključivo operativne prirode.

5. PREPORUKE ZA UNAPREĐENJE FINANSIJSKOG UPRAVLJANJA

Na osnovu analize odgovora ispitanika/ca, identifikovano je nekoliko ključnih oblasti djelovanja za unapređenje finansijskog upravljanja u nevladinom sektoru.

Najizraženija preporuka tiče se potrebe za dodatnom edukacijom i jačanjem kapaciteta zaposlenih. Ispitanici/e naglašavaju značaj kontinuiranih obuka iz oblasti finansijskog upravljanja, računovodstva i budžetiranja, kao i razvoja praktičnih vještina i korišćenja savremenih alata. Ovi

nalazi jasno ukazuju da nedostatak stručnog kadra predstavlja jedan od ključnih ograničavajućih faktora u efikasnom upravljanju finansijama.

Druga važna oblast odnosi se na uspostavljanje i standardizaciju internih procedura i kontrolnih mehanizama. Posebno se ističe potreba za jasno definisanim pravilima u vezi s odobravanjem troškova, nabavkama, plaćanjima i izvještavanjem, kao i preciznim razdvajanjem odgovornosti unutar organizacije. Jačanje internih kontrola prepoznato je kao ključan korak ka smanjenju rizika i unapređenju transparentnosti.

Treća ključna preporuka odnosi se na osiguranje stabilnijih i dugoročnih izvora finansiranja. Ispitanici/e ističu potrebu za višegodišnjim grantovima, većim učešćem sredstava za operativne troškove i smanjenjem zavisnosti od kratkoročnih projekata. Takođe se naglašava značaj diverzifikacije izvora finansiranja kroz razvoj vlastitih prihoda i saradnju sa različitim partnerima.

Značajan broj preporuka odnosi se i na unapređenje regulatornog i institucionalnog okvira. Ispitanici/e ukazuju na potrebu za jasnijim i usklađenijim pravilima koja bi bila prilagođena specifičnostima nevladinog sektora, kao i na važnost smanjenja administrativnih opterećenja i pojednostavljenja procedura.

Pored toga, ističe se značaj međusobne saradnje i razmjene iskustava unutar sektora, uključujući mogućnost razvoja zajedničkih servisa za finansijsko i administrativno savjetovanje. Ovakav pristup može doprinijeti efikasnijem korišćenju ograničenih resursa i jačanju kapaciteta organizacija.

Konačno, kao dodatne mjere navode se digitalizacija finansijskih procesa i unapređenje transparentnosti kroz redovno izvještavanje i komunikaciju sa donatorima i javnošću. Uvođenje savremenih alata može olakšati praćenje budžeta, kontrolu troškova i donošenje finansijskih odluka. Na osnovu navedenog može se zaključiti da unapređenje finansijskog upravljanja zahtijeva integrisani pristup koji uključuje jačanje ljudskih kapaciteta, razvoj internih procedura, unapređenje finansijske stabilnosti i poboljšanje institucionalnog okvira. Predložene mjere ukazuju na jasne i konkretne pravce djelovanja koji mogu doprinijeti povećanju efikasnosti, transparentnosti i dugoročne održivosti nevladinih organizacija.

ZAKLJUČAK

Finansijsko upravljanje u nevladinim organizacijama u Bosni i Hercegovini predstavlja kompleksan i višedimenzionalan proces koji se odvija u specifičnom institucionalnom i finansijskom okruženju. Rezultati provedenog istraživanja ukazuju da se organizacije suočavaju sa brojnim izazovima koji značajno utiču na efikasnost upravljanja finansijama i kvalitet finansijskog izvještavanja.

Kao dominantan problem izdvaja se nestabilnost i nepredvidivost izvora finansiranja, koja otežava dugoročno planiranje i održivost organizacija. Zavisnost od projektnih grantova ograničenog trajanja dovodi do diskontinuiteta u radu, otežava zadržavanje kvalifikovanog kadra i usmjerava aktivnosti organizacija ka obezbjeđivanju finansijskih sredstava, umjesto ka strateškom razvoju i unapređenju programskih rezultata.

Pored finansijske neizvjesnosti, značajan izazov predstavlja nedostatak stručnog kadra u oblasti finansijskog upravljanja. Veliki broj organizacija nema jasno definisanu finansijsku funkciju te da finansijske poslove često obavlja menadžment ili projektno osoblje. Ovakav način organizacije rada povećava rizik od grešaka, smanjuje efikasnost upravljanja i ukazuje na potrebu za sistemskim ulaganjima u razvoj ljudskih kapaciteta.

Dodatni izazov odnosi se na nedovoljno razvijene i neusklađene interne procedure. Iako su operativni segmenti finansijskog upravljanja u određenoj mjeri formalizovani, strateški aspekti, uključujući planiranje i kontinuirano praćenje budžeta, često nisu dovoljno razvijeni. Istovre-

meno, složeni i često neusklađeni zahtjevi donatora dodatno opterećuju organizacije i otežavaju uspostavljanje efikasnih sistema finansijskog upravljanja.

Rezultati kvalitativne i kvantitativne analize ukazuju na međusobnu povezanost identifikovanih izazova, pri čemu se kao ključni faktori izdvajaju finansijska nestabilnost, ograničeni kadrovski kapaciteti i nedovoljno razvijeni institucionalni i proceduralni mehanizmi. Posebno je značajan nalaz da ispitanici/e prepoznaju direktnu povezanost između kvaliteta finansijskog upravljanja i kvaliteta finansijskog izvještavanja, što potvrđuje važnost ove oblasti za transparentnost i odgovornost u radu nevladinih organizacija.

U tom kontekstu, unapređenje finansijskog upravljanja zahtijeva integrirani pristup. Ključne mjere uključuju jačanje kapaciteta kroz kontinuiranu edukaciju, razvoj i standardizaciju internih procedura, unapređenje internih kontrola i obezbjeđivanje stabilnijih izvora finansiranja. Takođe, potrebno je unaprijediti usklađenost donatorskih zahtjeva i zakonskog okvira te podsticati saradnju i razmjenu znanja unutar sektora.

Zaključno, unapređenje finansijskog upravljanja u nevladinom sektoru ne zavisi samo od pojedinačnih organizacija, već zahtijeva širu institucionalnu i sistemsku podršku. Jačanje organizacionih kapaciteta, razvoj održivih modela finansiranja i standardizacija procedura predstavljaju ključne preduslove za povećanje efikasnosti, transparentnosti i dugoročne održivosti nevladinih organizacija u Bosni i Hercegovini.

Na osnovu provedenog istraživanja mogu se izdvojiti četiri ključna zaključka:

- finansijska nestabilnost predstavlja dominantan izazov;
- nedostatak stručnog kadra značajno utiče na kvalitet upravljanja;
- interni sistemi i procedure nisu dovoljno razvijeni;
- unapređenje finansijskog upravljanja zahtijeva integrisani pristup i institucionalnu podršku.

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CHALLENGES OF FINANCIAL MANAGEMENT IN NON-GOVERNMENTAL ORGANISATIONS IN BOSNIA AND HERZEGOVINA

Abstract: *Financial management and control represent key functions in the operations of non-governmental organisations, particularly under conditions of limited financial resources and significant dependence on external sources of funding. Their role lies in ensuring compliance with donor requirements and applicable legal and regulatory provisions, as well as the accountable and transparent use of funds. Through an adequately established and implemented system of financial management and control, conditions are created for strengthening financial discipline, enhancing transparency and improving the quality of financial reporting. Responsibility for the functioning of these systems rests with the organisation's governance and management structures, whose decisions directly affect the efficiency of financial resource management. This paper analyses the key challenges of financial management in non-governmental organisations in Bosnia and Herzegovina, with particular emphasis on planning, control and financial reporting. The paper employs a descriptive method and a survey questionnaire, through which data from the practice of the non-governmental sector were collected and analysed. The research findings indicate that instability of funding sources, the shortage of qualified staff and insufficiently developed internal procedures constitute the dominant challenges affecting financial management in the non-governmental sector. These constraints affect budget predictability, resource allocation, internal control effectiveness and the long-term financial sustainability of organisations. The scientific contribution of the paper lies in the empirical analysis of specific challenges related to financial management in the non-governmental sector in Bosnia and Herzegovina, thereby contributing to the expansion of existing theoretical knowledge and to a better understanding of financial management practices in this sector.*

Keywords: *financial management, non-governmental organisations, financial reporting, internal control systems*

JEL classification: *H83, M41, L31, G38*

INTRODUCTION

Non-governmental organisations constitute an important component of contemporary society, particularly in the context of democratic development, the protection of human rights and the provision of social services. Their role is especially significant in transitional societies such as Bosnia and Herzegovina, where, through various initiatives, they contribute to the development of civil society, strengthen citizen participation and enhance institutional capacities. The contribution of non-governmental organisations to sustainable social development is reflected in their

ability to respond to community needs, connect diverse stakeholders and support the development of participatory models of action (Abiddin, Ibrahim, and Abdul Aziz 2022).

Unlike the for-profit sector, non-governmental organisations operate in a specific environment characterised by project-based financing, time-limited grants and complex donor requirements. Such an operating model increases the complexity of planning, control and financial reporting processes, particularly in organisations that lack stable and long-term funding sources. The financial sustainability of non-governmental organisations largely depends on their ability to diversify revenue streams, manage limited resources and maintain continuity in programme implementation (Shava 2021).

In addition to financial instability, the contemporary environment is shaped by changes in donor behaviour, models of philanthropy and fundraising approaches. Changes in public policies, economic conditions and the financial behaviour of donors affect the operations of non-governmental organisations and require more flexible approaches to planning, communication and resource management (Van Steenburg et al. 2022).

Given these specific characteristics, effective financial management represents one of the key preconditions for the sustainability and successful functioning of non-governmental organisations. Although the existing literature recognises the importance of financial management and internal controls, studies specifically addressing this issue in the non-governmental sector, with a focus on Bosnia and Herzegovina and the broader regional context, remain limited.

This paper analyses the challenges of financial management in non-governmental organisations in Bosnia and Herzegovina, with particular focus on organisational capacities, internal procedures and donor requirements. The paper aims to identify key challenges and analyse their impact on the efficiency of financial management and the quality of financial reporting. The research was conducted using a survey questionnaire, while the collected data was analysed through descriptive statistical methods. Building on the identified research problem, the paper examines the extent to which financial instability, limited human resource capacities and insufficiently developed internal procedures affect the efficiency of financial management in the non-governmental sector.

1. BASIC DETERMINANTS OF FINANCIAL MANAGEMENT IN NON-GOVERNMENTAL ORGANISATIONS

Financial management encompasses a set of interrelated activities involving the planning, organisation, control and reporting of an organisation's financial resources. Its primary objective is to ensure the rational, efficient and transparent use of funds in accordance with defined objectives, while simultaneously reducing financial risks and preserving the organisation's financial sustainability.

In the context of non-governmental organisations, financial management assumes an additional dimension of accountability, as it involves the management of resources derived from multiple sources, including international donors, foundations and public institutions. Understanding foundation funding demonstrates that access to resources is often not evenly distributed, but rather depends on organisational capacities, an organisation's position within the donor environment and its relationships with donors, which further underscores the importance of a strategic approach to financial management (MacIndoe 2022).

The complexity of management processes is further increased by the fact that different donors impose specific requirements regarding budgeting, reporting and the justification of expenditures. Organisations are often faced with the need to manage multiple projects simultaneously under different rules and procedures. Under conditions of increasing competition for donor resources, traditional fundraising models are no longer sufficient, requiring organisations to develop clearer financial strategies and strengthen management capacities (Walk, Curley, and Levine Daniel 2022). The establishment of an adequate system of internal controls constitutes a key element of financial management, as it contributes to risk reduction, enhanced transparency and increased reliability of financial reporting. Financial management and control, although most commonly

developed within the public sector, are based on the principles of accountability, legality, economy, efficiency and effectiveness, which are equally applicable to civil society organisations managing earmarked and donor funds (Vuković Perduv et al. 2024).

Financial management in the non-governmental sector constitutes a complex and multidimensional process requiring a combination of technical knowledge, organisational capacities and an understanding of the specific institutional environment. This process may be analysed through operational, control and strategic dimensions, each of which plays a distinct role in ensuring organisational sustainability. Within this theoretical framework, the operational dimension relates to the day-to-day management of financial processes, while the control dimension concerns internal control mechanisms and risk management. The strategic dimension encompasses long-term planning and organisational sustainability.

2. SPECIFICITIES AND CHALLENGES OF FINANCIAL MANAGEMENT IN THE NGO SECTOR

Financial management in non-governmental organisations operates within a complex and dynamic environment characterised by a high degree of uncertainty and dependence on external funding sources. Organisations face structural challenges, including donor dependence, the complexity of compliance requirements and limited organisational capacities. At the same time, changes in the political and economic environment may further constrain the operating space of non-governmental organisations, particularly in contexts where pressure on civil society is increasing and the availability of financial resources is declining (Adolph and Prakash 2022).

The complexity of donor procedures is reflected in the need to comply simultaneously with diverse standards, rules and reporting formats, which are often not mutually harmonised. In the absence of a unified regulatory framework, organisations are compelled to continuously adapt internal processes, increasing administrative burdens and limiting opportunities for the strategic development of financial management. The digitalisation of financial management and control systems may contribute to improved process organisation; however, it requires clear procedures, technical capacities and organisational readiness for change (Novaković, Milovanović, and Gligorić 2022). One of the key challenges relates to the lack of qualified financial staff and limited capacities for establishing effective control systems. Particularly in small and medium-sized organisations, financial functions are often performed by individuals who simultaneously assume programme-related or administrative responsibilities, increasing the risk of errors, non-compliance and delays in reporting. In this context, internal audit and control mechanisms play a significant role in strengthening financial management, as they enable the timely identification of weaknesses and reinforce accountability in the management of funds (Rakonjac, Babić, and Mičić 2022).

Challenges in financial management within the non-governmental sector are interrelated and arise from a combination of external requirements and internal constraints. Limited human resources, insufficiently developed procedures, inconsistencies among different requirements and restricted resources represent key barriers to effective financial management. Their effects reinforce one another and directly affect the quality of financial reporting, transparency and the overall sustainability of organisations. Furthermore, this interconnectedness indicates that financial management challenges are not isolated problems, but rather structurally linked factors requiring an integrated approach to strengthening organisational capacities and internal management mechanisms.

3. RESULTS OF THE EMPIRICAL RESEARCH

Information obtained through the empirical research was collected by means of a survey questionnaire administered among representatives of non-governmental organisations in Bosnia and Herzegovina, including directors, financial managers, project coordinators and other employees

involved in financial management processes. The majority of questions in the questionnaire were closed-ended, including questions with predefined responses, multiple-choice questions and questions based on a Likert scale, while a smaller number of questions were open-ended in order to collect additional qualitative insights.

The findings, based on the assessment of challenges and the identification of their dominant patterns, indicate that funding stability and the availability of qualified staff constitute key factors for effective financial management in non-governmental organisations. Organisations with more stable funding sources and adequate human resources demonstrate a higher level of organisational stability and greater efficiency in financial management.

The analysis of research findings indicates that the complexity of donor requirements and funding uncertainty significantly affect the management of resources. Organisations are often faced with the need to monitor different rules and procedures simultaneously, which increases administrative burdens and makes long-term planning of financial activities more difficult.

Further findings indicate that organisational characteristics, including clearly defined roles, internal procedures and budget planning and monitoring, have a significant impact on the efficiency of financial management. Organisations with more developed internal management systems are better able to align their activities with donor requirements and achieve a higher level of transparency.

The research findings also indicate that the lack of qualified financial staff constitutes one of the key challenges, particularly in smaller organisations, where financial functions are often performed in parallel with other responsibilities. Such practice may negatively affect the quality of financial management and the timeliness of reporting.

The specific nature of the context of Bosnia and Herzegovina is reflected in additional institutional and regulatory constraints, which further complicate the work of non-governmental organisations and affect their capacity to adapt to changes in the operating environment.

The findings obtained are largely consistent with contemporary research indicating the importance of stable funding, organisational capacities and adaptation to external requirements as key determinants of effective financial management (Shava 2021).

The research findings are presented in tabular and graphical form, accompanied by appropriate interpretation, to facilitate a better understanding of the state of financial management in the non-governmental sector and the identification of areas requiring improvement.

3.1. Structure of Respondents

A total of 69 respondents from non-governmental organisations in Bosnia and Herzegovina participated in the research, representing organisations operating in different fields and possessing varying organisational capacities. An analysis of the structure of respondents by position indicates that the largest share consists of project coordinators (39.1%, or 27 respondents), followed by directors (33.3%, or 23 respondents), indicating a high level of participation by individuals directly involved in project and organisational management. The structure of respondents by position is presented in Table 1.

Table 1. Structure of Respondents by Position (authors 2026)

Position in the organisation	Number of respondents	%
Project Coordinator	27	39.1
Director	23	33.3
Programme Manager	8	11.6
Other positions	11	16
Total	69	100

When observed according to the length of organisational existence, the largest number of respondents comes from organisations operating for more than 15 years (42%, or 29 organisations), while 29% of respondents (20 organisations) come from organisations that have existed between 8 and 14 years. Organisations with 4 to 7 years of operation account for 20.3% of the sample (14 respondents), while the smallest number of respondents comes from organisations operating for up to 3 years, indicating the dominant presence of organisations with longer experience in the sector. According to the number of employees, the largest share consists of organisations with 0–2 employees (38.2%, or 26 organisations), followed by organisations with 3–5 employees (33.8%, or 23 organisations), while organisations with 6–10 employees account for 14.7% of the sample. These data indicate that smaller organisations with limited human capacities predominate in the sample, which represents a significant factor in the context of financial management.

With regard to fields of operation, organisations most frequently operate in the area of gender equality (29%, or 20 organisations), followed by human rights (18.8%, or 13 organisations), social protection (15.9%, or 11 organisations) and education (10.1%, or 7 organisations), confirming the diversity of the sector and its social orientation.

Particularly significant is the finding that as many as 91.3% of respondents (63 organisations) use funding from international donations and projects, further confirming the high dependence of the non-governmental sector on external funding sources and underscoring the importance of effective financial management in the context of donor requirements.

3.2. Organisation of Financial Management

The research findings indicate significant differences in the organisation of financial management within non-governmental organisations. In response to the question of whether the organisation has a person or team responsible for financial management, the largest proportion of respondents, namely 53.6% (37 organisations), stated that these responsibilities are performed by management or project staff, while a smaller number of organisations have dedicated finance staff. The organisation of financial management is presented in Table 2.

Table 2. Organisation of Financial Management (Authors 2026)

Management model	Number	%
Management / project staff	37	53.6
Dedicated finance staff	22	31.9
Several staff members	9	13.1
Bookkeeping	1	1.4
Total	69	100

Such findings indicate insufficient institutionalisation of financial management in a significant number of organisations, particularly given that financial activities require specialised knowledge and continuous oversight. The assignment of financial tasks to staff whose primary responsibilities lie in other areas may lead to increased workload pressures, as well as potential risks of errors and non-compliance.

With regard to the existence of internal procedures for financial operations, 42% of respondents reported that their organisation has clearly defined procedures, while 34.8% of organisations have partially developed procedures. At the same time, 23.2% of organisations reported that no formalised internal procedures are in place, indicating substantial scope for strengthening this aspect of management.

The findings confirm that a considerable number of organisations operate without fully developed and standardised financial procedures, which may hinder compliance with donor requi-

rements as well as with the applicable legal and regulatory framework. The absence of clearly defined procedures further complicates planning, control and reporting processes and may adversely affect the overall efficiency of financial management. Data on the existence of internal procedures are presented in Table 3.

Table 3. Existence of Internal Financial Procedures (authors 2026)

Status of procedures	Number	%
Procedures exist	29	42.0
Partially developed	24	34.8
No procedures in place	16	23.2
Total	69	100

Viewed in the context of previously identified challenges, these findings indicate the need to strengthen the institutional capacities of organisations, particularly with regard to the formalisation of financial roles and the development of internal procedures. The establishment of clear rules and responsibilities in the area of financial management constitutes one of the key preconditions for enhancing transparency and the quality of financial reporting in the non-governmental sector.

Findings relating to the areas covered by internal procedures indicate that such procedures are most developed in the operational segments of financial management. The largest number of organisations have defined procedures in the areas of procurement and disbursement, or payments (60.3%), indicating a focus on expenditure control and the execution of financial transactions. In addition, a significant number of organisations have defined procedures for financial reporting and the archiving of financial documentation (50% each), as well as for expenditure authorisation (48.5%).

By contrast, a somewhat smaller number of organisations have developed procedures for budget planning (44.1%), which may indicate insufficient development of a strategic approach to financial management.

With regard to budget implementation monitoring, the findings indicate that the largest proportion of organisations (49.3%) monitor budget implementation on an as-needed basis, while 17.4% do so monthly and 15.9% on a weekly basis. Quarterly monitoring is present in 13% of organisations, while a smaller number of organisations rarely undertake comparisons between planned and actual expenditures. The frequency of budget monitoring is presented in Table 4.

Table 4. Frequency of Budget Monitoring (authors 2026)

Frequency of budget monitoring	Number	%
As needed	34	49.3
Monthly	12	17.4
Weekly	11	15.9
Quarterly	9	13.0
Rarely	3	4.3
Total	69	100

Such distribution indicates an insufficiently systematic approach to budget monitoring in a significant number of organisations, given that expenditure control is carried out predominantly in a reactive manner, that is, on an as-needed basis, rather than through predefined and regular mechanisms. The absence of continuous monitoring may adversely affect the timely identification of deviations and the adoption of appropriate corrective measures.

In the context of previously identified challenges, these findings further confirm that financial management in non-governmental organisations is often not fully structured and standardised. Although certain control elements exist, particularly in operational segments, the absence of a systematic approach to budget planning and monitoring indicates the need to strengthen internal capacities and improve financial management procedures.

3.3. Key Challenges in Financial Management

Research findings relating to the key challenges of financial management were analysed based on statements measured using a Likert scale, whereby respondents expressed their level of agreement with the proposed statements. Mean scores for the key challenges are presented in Table 5.

Table 5. Mean Scores of Key Challenges (authors 2026)

Statement	Mean score
Funding uncertainty	4.41
Long-term planning	4.26
Impact of financial management on the quality of financial reporting in the organisation	4.17
Donor requirements	3.94
Staff shortages	3.93
The alignment of accounting records with donor requirements	3.65
Internal controls	3.53
Capacities for timely and accurate financial reporting	3.43
Changes in project activities	3.24

The analysis indicates that non-governmental organisations face the greatest challenges in long-term financial planning (mean score 4.26), with 82.6% of respondents expressing agreement with this statement. The most pronounced challenge identified was uncertainty of funding sources (4.41), confirming that dependence on external funding constitutes a central challenge for financial management.

Significant challenges are also posed by donor requirements (3.94), as well as limited human resources (3.93), indicating the complexity of management processes and shortages of specialised staff. The alignment of accounting records with donor requirements (3.65) and insufficiently developed internal controls (3.53) further hinder effective management and increase the risk of errors.

Capacities for timely and accurate financial reporting were assessed moderately (3.43), while changes in project activities (3.24) emerged as the least pronounced challenge. At the same time, respondents clearly recognise the link between the quality of financial management and financial reporting (4.17), indicating a high level of awareness of the significance of these processes. Based on the findings, it may be concluded that these challenges arise from a combination of external factors (funding uncertainty and donor requirements) and internal constraints (staff shortages and procedural weaknesses), indicating the need for systemic capacity strengthening and the improvement of internal management mechanisms.

3.4. Most Frequently Identified Key Financial Management Challenges

Based on respondents' answers, where multiple response options could be selected, key financial management challenges faced by non-governmental organisations in practice were identified. The most frequently identified challenges are presented in Table 6.

Table 6. Most Frequently Identified Key Challenges (authors 2026)

Challenge	Number	%
Unstable funding	58	84.1
Staff shortages	33	47.8
Insufficiently developed procedures	25	36.2
Donor requirements	21	30.4
Misalignment between project and accounting requirements	15	21.7
Administrative barriers	15	21.7
Short reporting deadlines	9	13

The findings indicate that respondents identified the lack of stable funding sources as the dominant challenge, reported by 84.1% of organisations. This finding confirms earlier results and indicates a pronounced dependence of the non-governmental sector on external and project-restricted funding sources.

The second most frequently identified key challenge is the shortage of qualified financial staff (47.8%), further confirming limited organisational capacities and the need for systemic investment in human resource development. Insufficiently developed internal procedures were identified in 36.2% of organisations, while donor requirements (30.4%) have a significant, though not dominant, impact.

A smaller proportion of respondents identified misalignment between project and accounting requirements (21.7%) and administrative barriers (21.7%), while short reporting deadlines emerged as the least pronounced challenge (13%). These findings indicate that operational challenges are less frequently identified than structural challenges.

Table 7. Most Sensitive Segments of Financial Management in NGO Operations (authors 2026)

Financial management segments	Number	%
Internal controls	19	27.8
Budget planning	14	20.2
Liquidity and cash flow management	13	18.8
Compliance with donor requirements	13	18.8
Financial reporting	10	14.4

With regard to the most sensitive segments of financial management, internal controls (27.8%) and budget planning (20.2%) emerge as the most prominent, alongside the significance of liquidity and cash flow management (18.8%), as well as compliance with donor requirements (18.8%).

Table 8. Need for Additional Training (Authors 2026)

Need for additional training	Number	%
Yes	38	55.1
To some extent	30	43.5
No	1	1.4

A particularly significant finding relates to the need for additional training: 55.1% of respondents consider such training necessary, while 43.5% indicate that it is needed to some extent. This finding points to the need for the continuous enhancement of knowledge and strengthening of capacities in the area of financial management.

Based on the above, it may be concluded that the key challenges of financial management in the non-governmental sector are predominantly structural in nature, while the need for training indicates pathways for improvement through strengthening human capacities and developing internal systems.

4. ATTITUDES AND RECOMMENDATIONS OF RESPONDENTS

Based on the analysis of responses to the open-ended question, in which respondents were given the opportunity to independently identify the most significant challenges of financial management in the non-governmental sector in Bosnia and Herzegovina, several dominant thematic categories were identified.

The largest share of responses relates to the instability and unpredictability of funding sources, which respondents recognise as a key systemic challenge. Organisations are largely dependent on project grants of limited duration (most commonly 6–12 months), which constrains long-term planning, continuity of operations, and staff retention. This financing model results in organisations operating ‘from project to project’, without the possibility of strategic development. A second significant thematic category relates to the shortage of qualified staff and limited human resource capacities. Respondents emphasise that organisations often do not have sufficient staff dedicated exclusively to financial management, while existing staff are frequently overburdened or insufficiently professionally trained. Particular emphasis is placed on the need for continuous education and the strengthening of knowledge and competencies in the field of financial management.

A third important challenge relates to insufficiently developed and unharmonised internal procedures, as well as the absence of standardised templates and monitoring systems. Respondents indicate that many organisations lack clearly defined processes, division of responsibilities, and internal control mechanisms, which increases the risk of errors and complicates financial reporting.

A significant number of responses also point to the complexity and inconsistency of donor requirements, which often differ from one donor to another, as well as from applicable legal regulations. This situation requires additional adjustments and administrative efforts, further burdening organisations and reducing the scope for strengthening financial management systems.

In addition, respondents identify legal and administrative barriers, including tax obligations and a regulatory framework that is not fully adapted to the specificities of the non-governmental sector. Responses also indicate a lack of a systemic approach, insufficient transparency in certain cases, as well as the need for the digitalisation of financial processes. Based on the analysis of responses, it may be concluded that the challenges of financial management in the non-governmental sector are multidimensional and interrelated. The key challenges arise from a combination of unstable funding sources, insufficient human resource capacities, unharmonised procedures, and a complex regulatory and donor environment.

The findings further confirm the results of the quantitative analysis and indicate the need for systemic strengthening of financial management through enhanced organisational capacities, the standardisation of procedures, and the development of more sustainable financing models. The qualitative findings additionally deepen the understanding of the quantitative results, as they confirm that respondents predominantly perceive these challenges as structural rather than exclusively operational in nature.

5. RECOMMENDATIONS FOR STRENGTHENING FINANCIAL MANAGEMENT

Based on the analysis of respondents’ answers, several key areas of action for strengthening financial management in the non-governmental sector were identified.

The most prominent recommendation relates to the need for additional education and capacity strengthening of staff. Respondents emphasise the importance of continuous training in the areas of financial management, accounting and budgeting, as well as the development of practical skills and the use of modern tools. These findings clearly indicate that the lack of qualified staff constitutes one of the key constraining factors in effective financial management.

A second important area relates to the establishment and standardisation of internal procedures and control mechanisms. Particular emphasis is placed on the need for clearly defined rules regarding expenditure approval, procurement, payments and reporting, as well as the precise segregation of responsibilities within organisations. Strengthening internal controls is recognised as a key step towards reducing risk and enhancing transparency.

A third key recommendation relates to securing more stable and longer-term funding sources. Respondents highlight the need for multi-year grants, increased allocations for operational costs, and reduced dependence on short-term projects. The importance of diversifying funding sources through the development of own-source revenues and cooperation with different partners is also emphasised.

A significant number of recommendations also concern the strengthening of the regulatory and institutional framework. Respondents point to the need for clearer and more harmonised rules adapted to the specificities of the non-governmental sector, as well as the importance of reducing administrative burdens and simplifying procedures.

In addition, the importance of cooperation and the exchange of experience within the sector is emphasised, including the potential development of shared services for financial and administrative advisory support. Such an approach may contribute to more efficient use of limited resources and the strengthening of organisational capacities.

Finally, additional measures identified include the digitalisation of financial processes and the enhancement of transparency through regular reporting and communication with donors and the public. The introduction of modern tools may facilitate budget monitoring, expenditure control, and financial decision-making.

Based on the above, it may be concluded that strengthening financial management requires an integrated approach encompassing the development of human capacities, the improvement of internal procedures, the enhancement of financial stability, and the strengthening of the institutional framework. The proposed measures indicate clear and concrete directions for action that may contribute to increased efficiency, transparency, and the long-term sustainability of non-governmental organisations.

CONCLUSION

Financial management in non-governmental organisations in Bosnia and Herzegovina represents a complex and multidimensional process operating within a specific institutional and financial environment. The results of the research conducted indicate that organisations face numerous challenges that significantly affect the efficiency of financial management and the quality of financial reporting.

The instability and unpredictability of funding sources emerge as the dominant challenge, constraining long-term planning and organisational sustainability. Dependence on project grants of limited duration leads to discontinuity in operations, hinders the retention of qualified staff, and directs organisational activities towards securing financial resources rather than strategic development and the improvement of programme results.

In addition to financial uncertainty, a significant challenge is the shortage of qualified staff in the field of financial management. Many organisations do not have a clearly defined financial function, and financial tasks are often performed by management or project staff. This mode of work organisation increases the risk of errors, reduces management efficiency, and indicates the need for systematic investment in the development of human capacities.

An additional challenge relates to insufficiently developed and unharmonised internal procedures. Although operational segments of financial management are formalised to a certain extent, strategic aspects, including planning and continuous budget monitoring, are often insufficiently developed. At the same time, complex and often inconsistent donor requirements further burden organisations and hinder the establishment of effective financial management systems.

The results of the qualitative and quantitative analysis indicate the interrelated nature of the identified challenges, with financial instability, limited human resource capacities, and insufficiently developed institutional and procedural mechanisms emerging as key factors. Particularly significant is the finding that respondents recognise a direct relationship between the quality of financial management and the quality of financial reporting, confirming the importance of this field for transparency and accountability in the work of non-governmental organisations.

In this context, strengthening financial management requires an integrated approach. Key measures include capacity strengthening through continuous education, the development and standardisation of internal procedures, the improvement of internal controls, and securing more stable funding sources. It is also necessary to improve alignment between donor requirements and the legal framework and to encourage cooperation and knowledge exchange within the sector.

In conclusion, strengthening financial management in the non-governmental sector does not depend solely on individual organisations but requires broader institutional and systemic support. Strengthening organisational capacities, developing sustainable financing models, and standardising procedures constitute key preconditions for increasing efficiency, transparency, and the long-term sustainability of non-governmental organisations in Bosnia and Herzegovina. Based on the conducted research, four key conclusions may be identified:

- Financial instability constitutes the dominant challenge;
- The shortage of qualified personnel significantly affects the quality of management;
- Internal systems and procedures remain insufficiently developed;
- Strengthening financial management requires an integrated approach and institutional support.

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PREGLED STRANIH DIREKTNIH INVESTICIJA U ZEMLJAMA ZAPADNOG BALKANA

Rezime: *Strane direktne investicije (SDI) predstavljaju jedan od ključnih pokretača ekonomskog rasta, modernizacije privrede i integracije nacionalnih ekonomija u globalne tokove. Zemlje Zapadnog Balkana u posljednjim decenijama nastoje da unaprijede investicionu klimu kako bi privukle veći obim stranog kapitala i podstakle razvoj domaće privrede. Cilj ovog rada je da pruži pregled kretanja stranih direktnih investicija u zemljama Zapadnog Balkana, analizirajući njihove osnovne trendove, strukturu i sektorsku raspodjelu.*

Ključne riječi: *strane direktne investicije, Zapadni Balkan, ekonomski razvoj, investiciona klima, regionalna ekonomija*

JEL klasifikacija: E6, F3, F4

UVOD

Strane direktne investicije predstavljaju jedan od najznačajnijih izvora međunarodnog kapitala koji doprinosi ekonomskom razvoju, povećanju produktivnosti i jačanju konkurentnosti nacionalnih ekonomija. One omogućavaju transfer tehnologije, znanja i menadžerskih vještina te doprinose otvaranju novih radnih mjesta i integraciji zemalja u globalne ekonomske tokove. Zemlje Zapadnog Balkana, koje se nalaze u procesu ekonomske tranzicije i evropskih integracija, nastoje privući što veći obim stranih investicija kroz unapređenje poslovnog okruženja, institucionalnih reformi i investicionih politika. Analiza kretanja i strukture stranih direktnih investicija u ovom regionu omogućava bolje razumijevanje investicionih trendova, kao i identifikaciju ključnih faktora koji utiču na privlačnost pojedinih ekonomija za strane investitore.

1. TEORIJSKI OKVIR STRANIH DIREKTNIH INVESTICIJA

Teorijski okvir stranih direktnih investicija (SDI) zasniva se na više ekonomskih teorija koje objašnjavaju motive i obrasce međunarodnog investiranja. Jedna od najznačajnijih je eklektična paradigma ili OLI model, koju je razvio Dunning (1988), prema kojoj se odluka o ulaganju u inostranstvo zasniva na kombinaciji vlasničkih (*ownership*), lokacijskih (*location*) i internalizacijskih (*internalization*) prednosti koje kompanije posjeduju. Ovaj pristup naglašava da multinacionalne kompanije investiraju u zemlje koje nude povoljne tržišne uslove, niže troškove proizvodnje ili pristup novim resursima. Pored toga, teorija međunarodne proizvodnje i teorija

tržišnih imperfekcija ukazuju da strane direktne investicije nastaju kao rezultat nastojanja kompanija da smanje transakcione troškove i iskoriste komparativne prednosti pojedinih ekonomija. Empirijska istraživanja potvrđuju da SDI imaju značajnu ulogu u transferu tehnologije, povećanju produktivnosti i podsticanju ekonomskog rasta u zemljama domaćinima (Borensztein, de Gregorio, i Lee, 1998).

1.1. Pojam i karakteristike stranih direktnih investicija

Strane direktne investicije (SDI) predstavljaju jedan od najvažnijih oblika međunarodnog kretanja kapitala i ključni instrument međunarodne ekonomske integracije. U najširem smislu, strane direktne investicije podrazumijevaju ulaganja rezidenta jedne zemlje u preduzeća koja posluju u drugoj zemlji sa ciljem ostvarivanja dugoročnog interesa i kontrole nad poslovanjem. Prema definiciji koju koristi Međunarodni monetarni fond, strane direktne investicije nastaju kada investitor posjeduje najmanje 10% vlasničkog udjela u preduzeću u inostranstvu, čime stiče mogućnost značajnog uticaja na upravljanje i poslovne odluke. Za razliku od portfolio investicija, koje su uglavnom usmjerene na ostvarivanje kratkoročnih finansijskih prinosa, strane direktne investicije imaju dugoročan karakter i podrazumijevaju aktivno učešće investitora u poslovanju kompanije domaćina.

Direktne strane investicije (SDI) predstavljaju složen paket koji obuhvata fizički kapital, proizvodne tehnike, menadžerske vještine, proizvode i usluge, marketinšku ekspertizu, oglašavanje i organizacione poslovne procese (Zhang 2001).

U savremenim ekonomskim uslovima strane direktne investicije imaju višestruki značaj jer omogućavaju transfer kapitala, tehnologije, znanja i menadžerskih vještina između zemalja. Upravo zbog toga mnoge države, posebno zemlje u razvoju i zemlje u tranziciji, aktivno razvijaju politike privlačenja stranih investicija kako bi ubrzale privredni rast i modernizaciju ekonomije. Prema istraživanjima u oblasti međunarodne ekonomije, SDI doprinose povećanju produktivnosti domaćih preduzeća kroz transfer tehnologije i širenje inovacija, ali i kroz konkurentski pritisak koji podstiče unapređenje poslovnih praksi u domaćoj privredi. Empirijske studije pokazuju da zemlje koje uspješno privlače strane investicije često ostvaruju brži ekonomski rast i veću integraciju u globalne proizvodne lance (Borensztein, de Gregorio, i Lee 1998). Jedna od osnovnih karakteristika stranih direktnih investicija jeste njihov dugoročni karakter. Investitori koji ulažu kapital u inostrana preduzeća obično imaju strateške ciljeve, poput pristupa novim tržištima, resursima ili proizvodnim kapacitetima. Za razliku od drugih oblika međunarodnih finansijskih tokova, SDI podrazumijevaju trajnu vezu između investitora i preduzeća u zemlji domaćinu. Ova veza uključuje ne samo finansijska ulaganja, već i upravljačko znanje, organizacione strukture i poslovne strategije koje investitor prenosi na lokalno preduzeće. Upravo ta dimenzija upravljačkog uticaja predstavlja ključnu razliku između stranih direktnih investicija i drugih oblika međunarodnog investiranja.

Druga važna karakteristika stranih direktnih investicija odnosi se na njihov oblik i strukturu. SDI se mogu realizovati kroz različite modele, među kojima su najčešći osnivanje potpuno novih preduzeća (greenfield investicije), kupovina postojećih kompanija u zemlji domaćinu (akvizicije i spajanja), kao i zajednička ulaganja sa domaćim partnerima (joint ventures). Svaki od ovih oblika ima specifične prednosti i ograničenja, a izbor modela investicije zavisi od strategije investitora, regulatornog okruženja i karakteristika tržišta u koje se ulaže. U praksi se greenfield investicije često smatraju najpoželjnijim oblikom SDI jer doprinose otvaranju novih radnih mjesta i povećanju proizvodnih kapaciteta u zemlji domaćinu.

Treća karakteristika stranih direktnih investicija jeste njihov značajan uticaj na strukturu i razvoj ekonomije zemlje primaoca. SDI često dovode do modernizacije proizvodnje, povećanja izvoza i razvoja novih industrija. Multinacionalne kompanije koje ulažu u inostranstvo donose savremene tehnologije, standarde kvaliteta i napredne metode upravljanja, što može imati pozitivan efekat na cjelokupnu ekonomsku strukturu zemlje domaćina. Ipak, u literaturi se ističe da efekti

SDI zavise od institucionalnog okruženja, nivoa obrazovanja radne snage i sposobnosti lokalne ekonomije da apsorbira nove tehnologije i znanja (Alfaro i drugi 2004).

Savremena istraživanja ukazuju i na to da strane direktne investicije predstavljaju važan mehanizam integracije nacionalnih ekonomija u globalne proizvodne i trgovinske tokove. Kroz aktivnosti multinacionalnih kompanija dolazi do povezivanja lokalnih preduzeća sa međunarodnim dobavljačkim i distributivnim mrežama, što doprinosi povećanju konkurentnosti i izvoznog potencijala zemlje domaćina. Istovremeno, SDI doprinose jačanju međunarodne ekonomske saradnje i produbljivanju procesa globalizacije, čime postaju jedan od ključnih faktora savremenog ekonomskog razvoja. Zbog svega navedenog, strane direktne investicije zauzimaju centralno mjesto u analizama međunarodnih finansijskih tokova i predstavljaju važan predmet istraživanja u oblasti međunarodne ekonomije i ekonomskog razvoja.

1.2. Motivi i determinante priliva stranih direktnih investicija

Priliv stranih direktnih investicija (SDI) u određenu zemlju zavisi od različitih ekonomskih, institucionalnih i strateških faktora koji oblikuju odluku multinacionalnih kompanija da ulažu kapital u inostranstvu. Motivi za ulaganje u inostranstvo mogu se grupisati u nekoliko osnovnih kategorija. Prema pomenutoj eklektičnoj paradigmi (Eklektična paradigma (OLI model) je teorijski okvir koji objašnjava motive multinacionalnih kompanija za ulaganje u inostranstvu. Razvio ju je John H. Dunning i sastoji se od tri osnovna elementa: *ownership* (vlasničke prednosti) – prednosti koje investitor posjeduje, poput tehnologije, brenda, menadžerskih vještina ili intelektualnog vlasništva, koje mu omogućavaju konkurentsku prednost na stranom tržištu, *location* (lokacijske prednosti) – karakteristike zemlje domaćina koje privlače investicije, uključujući pristup tržištu, niže troškove rada, prirodne resurse i infrastrukturne pogodnosti, *internalization* (internalizacija) – odluka da kompanija direktno ulaže kapital i upravlja poslovanjem u zemlji domaćinu, umjesto da koristi ugovorne aranžmane kao što su licenciranje ili outsourcing, kako bi sačuvala kontrolu i zaštitila intelektualno vlasništvo. Kombinacija ovih faktora objašnjava zašto i gdje multinacionalne kompanije ulažu, te pomaže u analizi priliva stranih direktnih investicija u različite zemlje i sektore.) (Dunning 1988) strani investitori ulažu kapital kada posjeduju vlasničke prednosti (*ownership*), kao što su tehnologija, brend ili menadžerske vještine, a ujedno ih privlače lokacijske prednosti (*location*), kao što su pristup tržištu, jeftina radna snaga ili prirodni resursi. Treći element modela, internalizacija (*internalization*), podrazumijeva da investitor preferira direktno ulaganje preko osnivanja podružnica ili akvizicija umjesto izvoza ili licenciranja, kako bi imao kontrolu nad poslovanjem i zaštitio svoje intelektualno vlasništvo (Dunning 1988).

Determinante priliva SDI u zemljama Zapadnog Balkana, kao i u drugim zemljama u tranziciji, uključuju makroekonomske pokazatelje, institucionalnu stabilnost i regulativni okvir. Stabilan ekonomski rast, niski fiskalni i regulatorni rizici, te predvidivo poslovno okruženje snažno utiču na odluku stranih investitora. Empirijska istraživanja pokazuju da zemlje sa nižim transakcijskim troškovima i kvalitetnom infrastrukturom privlače veći obim SDI, dok politička nestabilnost, korupcija i složeni administrativni procesi predstavljaju značajne prepreke (Bevan i Estrin 2004).

Strukturne karakteristike tržišta, uključujući veličinu domaćeg tržišta i potencijal izvoza, takođe igraju važnu ulogu. Veće i rastuće ekonomije sa razvijenom radnom snagom i blizinom većim tržištima privlače investitore koji žele da ostvare tržišne dobitke ili optimizuju proizvodne lance. Uz to, specifične investicione politike, poput poreskih olakšica, subvencija ili osnivanja industrijskih zona, značajno utiču na priliv SDI, naročito u zemljama u tranziciji koje se bore za konkurentnost u regionalnom i globalnom kontekstu (Alfaro i drugi 2004).

Motivi investitora u Zapadnom Balkanu često kombinuju strateške i resursne ciljeve. Na primjer, ulaganja u sektor energetike i infrastrukture u Albaniji ili Crnoj Gori motivisana su pristupom prirodnim resursima i turističkim potencijalima, dok investicije u Srbiji i Hrvatskoj često teže iskorištavanju industrijskih kapaciteta i izvoznog potencijala. Pored ekonomskih faktora,

društveni i kulturni elementi, poput jezika, kulturne bliskosti i poslovnih običaja, takođe mogu djelovati kao determinante priliva SDI, jer smanjuju transakcione troškove i rizik nesporazuma u poslovanju (Cleeve, Debrah, i Zelealem 2015). U zaključku, motivi i determinante priliva stranih direktnih investicija predstavljaju kombinaciju ekonomskih, strateških i institucionalnih faktora, čija analiza omogućava bolje razumijevanje dinamike SDI u zemljama Zapadnog Balkana. Uspješna politika privlačenja investicija zahtijeva istovremeno unapređenje makroekonomske stabilnosti, regulatornog okvira i infrastrukture, kako bi zemlje u regionu povećale svoju konkurentnost i dugoročno osigurale održivi ekonomski rast.

1.3. Ekonomski efekti stranih direktnih investicija

Strane direktne investicije (SDI) imaju višestruke ekonomske efekte na zemlje domaćine, koji obuhvataju rast proizvodnje, povećanje zaposlenosti, transfer tehnologije i unapređenje ljudskog kapitala. Jedan od ključnih mehanizama kroz koji SDI utiču na ekonomiju jeste transfer tehnologije i znanja, pri čemu multinacionalne kompanije donose savremene proizvodne procese, upravljačke prakse i inovacije koje lokalna preduzeća mogu usvojiti kroz vertikalne i horizontalne veze u lancu vrijednosti. Empirijska istraživanja pokazuju da zemlje koje uspješno privlače strane investicije ostvaruju brži ekonomski rast i veću produktivnost, posebno kada postoji sposobnost lokalnih firmi da apsorbuju nove tehnologije i implementiraju inovacije (Borensztein, de Gregorio i Lee 1998).

Pored transfera tehnologije, SDI doprinose povećanju zaposlenosti kroz otvaranje novih radnih mjesta u sektorima gdje multinacionalne kompanije ulažu kapital, ali i indirektno u povezanim industrijama i uslužnim sektorima. Studije pokazuju da direktne investicije pozitivno utiču na razvoj ljudskog kapitala jer podstiču obrazovanje, obuke i razvoj vještina zaposlenih, čime se dugoročno jača produktivnost i konkurentnost domaće ekonomije (Alfaro i drugi 2004). Još jedan značajan efekt SDI je povećanje izvoza i integracija u globalne tržišne lance, što omogućava zemljama domaćinima pristup većim tržištima i smanjenje zavisnosti od domaće potražnje. Na primjer, ulasci stranih investitora u proizvodne sektore u zemljama Zapadnog Balkana često dovode do značajnog povećanja izvoza gotovih proizvoda i komponenti, čime se poboljšava platni bilans i ekonomska stabilnost (Javorcik 2004).

Međutim, efekti SDI nisu automatski pozitivni. Njihov uticaj zavisi od institucionalnog okruženja, kvaliteta ljudskog kapitala i sposobnosti apsorpcije tehnologije. U zemljama gdje postoje visoki administrativni troškovi, korupcija ili nedostatak infrastrukture, priliv SDI može imati ograničen učinak na produktivnost i ekonomski rast. Istovremeno, dominantna koncentracija SDI u određenim sektorima, poput finansija ili nekretnina, može ograničiti šire pozitivne multiplikativne efekte na ekonomiju.

U zaključku, strane direktne investicije doprinose rastu ekonomije kroz transfer tehnologije, povećanje zaposlenosti, razvoj ljudskog kapitala i poboljšanje izvoznog potencijala, ali su pozitivni efekti snažno zavisni od kvalitetnog institucionalnog okvira i sposobnosti zemlje da integriše investicije u domaću ekonomiju.

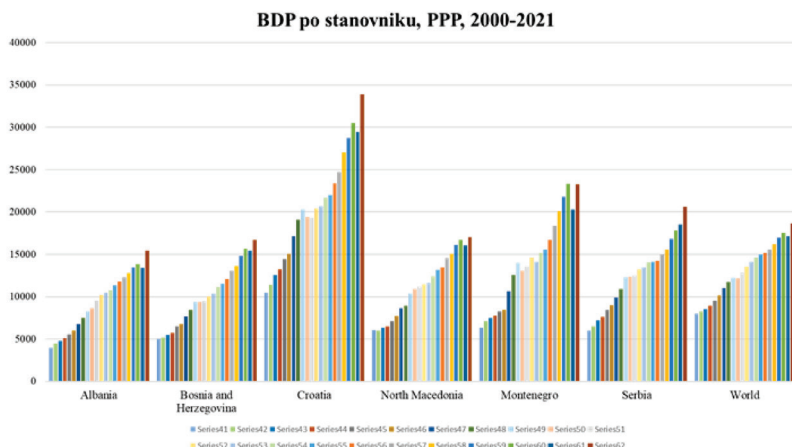
2. KARAKTERISTIKE EKONOMIJA ZEMALJA ZAPADNOG BALKANA

Nakon ulaska u proces tranzicije zemlje regiona Zapadnog Balkana (ZB) su pristupile reformama privrednog i društvenog sistema. Privrede svih pomenutih zemalja su se nalazile na nivou daleko ispod nivoa prije izbijanja ratnih sukoba i raspada SFRJ (Socijalistička Federativna Republika Jugoslavija). Reforme su trebale da obezbijede institucionalne i strukturne kapacitete potrebne za tržišnu ekonomiju i povoljan ambijent za esencijalni priliv stranih ulaganja. Jedna od bitnih pretpostavki stabilnog makroekonomskog okruženja, potrebnog za priliv SDI (strane direktne investicije), je regionalna saradnja.

2.1. Makroekonomski pokazatelji zemalja regiona

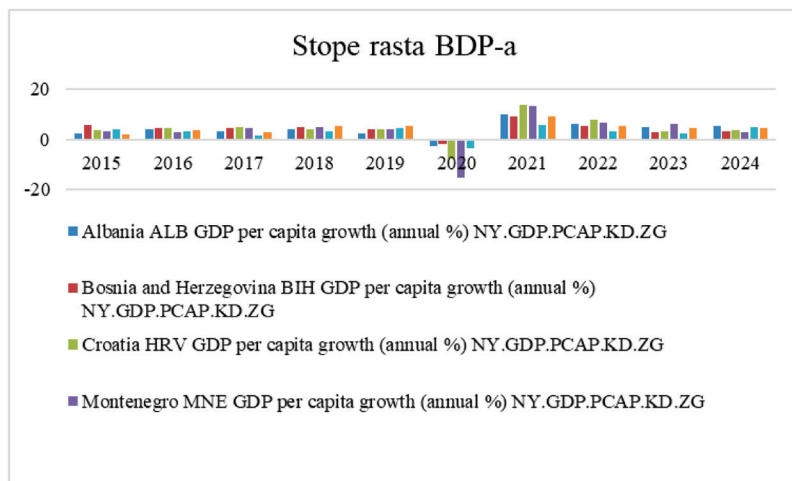
U nastavku slijedi prikaz osnovnih makroekonomskih indikatora za zemlje Zapadnog Balkana. Prikazani su podaci i za Hrvatsku, koja je 2013. godine pristupila Evropskoj uniji, ali pozicija Hrvatske upućuje na cilj ostalih zemalja.

Posmatrajući BDP po stanovniku na grafikonu 1. zapaža se značajno odstupanje Hrvatske od ostalih posmatranih zemalja. Zatim se uočava se pozitivan trend rasta za sve posmatrane zemlje, a u slučaju Srbije i Crne Gore) pored pomenute Hrvatske) taj nivo je iznad svjetskog prosjeka. Međutim BDP Hrvatske je na značajno višem nivou tokom cjelokupnog perioda.



Grafikon 1: BDP po stanovniku, PPP, u period 2000-2021 (kalkulacija autora na osnovu podataka Svjetske banke)

Iz grafikona 2. se uočava da su stope rasta BDP po stanovniku pozitivne za sve posmatrane zemlje, osim u 2020. godini, što je posljedica epidemije COVID-19. Tokom posmatranog perioda najviši rast je ostvaren u 2021. godini, što je opet posljedica okončanja epidemije COVID-19. Osim Hrvatske najveću stopu rasta je zabilježila Crna Gora, što je uticaj oporavka sektora turizma nakon perioda COVID-19. U ostalim godinama stope rasta su se kratile u rasponu 2-3%.



Grafikon 2: Stope rasta BDP po stanovniku (kalkulacija autora na osnovu podataka Svjetske banke)

2.2. Investiciona klima i institucionalni okvir

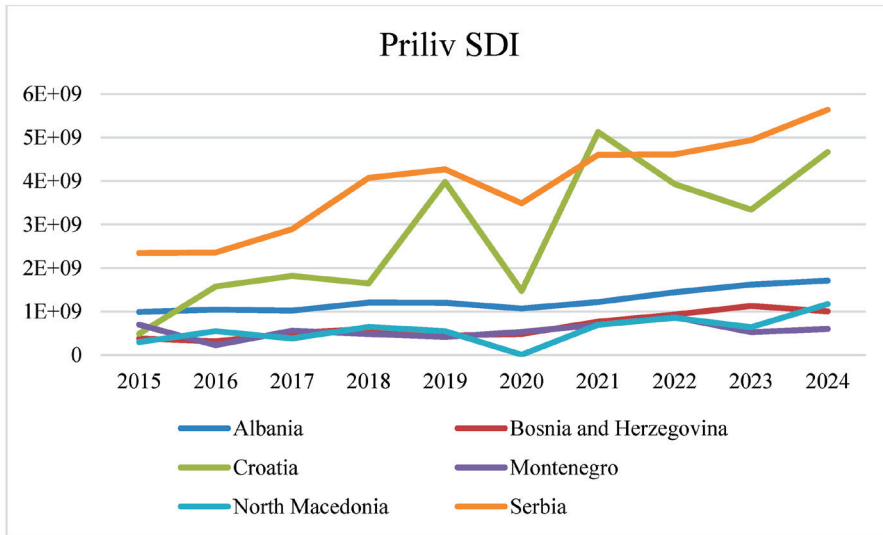
Investiciona klima i institucionalni okvir predstavljaju ključne faktore koji oblikuju privlačnost zemlje za strane direktne investicije. Stabilno političko i pravno okruženje, jasno definisana pravila vlasništva i efikasna regulativa smanjuju nesigurnost i transakcione troškove za investitore, čime direktno utiču na odluku o ulaganju kapitala u inostranstvu (Bevan i Estrin 2004). Pored toga, kvaliteta institucija, uključujući sposobnost izvršne vlasti, efikasnost sudskog sistema i nivo korupcije, ima značajan uticaj na priliv SDI, jer zemlje sa snažnim institucionalnim okvirima omogućavaju lakšu realizaciju poslovnih aktivnosti i zaštitu investicijskih interesa. Empirijska istraživanja pokazuju da su zemlje Zapadnog Balkana koje provode reforme u oblasti transparentnosti, regulatornog okvira i poreske politike uspješnije u privlačenju stranih investicija, dok institucionalne slabosti, politička nestabilnost ili složeni administrativni procesi predstavljaju značajne prepreke za ekonomski razvoj i integraciju u globalne investicione tokove (Cleeve 2015). U tom kontekstu, jačanje institucionalnog kapaciteta i stvaranje povoljne investicione klime postaju strateški prioriteti za zemlje u tranziciji, jer direktno utiču na konkurentnost regiona u privlačenju međunarodnog kapitala.

U zemljama Zapadnog Balkana investiciona klima značajno varira, ali generalno predstavlja kombinaciju pozitivnih potencijala i sistemskih izazova. Srbija i Hrvatska imaju relativno stabilno poslovno okruženje i razvijenu infrastrukturu, sa poreskim olakšicama i povoljnim zonama za strane investitore, što ih čini najatraktivnijim destinacijama za SDI u regionu. Bosna i Hercegovina i Crna Gora bilježe određeni napredak kroz reforme i strateške investicione politike, ali su administrativne prepreke, složeni birokratski procesi i regionalne razlike u institucijama i zakonodavstvu i dalje značajan izazov za investitore. Albanija privlači SDI uglavnom kroz sektore turizma, energetike i infrastrukture, zahvaljujući liberalnim poreskim politikama i programima za poticanje privatnih ulaganja, dok Sjeverna Makedonija i Kosovo, iako manji po obimu investicija, ostvaruju stabilan rast SDI kroz razvoj industrijskih zona i olakšice za strane kompanije. Ipak, sve zemlje Zapadnog Balkana suočavaju se sa zajedničkim izazovima: institucionalnom nestabilnošću, neujednačenom primjenom zakona i korupcijom, što ograničava puni potencijal investicionih tokova i zahtijeva kontinuirano unapređenje regulative i institucionalnog okvira (Bevan i Estrin, 2004).

3. TRENDOWI STRANIH DIREKTNIH INVESTICIJA U ZEMLJAMA ZAPADNOG BALKANA

Trendovi stranih direktnih investicija u zemljama Zapadnog Balkana pokazuju relativno heterogenu dinamiku u periodu 2019-2023. Srbija i Hrvatska se ističu kao vodeće destinacije za SDI u regionu, sa kontinuiranim prilivom kapitala, naročito u industrijskim i izvoznim sektorima, dok Bosna i Hercegovina, Crna Gora, Albanija, Sjeverna Makedonija i Kosovo bilježe niže, ali stabilno rastuće investicione tokove, fokusirane uglavnom na turizam, infrastrukturu i energetski sektor. Globalni ekonomski šokovi, poput pandemije COVID-19 i nestabilnosti u međunarodnim finansijskim tržištima, izazvali su pad priliva SDI u 2020. godini, ali je većina zemalja zabilježila oporavak u period 2021-2023. godine, sa rastućim trendom diversifikacije investicija po sektorima i zemljama porijekla. Pored toga, Evropska unija ostaje dominantan investitor u regionu, čineći više od polovine ukupnog SDI priliva, dok Kina, UAE i SAD doprinose povećanju investicija u pojedinim strateškim projektima. Ovi trendovi ukazuju na postepeno jačanje integracije zemalja Zapadnog Balkana u globalne investicione tokove, ali istovremeno naglašavaju važnost institucionalnih reformi i stabilne investicione klime za dalji rast i održivost SDI u regionu (Javorcik 2004).

Iz grafikona 3. je vidljivo značajno pozitivno odstupanje priliva SDI u Srbiju u odnosu na ostale posmatrane zemlje (izuzev Hrvatske). Tokom perioda epidemije COVID-19 se uočava značajan pad u slučaju Hrvatske (sa 3485 na 176 mil.USD), nešto manji u slučaju Srbije i Sjeverne Makedonije dok ostale zemlje nisu zabilježile veća odstupanja.



Grafikon 3: Priliv SDI u zemljama Zapadnog Balkana u period 2015-2024. (kalkulacija autora na osnovu podataka Svjetske banke)

Iz dostupnih podataka vidi se da Srbija privlači najveći iznos stranih direktnih investicija u regionu, dok su u ostalim državama investicije značajno manje i uglavnom koncentrisane u nekoliko sektora poput turizma, energetike ili nekretnina.

Analiza strukture stranih direktnih investicija po sektorima (tabela 1.) u zemljama Zapadnog Balkana u periodu 2019-2023. pokazuje jasne obrasce preferencija investitora i sektorske specifičnosti regiona.

Tabela 1. Struktura SDI po sektorima u zemljama Zapadnog Balkana (2019-2023) – u % od ukupnog priliva (autor)

Sektor/Zemlja	2019.	2020.	2021.	2022.	2023.	Trend 2019-2023.
Proizvodnja (automobilska, elektronika, tekstil)	40% (Srbija, HR)	38%	42%	44%	43%	Stabilan rast u Srbiji i Hrvatskoj
Energetika i resursi (nafta, gas, obnovljivi izvori)	15%	17%	16%	18%	19%	Blagi rast u Albaniji, Crnoj Gori i BiH
Turizam i nekretnine	20%	22%	19%	18%	18%	Dominantan u Crnoj Gori i Albaniji, stabilan trend
Finansije i bankarstvo	10%	8%	9%	10%	9%	Umjereni rast u BiH, Hrvatskoj i Srbiji
Transport i infrastruktura	8%	7%	8%	7%	7%	Stabilno, fokus na regionale projekte
IT i usluge	7%	8%	6%	3%	4%	Blagi porast u Srbiji i Sjevernoj Makedoniji

Iz navedene analize proizilazi da proizvodnja, uključujući automobilske, elektronske i tekstilne sektore, ostaje dominantna destinacija za SDI, posebno u Srbiji i Hrvatskoj, što odražava atraktivnost ovih zemalja za izvozne i industrijske investicije zahvaljujući dostupnosti kvalifikovane

radne snage i konkurentnim troškovima proizvodnje. Energetski sektor, sa fokusom na obnovljive izvore i infrastrukturu, bilježi postepen rast u Albaniji, Crnoj Gori i Bosni i Hercegovini, dok turizam i nekretnine dominiraju investicijama u Crnoj Gori i Albaniji, što ukazuje na iskorištavanje prirodnih resursa i strateški razvoj turističkog potencijala. Sektor finansija i bankarstva ima stabilan, ali manji udio u SDI, dok IT i usluge, iako još uvijek manje zastupljeni, pokazuju tendenciju rasta, naročito u Srbiji i Sjevernoj Makedoniji. Ovi podaci ukazuju na diversifikaciju investicija kroz sektor tokom analiziranog perioda i potvrđuju da zemlje regiona, uprkos izazovima institucionalne prirode, postepeno jačaju svoju konkurentnost u globalnim investicionim tokovima.

ZAKLJUČAK

Analiza stranih direktnih investicija u zemljama Zapadnog Balkana pokazuje da strane direktne investicije imaju ključnu ulogu u ekonomskom razvoju regiona, doprinoseći povećanju proizvodnje, transferu tehnologije, razvoju ljudskog kapitala i jačanju izvoznog potencijala. Iako su Srbija i Hrvatska dominantne destinacije sa najvećim prilivom kapitala, ostale zemlje regiona pokazuju stabilan rast investicija u specifičnim sektorima poput turizma, energetike i infrastrukture. Strukturne karakteristike ekonomija, investiciona klima i kvalitet institucionalnog okvira direktno utiču na privlačnost za strane investitore, dok globalni ekonomski faktori i regionalne politike oblikuju dinamiku stranih direktnih investicija tokom vremena. Za zemlje Zapadnog Balkana, kontinuirano unapređenje regulative, institucionalne stabilnosti i strateški razvoj sektora predstavlja ključni preduslov za održiv i diversifikovan priliv stranih investicija, čime se osigurava dugoročna ekonomska konkurentnost regiona.

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OVERVIEW OF FOREIGN DIRECT INVESTMENTS IN THE WESTERN BALKAN COUNTRIES

Abstract: *Foreign direct investment (FDI) represents one of the key drivers of economic growth, economic modernization, and the integration of national economies into global flows. In recent decades, the countries of the Western Balkans have been striving to improve their investment climate in order to attract a greater volume of foreign capital and stimulate domestic economic development. The aim of this paper is to provide an overview of foreign direct investment trends in the Western Balkan countries, analyzing their main patterns, structure, and sectoral distribution.*

Keywords: *foreign direct investment, Western Balkans, economic development, investment climate, regional economy*

JEL Classification: *E6, F3, F4*

INTRODUCTION

Foreign direct investment represents one of the most significant sources of international capital that contributes to economic development, increased productivity, and the strengthening of the competitiveness of national economies. It enables the transfer of technology, knowledge, and managerial skills, and contributes to the creation of new jobs and the integration of countries into global economic flows. The countries of the Western Balkans, which are in the process of economic transition and European integration, strive to attract as large a volume of foreign investment as possible through the improvement of the business environment, institutional reforms, and investment policies. The analysis of the movement and structure of foreign direct investment in this region allows for a better understanding of investment trends, as well as the identification of key factors that influence the attractiveness of individual economies to foreign investors.

1. THEORETICAL FRAMEWORK OF FOREIGN DIRECT INVESTMENT

The theoretical framework of foreign direct investment (FDI) is based on several economic theories that explain the motives and patterns of international investment. One of the most significant is the eclectic paradigm or OLI model, developed by Dunning (1988), according to which the decision to invest abroad is based on a combination of ownership, location, and internalization advantages that companies possess. This approach emphasizes that multinational companies invest in countries that offer favorable market conditions, lower production costs, or access to

new resources. In addition, the theory of international production and the theory of market imperfections indicate that foreign direct investment arises as a result of companies' efforts to reduce transaction costs and exploit the comparative advantages of certain economies. Empirical research confirms that FDI plays a significant role in the transfer of technology, increasing productivity, and stimulating economic growth in host countries (Borensztein, de Gregorio, and Lee 1998).

1.1. Concept and characteristics of foreign direct investment

Foreign direct investment (FDI) represents one of the most important forms of international capital movement and a key instrument of international economic integration. In the broadest sense, foreign direct investment implies investments by residents of one country in enterprises operating in another country with the aim of achieving a long-term interest and control over operations. According to the definition used by the International Monetary Fund, foreign direct investment occurs when an investor owns at least 10% of the equity share in an enterprise abroad, thereby gaining the possibility of significant influence over management and business decisions. Unlike portfolio investments, which are mainly oriented toward achieving short-term financial returns, foreign direct investment has a long-term character and implies active participation of the investor in the operations of the host company.

Foreign direct investment (FDI) represents a composite package that includes physical capital, production techniques, managerial skills, products and services, marketing expertise, advertising, and organizational business processes (Zhang 2001).

In modern economic conditions, foreign direct investment has multiple significance as it enables the transfer of capital, technology, knowledge, and managerial skills between countries. Precisely for this reason, many countries, especially developing and transition economies, actively develop policies to attract foreign investment in order to accelerate economic growth and modernization of the economy. According to research in the field of international economics, FDI contributes to increasing the productivity of domestic enterprises through technology transfer and the diffusion of innovation, but also through competitive pressure that encourages the improvement of business practices in the domestic economy. Empirical studies show that countries that successfully attract foreign investment often achieve faster economic growth and greater integration into global value chains (Borensztein, de Gregorio, and Lee 1998). One of the basic characteristics of foreign direct investment is its long-term nature. Investors who invest capital in foreign enterprises usually have strategic objectives, such as access to new markets, resources, or production capacities. Unlike other forms of international financial flows, FDI implies a lasting relationship between the investor and the enterprise in the host country. This relationship includes not only financial investments but also managerial knowledge, organizational structures, and business strategies that the investor transfers to the local enterprise. It is precisely this dimension of managerial influence that represents the key difference between foreign direct investment and other forms of international investment. Another important characteristic of foreign direct investment relates to its form and structure. FDI can be realized through various models, among which the most common are the establishment of entirely new enterprises (greenfield investments), the acquisition of existing companies in the host country (mergers and acquisitions), as well as joint investments with domestic partners (joint ventures). Each of these forms has specific advantages and limitations, and the choice of the investment model depends on the investor's strategy, the regulatory environment, and the characteristics of the market in which the investment is made. In practice, greenfield investments are often considered the most desirable form of FDI because they contribute to the creation of new jobs and the increase of production capacities in the host country. The third characteristic of foreign direct investment is its significant impact on the structure and development of the recipient country's economy. FDI often leads to the modernization of production, an increase in exports, and the development of new industries.

Multinational companies that invest abroad bring modern technologies, quality standards, and advanced management methods, which can have a positive effect on the overall economic structure of the host country. However, the literature emphasizes that the effects of FDI depend on the institutional environment, the level of education of the workforce, and the ability of the local economy to absorb new technologies and knowledge (Alfaro et al. 2004). Contemporary research also indicates that foreign direct investment represents an important mechanism for integrating national economies into global production and trade flows. Through the activities of multinational companies, local enterprises become connected with international supply and distribution networks, which contributes to increasing competitiveness and the export potential of the host country. At the same time, FDI contributes to strengthening international economic cooperation and deepening the process of globalization, thereby becoming one of the key factors of modern economic development. For all the above reasons, foreign direct investment occupies a central place in the analysis of international financial flows and represents an important subject of research in the field of international economics and economic development.

1.2. Motives and determinants of foreign direct investment inflows

The inflow of foreign direct investment (FDI) into a particular country depends on various economic, institutional, and strategic factors that shape the decision of multinational companies to invest capital abroad. The motives for investing abroad can be grouped into several basic categories. According to the aforementioned eclectic paradigm (OLI model) (Dunning 1988), foreign investors invest capital when they possess ownership advantages, such as technology, brand, or managerial skills, and are simultaneously attracted by location advantages, such as market access, cheap labor, or natural resources. The third element of the model, internalization, implies that the investor prefers direct investment through the establishment of subsidiaries or acquisitions instead of exports or licensing, in order to maintain control over operations and protect intellectual property (Dunning 1988).

The determinants of FDI inflows in the countries of the Western Balkans, as well as in other transition economies, include macroeconomic indicators, institutional stability, and the regulatory framework. Stable economic growth, low fiscal and regulatory risks, and a predictable business environment strongly influence the decision of foreign investors. Empirical research shows that countries with lower transaction costs and high-quality infrastructure attract a larger volume of FDI, while political instability, corruption, and complex administrative procedures represent significant barriers (Bevan and Estrin, 2004).

Structural characteristics of the market, including the size of the domestic market and export potential, also play an important role. Larger and growing economies with a developed workforce and proximity to larger markets attract investors who seek to achieve market gains or optimize production chains. In addition, specific investment policies, such as tax incentives, subsidies, or the establishment of industrial zones, significantly influence FDI inflows, especially in transition economies that compete for competitiveness in a regional and global context (Alfaro et al. 2004).

The motives of investors in the Western Balkans often combine strategic and resource-based objectives. For example, investments in the energy and infrastructure sectors in Albania or Montenegro are motivated by access to natural resources and tourism potential, while investments in Serbia and Croatia are often aimed at exploiting industrial capacities and export potential. In addition to economic factors, social and cultural elements, such as language, cultural proximity, and business customs, can also act as determinants of FDI inflows, as they reduce transaction costs and the risk of misunderstandings in business operations (Cleeve, Debrah, and Zelealem 2015). In conclusion, the motives and determinants of foreign direct investment inflows represent a combination of economic, strategic, and institutional factors, the analysis of which enables a better understanding of the dynamics of FDI in the countries of the Western Balkans. A

successful investment attraction policy requires simultaneous improvement of macroeconomic stability, the regulatory framework, and infrastructure, in order for countries in the region to increase their competitiveness and ensure sustainable economic growth in the long term.

1.3. Economic effects of foreign direct investment

Foreign direct investment (FDI) has multiple economic effects on host countries, including production growth, increased employment, technology transfer, and the improvement of human capital. One of the key mechanisms through which FDI affects the economy is the transfer of technology and knowledge, whereby multinational companies bring modern production processes, management practices, and innovations that local enterprises can adopt through vertical and horizontal linkages within the value chain. Empirical research shows that countries that successfully attract foreign investment achieve faster economic growth and higher productivity, especially when local firms have the capacity to absorb new technologies and implement innovations (Borensztein, de Gregorio, and Lee 1998).

In addition to technology transfer, FDI contributes to increased employment through the creation of new jobs in sectors where multinational companies invest capital, as well as indirectly in related industries and service sectors. Studies show that direct investment positively affects the development of human capital by encouraging education, training, and the development of employees' skills, thereby strengthening the productivity and competitiveness of the domestic economy in the long run (Alfaro et al., 2004). Another significant effect of FDI is the increase in exports and integration into global market chains, which enables host countries to access larger markets and reduce dependence on domestic demand. For example, the entry of foreign investors into manufacturing sectors in the countries of the Western Balkans often leads to a significant increase in exports of finished products and components, thereby improving the balance of payments and economic stability (Javorcik 2004).

However, the effects of FDI are not automatically positive. Their impact depends on the institutional environment, the quality of human capital, and the capacity for technology absorption. In countries where there are high administrative costs, corruption, or a lack of infrastructure, FDI inflows may have a limited effect on productivity and economic growth. At the same time, a dominant concentration of FDI in certain sectors, such as finance or real estate, may limit broader positive multiplier effects on the economy.

In conclusion, foreign direct investment contributes to economic growth through technology transfer, increased employment, the development of human capital, and the improvement of export potential, but the positive effects are strongly dependent on a high-quality institutional framework and the country's ability to integrate investments into the domestic economy.

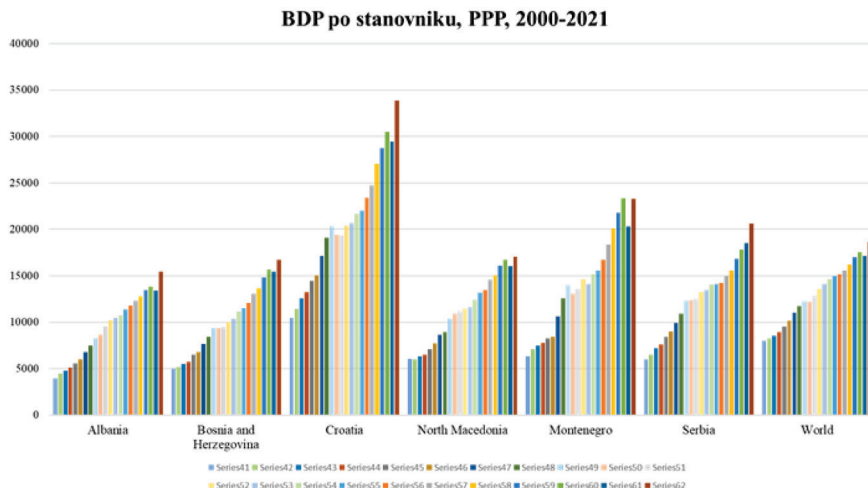
2. CHARACTERISTICS OF THE ECONOMIES OF THE WESTERN BALKAN COUNTRIES

After entering the transition process, the countries of the Western Balkans (WB) region undertook reforms of the economic and social system. The economies of all the mentioned countries were at a level far below the level before the outbreak of war conflicts and the dissolution of the SFRY (Socialist Federal Republic of Yugoslavia). The reforms were intended to ensure the institutional and structural capacities necessary for a market economy and a favorable environment for the essential inflow of foreign investments. One of the important prerequisites for a stable macroeconomic environment, necessary for the inflow of FDI (foreign direct investment), is regional cooperation.

2.1. Macroeconomic indicators of the countries of the region

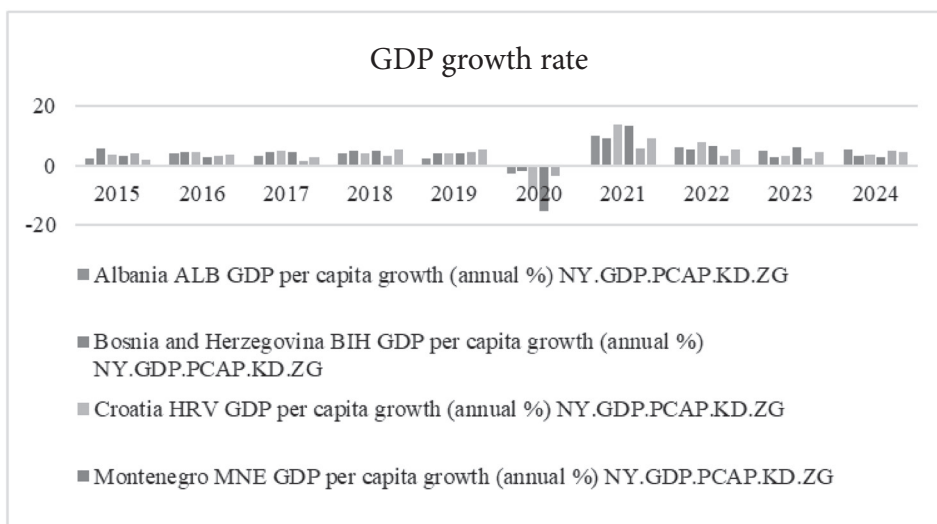
The following presents an overview of the basic macroeconomic indicators for the countries of the Western Balkans. Data for Croatia are also presented, which joined the European Union in

2013, but Croatia's position points to the goal of the other countries. Observing GDP per capita in Graph 1, a significant deviation of Croatia from the other observed countries can be noted. A positive growth trend is then observed for all the countries considered, and in the case of Serbia and Montenegro (in addition to the aforementioned Croatia), this level is above the global average. However, Croatia's GDP is at a significantly higher level throughout the entire period.



Graph 1: GDP per capita, PPP, in the period 2000–2021 (author's calculation based on World Bank data)

From Graph 2, it can be observed that the GDP per capita growth rates are positive for all observed countries, except in 2020, which is a consequence of the COVID-19 pandemic. During the observed period, the highest growth was achieved in 2021, which is again a result of the end of the COVID-19 pandemic. Apart from Croatia, the highest growth rate was recorded by Montenegro, which is an effect of the recovery of the tourism sector after the COVID-19 period. In other years, growth rates ranged between 2–3%.



Graph 2: GDP per capita growth rates (author's calculation based on World Bank data)

2.2. Investment climate and institutional framework

The investment climate and institutional framework represent key factors that shape a country's attractiveness for foreign direct investment. A stable political and legal environment, clearly defined property rights, and efficient regulation reduce uncertainty and transaction costs for investors, thereby directly influencing the decision to invest capital abroad (Bevan and Estrin 2004). In addition, the quality of institutions, including the capacity of the executive government, the efficiency of the judicial system, and the level of corruption, has a significant impact on FDI inflows, as countries with strong institutional frameworks enable easier implementation of business activities and protection of investment interests. Empirical research shows that Western Balkan countries that implement reforms in the areas of transparency, regulatory framework, and tax policy are more successful in attracting foreign investment, while institutional weaknesses, political instability, or complex administrative procedures represent significant obstacles to economic development and integration into global investment flows (Cleeve 2015). In this context, strengthening institutional capacity and creating a favorable investment climate become strategic priorities for transition countries, as they directly influence the region's competitiveness in attracting international capital.

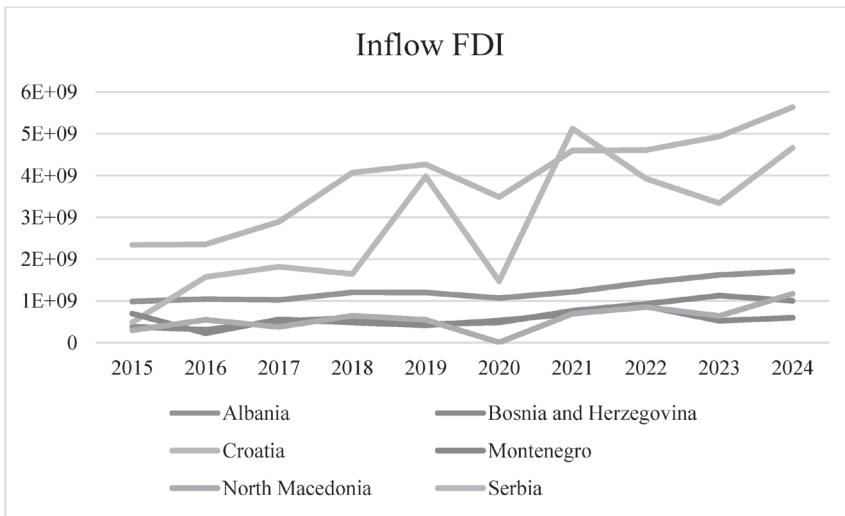
In the countries of the Western Balkans, the investment climate varies significantly, but generally represents a combination of positive potential and systemic challenges. Serbia and Croatia have a relatively stable business environment and developed infrastructure, with tax incentives and favorable zones for foreign investors, which makes them the most attractive destinations for FDI in the region. Bosnia and Herzegovina and Montenegro record certain progress through reforms and strategic investment policies, but administrative barriers, complex bureaucratic processes, and regional differences in institutions and legislation still represent a significant challenge for investors. Albania attracts FDI mainly through the tourism, energy, and infrastructure sectors, thanks to liberal tax policies and programs for encouraging private investment, while North Macedonia and Kosovo, although smaller in terms of investment volume, achieve stable FDI growth through the development of industrial zones and incentives for foreign companies. However, all Western Balkan countries face common challenges: institutional instability, inconsistent application of laws, and corruption, which limit the full potential of investment flows and require continuous improvement of regulation and the institutional framework (Bevan and Estrin 2004).

3. TRENDS OF FOREIGN DIRECT INVESTMENT IN THE COUNTRIES OF THE WESTERN BALKANS

Trends of foreign direct investment in the countries of the Western Balkans show relatively heterogeneous dynamics in the period 2019–2023. Serbia and Croatia stand out as leading destinations for FDI in the region, with a continuous inflow of capital, especially in industrial and export sectors, while Bosnia and Herzegovina, Montenegro, Albania, North Macedonia, and Kosovo record lower but steadily growing investment flows, mainly focused on tourism, infrastructure, and the energy sector. Global economic shocks, such as the COVID-19 pandemic and instability in international financial markets, caused a decline in FDI inflows in 2020, but most countries recorded a recovery in 2021–2023, with a growing trend of diversification of investments by sectors and countries of origin. In addition, the European Union remains the dominant investor in the region, accounting for more than half of total FDI inflows, while China, the UAE, and the USA contribute to increasing investments in certain strategic projects. These trends indicate a gradual strengthening of the integration of Western Balkan countries into global investment flows, but at the same time emphasize the importance of institutional reforms and a stable investment climate for further growth and sustainability of FDI in the region (Javorcik 2004).

From Graph 3, a significant positive deviation of FDI inflows into Serbia compared to other ob-

served countries (except Croatia) is visible. During the COVID-19 pandemic period, a significant decline is observed in the case of Croatia (from 3,485 to 176 million USD), somewhat smaller in the case of Serbia and North Macedonia, while other countries did not record major deviations.



Graph 3: FDI inflows in the Western Balkan countries in the period 2015–2024 (author's calculation based on World Bank data)

From the available data, it can be seen that Serbia attracts the largest amount of foreign direct investment in the region, while in other countries investments are significantly lower and mostly concentrated in a few sectors such as tourism, energy, or real estate. The analysis of the structure of foreign direct investment by sectors (Table 1) in the countries of the Western Balkans in the period 2019–2023 shows clear patterns of investor preferences and sectoral specificities of the region.

Table 1. Structure of FDI by sectors in the Western Balkan countries (2019–2023) – % of total inflows (Author)

Sector / Country	2019	2020	2021	2022	2023	Trend 2019–2023
Manufacturing (automotive, electronics, textiles)	40% (Serbia, HR)	38%	42%	44%	43%	Stable growth in Serbia and Croatia
Energy and resources (oil, gas, renewable sources)	15%	17%	16%	18%	19%	Slight growth in Albania, Montenegro, and BiH
Tourism and real estate	20%	22%	19%	18%	18%	Dominant in Montenegro and Albania, stable trend
Finance and banking	10%	8%	9%	10%	9%	Moderate growth in BiH, Croatia, and Serbia
Transport and infrastructure	8%	7%	8%	7%	7%	Stable, focus on regional projects
IT and services	7%	8%	6%	3%	4%	Slight increase in Serbia and North Macedonia

From the above analysis, it follows that manufacturing, including the automotive, electronics, and textile sectors, remains the dominant destination for FDI, particularly in Serbia and Croatia,

reflecting the attractiveness of these countries for export-oriented and industrial investments due to the availability of skilled labor and competitive production costs. The energy sector, with a focus on renewable sources and infrastructure, records gradual growth in Albania, Montenegro, and Bosnia and Herzegovina, while tourism and real estate dominate investments in Montenegro and Albania, indicating the utilization of natural resources and strategic development of tourism potential. The finance and banking sector has a stable but smaller share of FDI, while IT and services, although still less represented, show a tendency for growth, especially in Serbia and North Macedonia. These data indicate diversification of investments across sectors during the analyzed period and confirm that the countries of the region, despite institutional challenges, are gradually strengthening their competitiveness in global investment flows.

CONCLUSION

The analysis of foreign direct investment in the Western Balkan countries shows that FDI plays a key role in the region's economic development, contributing to increased production, technology transfer, human capital development, and strengthening of export potential. Although Serbia and Croatia are the dominant destinations with the largest capital inflows, the other countries in the region show stable investment growth in specific sectors such as tourism, energy, and infrastructure. Structural characteristics of the economies, the investment climate, and the quality of the institutional framework directly affect attractiveness for foreign investors, while global economic factors and regional policies shape the dynamics of FDI over time. For the Western Balkan countries, continuous improvement of regulation, institutional stability, and strategic sectoral development represents a key prerequisite for a sustainable and diversified inflow of foreign investments, thereby ensuring the long-term economic competitiveness of the region.

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PARIŠKI KLUB KREDITORA: KOORDINACIJA I RESTRUKTURIRANJE DUGA U MEĐUNARODNOM KONTEKSTU

Rezime: *Problematika međunarodnog zaduživanja i rješavanje suverenih dugova jeste jedna od centralnih tema savremene ekonomske i finansijske politike. U tom kontekstu, institucije koje omogućavaju koordinirano rješavanje dugova postaju ključne kako bi se izbjegle finansijske krize i podstakla održiva ekonomska stabilnost. Jedan od takvih mehanizama jeste Pariški klub kreditora — neformalna grupa bilateralnih kreditornih država koja pomaže zemljama dužnicima da restrukturiraju svoje dugove prema uslovima koji su održivi i prihvatljivi svim stranama. U radu su prikazane prakse, procedure i specifičnosti rada pomenutog kluba.*

Ključne riječi: *kriza zaduženosti, Pariški klub kreditora, mehanizam restrukturiranja, studije slučaja*

JEL klasifikacija: E5, F3

UVOD

Jedan od značajnih problema na globalnom nivou je dužnički problem (kriza zaduženosti). Zaduženost zemalja nastaje kao rezultat potrebe država da finansiraju budžetske deficite, razvojne projekte ili vanredne ekonomske okolnosti. Ona obuhvata obaveze države prema domaćim i stranim kreditorima i najčešće se izražava kroz javni i spoljni dug u odnosu na bruto domaći proizvod. Iako zaduživanje može biti važan instrument ekonomskog rasta ukoliko se sredstva koriste produktivno, prekomjerna zaduženost može dovesti do fiskalne nestabilnosti, ograničenja ekonomske politike i pojave dužničkih kriza.

Pariški klub (*Club de Paris*) je neformalna organizacija, grupa kreditora koji sklapaju aranžmane sa zemljama koje imaju poteškoća sa otplatom spoljnog duga, kako bi se pronašao način za prevazilaženje tih poteškoća. Pariški klub pruža jedinstvenu platformu za pregovore, smanjujući transakcione troškove za dužnike i olakšavajući kreditorima da postignu zajedničko rješenje za restrukturiranje dugova. Tokom više od šest decenija postojanja, Pariški klub je postao jedan od ključnih mehanizama za rješavanje suverenih dugova, naročito u vrijeme finansijskih kriza i problema zaduženosti zemalja u razvoju.

1. POJAM I ISTORIJSKI RAZVOJ MEĐUNARODNOG ZADUŽIVANJA

Zemlje su upućene na zaduživanje zbog nedovoljne domaće akumulacije (štednje) za investicije i potrebe za bržim ekonomskim rastom i konkurentnosti prema inostranstvu. Pri tome, zemlja

mora voditi efikasnu politiku upravljanja javnim dugom da ne bi došlo do konflikta između kratkoročnih i dugoročnih opštih makroekonomskih ciljeva: monetarne stabilnosti, ekonomskog rasta i pravedne raspodjele koristi i tereta otplate javnog duga na sadašnje i buduće poreske obveznike.

1.1. Pojam zaduženosti

Od 1980-ih godina pa nadalje, brojne zemlje suočile su se sa dužničkim krizama, što potvrđuje činjenica da su, pored tranzicijskih ekonomija, sve više pogođene i razvijenije države.

U ekonomskoj teoriji javni dug se najčešće definiše kao ukupni iznos finansijskih obaveza koje država dužuje unutar svoje granice i u inostranstvu, nastao kao rezultat akumulacije budžetskih deficita (tj. kada su rashodi države veći od prihoda). Javna zaduženost se mjeri u određenom trenutku i predstavlja stanje duga (stock), a ne tok (flow), što je važno razlikovati od budžetskog deficita koji je tok u jednoj godini (Boniface i Zacccheaus 2021).

U akademskim radovima često se koristi koncept *sovereign debt* (suvereni/javni dug), koji većina autora definiše kao dug koji emituje ili garantuje država radi finansiranja javne potrošnje, budžetskih deficita i drugih državnih obaveza:

- Prema Olivares-Caminalu (2017) suvereni dug predstavlja finansijske obaveze države sadržane u instrumentima javnog zaduživanja koje država izdaje na domaćem ili međunarodnom tržištu kapitala.
- Dvorkin, Sánchez, Sapriža i Yurdagul (2021) posmatraju suvereni dug kao instrument kojim država pozajmljuje sredstva od investitora uz obećanje buduće otplate glavnice i kamata, pri čemu ne postoji nadnacionalni mehanizam koji može prinuditi državu na izvršenje obaveza.
- Krosznar definiše suvereni dug kao oblik javnog zaduživanja u kojem država nastupa kao dužnik, a investitori ili međunarodne finansijske institucije kao povjerioci.

Mnoge zemlje u razvoju imaju budžetske deficite koji se uglavnom finansiraju zaduživanjem. Zaduhivanje samo po sebi ne krši nijedan ekonomski princip, pod uslovom da se sredstva usmjere u regenerativne investicije koje će obezbijediti i olakšati strukturu otplate, likvidaciju duga i stvaranje dodatne vrednosti u vidu unapređenja životnog standarda građana (Ogwuma, Ikenna i Odili 2015).

Dakle, međunarodno zaduhivanje predstavlja oblik eksternog finansiranja, gdje države ili njihove institucije pozajmljuju kapital od stranih povjerioca, uključujući banke, fondove i međunarodne organizacije, radi pokrivanja deficita u platnom bilansu ili finansiranja razvoja. Država se može zaduhivati putem kredita kod banaka i drugih finansijskih institucija, kao i emisijom državnih hartija od vrijednosti na domaćem i međunarodnom finansijskom tržištu.

U međunarodnoj naučnoj literaturi pojam javni dug (public debt) definiše se kao ukupna finansijska obaveza države nastala zaduhivanjem kod domaćih i stranih povjerilaca radi finansiranja budžetskog deficita, javnih investicija i drugih državnih potreba:

- Prema Panizza i Presbitero (2014) javni dug predstavlja ukupne obaveze centralne države i drugih javnih institucija koje proizlaze iz prethodnog zaduhivanja na domaćem i međunarodnom tržištu kapitala.
- Reinhart i Rogoff posmatraju javni dug kao ukupan iznos obaveza vlade koji proizlazi iz emisije državnih vrijednosnih papira i drugih oblika javnog zaduhivanja.
- Checherita-Westphal i Rother (2012) definišu javni dug kao vrijednost neizmirenih finansijskih obaveza opšte države koje nastaju kao rezultat kontinuiranih fiskalnih deficita.

Sve veća zaduhenost zemalja u razvoju posljedica je njihovog modela privrednog razvoja, jer ove zemlje, u cilju podsticanja ekonomskog rasta, često sprovode politike koje se zasnivaju na brzem rastu domaće potrošnje u odnosu na proizvodnju, što dovodi do povećane potrebe za inostranim zaduhivanjem. Posebno zabrinjava činjenica da inostrani dug, kao rezultat dugotrajnih neravnoteža u tekućim bilansima plaćanja zemalja u razvoju, danas predstavlja jedan od ključnih rizika za stabilnost globalnog finansijskog i ekonomskog sistema.

1.2. Istorijski razvoj

U savremenoj ekonomskoj literaturi se ističe da se pojava i razvoj javnog duga proteže kroz dugu istoriju državnih finansija, pri čemu su obaveze država prema kreditorima evoluirale od ranih oblika zaduživanja do kompleksnih modernih tržišta suverenih obveznica. Studije pokazuju da su vlade u različitim periodima koristile zaduživanje kao alat za finansiranje izdataka vezanih za ratove, javne investicije i krizne situacije, pri čemu su se stavovi prema dugu tokom vremena mijenjali, od početnog odbacivanja do institucionalizovanog prihvatanja kao normalnog elementa fiskalne politike. Na primjer, istraživanje istorije državnog duga naglašava transformaciju percepcije i opravdanosti državnog zaduživanja kroz pet glavnih istorijskih faza, od srednjeg vijeka do savremenog doba, ukazujući na to kako su koncepti javnog duga postajali sve legitimniji u fiskalnoj praksi država. Takođe, istorijski pregledi pokazuju da su epizode naglog rasta duga često bile povezane sa velikim ratovima, ekonomskim depresijama i finansijskim krizama, što je oblikovalo strukturu i strategije upravljanja suverenim dugom u 20. i 21. vijeku (Sokolov i Sokolova 2012). U posljednjih 40 godina, nivo vladinog duga se povećavao, uz promjene u strukturi duga prelaškom sa međunarodnog na domaći dug, naročito tokom i poslije ekonomskih kriza.

1.3. Kriza zaduženosti u savremenim okvirima

U savremenom periodu, krize zaduženosti postale su globalni fenomen, naročito nakon finansijske krize 2008-2009. kada je u više zemalja, kako razvijenih, tako i u razvoju, došlo do naglog rasta javnog duga i poteškoća u njegovoj otplati. Tokom dužničke krize u eurozoni (2008-2015), države poput Grčke, Portugala, Španije, Irske i Italije suočile su se sa ozbiljnim problemima servisiranja duga, što je dovelo do visokih razlika u prinosima državnih obveznica i nužnih intervencija Evropske centralne banke i međunarodnih finansijskih institucija kako bi se izbjegao kolaps finansijskih sistema u Evropi (Samodol i Sosa 2024).

Savremene dužničke krize predstavljaju složene ekonomske i finansijske poremećaje koji nastaju kada država više nije u mogućnosti da redovno servisira svoje dugoročne i kratkoročne obaveze prema domaćim i međunarodnim povjeriocima. Za razliku od ranijih dužničkih kriza, savremene krize karakteriše snažna povezanost globalnih finansijskih tržišta, visoka mobilnost kapitala i značajna izloženost država spoljnim ekonomskim šokovima. Prema Reinhart i Rogoff (2011), dužničke krize najčešće su rezultat kombinacije prekomjernog zaduživanja, fiskalne neravnoteže i usporavanja privrednog rasta, pri čemu visok nivo javnog duga povećava vjerovatnoću finansijske nestabilnosti i smanjuje mogućnosti ekonomskog oporavka. Slično tome, Panizza i Presbitero (2014) ističu da dužničke krize ne predstavljaju samo posljedicu visokog nivoa zaduženosti, već i problema u upravljanju javnim finansijama, nepovoljnih uslova finansiranja i slabljenja povjerenja investitora. Iskustva nakon globalne finansijske krize 2008. godine i evropske dužničke krize pokazala su da savremene dužničke krize mogu imati dugotrajne posljedice po ekonomski rast, zaposlenost i fiskalnu održivost država, zbog čega se pitanje upravljanja javnim dugom nalazi među ključnim izazovima ekonomske politike u 21. vijeku.

2. PARIŠKI KLUB KREDITORA

Pariški klub predstavlja neformalnu grupu zvaničnih kreditora čija je osnovna uloga pronalaženje zajedničkih i održivih rješenja za problem prezaduženosti pojedinih zemalja, odnosno za pitanje suverenog državnog duga.

Pariški klub kreditora igraju važnu ulogu u međunarodnoj finansijskoj arhitekturi, pružajući mehanizme za upravljanje dugom i sprečavanje finansijskih kriza koje bi nastale usljed neplaćanja duga.

Programi osmišljeni za ublažavanje dužničkog tereta zemalja u razvoju sprovodili su bilateralni, komercijalni i multilateralni kreditori, dok je suvereni dug restrukturiran kroz pregovore u okviru Pariškog kluba (Blackmon 2014).

2.1. Nastanak i institucionalni okvir

Pariški klub kreditora predstavlja neformalnu grupu službenih bilateralnih kreditora, uglavnom razvijenih država, koja od 1956. godine koordinira restrukturiranje i reprogramiranje dugova zemalja koje se suočavaju s poteškoćama u otplati spoljnog duga. Klub je nastao povodom pregovora između Argentina i njenih kreditora u Parizu, po čemu je i dobio naziv. Osnovni cilj Pariškog kluba jeste pronalaženje održivih rješenja za dužničke probleme država dužnika, uz očuvanje finansijske stabilnosti i obezbjeđivanje ravnopravnog tretmana svih službenih kreditora. Njegov rad zasniva se na principima konsenzusa, solidarnosti među kreditorima, uslovljenosti sprovođenjem programa sa International Monetary Fund i uporedivosti tretmana sa ostalim grupama kreditora. Tokom razvoja međunarodnog finansijskog sistema, Pariški klub je evoluirao od institucije usmjerene prvenstveno na naplatu potraživanja ka važnom mehanizmu za pružanje dužničkog olakšanja zemljama u razvoju i zemljama sa visokim nivoom zaduženosti. Empirijska istraživanja pokazuju da su restrukturiranja sprovedena kroz Pariški klub imala značajan uticaj na ekonomski oporavak zemalja dužnika, posebno kada su uključivala djelimični otpis duga, što je doprinosilo ubrzanju privrednog rasta, smanjenju siromaštva i poboljšanju fiskalne održivosti. Istovremeno, Pariški klub ostaje jedan od ključnih aktera u međunarodnoj arhitekturi upravljanja suverenim dugom i rješavanja dužničkih kriza (Cheng, Díaz-Cassou i Erce 2018). Dakle, Pariški klub predstavlja neformalni forum sastavljen od vladinih povjerioca, koji koordinišu restrukturiranje suverenog duga zemalja u krizi prema službenim bilateralnim povjericima.

Pariški klub nije formalna međunarodna organizacija i nema pravni legitimitet. Međutim, postoje određeni principi i procedure koje su zemlje-kreditori uspostavili, u cilju sklapanja sporazuma sa zemljom-dužnikom o odlaganju njenog plaćanja suverenih dugovanja (Martin 2013). U 1990-im i 2000-im njegova uloga se proširila kroz „Evian Approach” (Evian Approach) i predstavlja fleksibilniji i individualizovan pristup rješavanju problema zaduženosti, posebno za zemlje sa srednjim dohotkom, koje nisu obuhvaćene klasičnim programima otpisa duga namijenjenim najsiromašnijim državama (npr. HIPC inicijativa). U naučnoj literaturi Evian Approach se opisuje kao prelaz sa mehaničkog „jednog rješenja za sve” ka analitičkom i selektivnom pristupu restrukturiranju suverenog duga, čime je Pariški klub odgovorio na nove obrasce globalnog zaduživanja i kompleksnije finansijske odnose.

HIPC inicijativa (*Heavily Indebted Poor Countries Initiative* – Inicijativa za visoko zadužene siromašne zemlje) predstavlja međunarodni program olakšica duga, pokrenut 1996. godine od strane Međunarodnog monetarnog fonda (MMF) i Svjetske banke, sa ciljem da se najsiromašnijim i najzaduženijim državama omogući trajno smanjenje spoljnog duga na održiv nivo, naglašavajući koordinaciju s novim povjericima i obavezama poput HIPC inicijative. HIPC inicijativa (*Heavily Indebted Poor Countries Initiative* – Inicijativa za visoko zadužene siromašne zemlje) predstavlja međunarodni program olakšica duga, pokrenut 1996. godine od strane Međunarodnog monetarnog fonda (MMF) i Svjetske banke, sa ciljem da se najsiromašnijim i najzaduženijim državama omogući trajno smanjenje spoljnog duga na održiv nivo.

Pariški klub se sastoji od:

- 19 stalnih zemalja-članica (*kreditora*): Australija, Austrija, Belgija, Kanada, Danska, Finska, Francuska, Njemačka, Irska, Italija, Japan, Holandija, Norveška, Rusija, Španija, Švedska, Švajcarska, Velika Britanija i SAD. Cilj stalnih članica je da sarađuju, u cilju najboljeg rješenja za sve kreditore.
- 13 pridruženih zemalja-članica: Ujedinjeni Arapski Emirati, Argentina, Brazil, Izrael, Kuvajt, Meksiko, Maroko, Novi Zeland, Portugal, Južna Afrika, Južna Koreja, Trinidad i Tobago i Turska.
- 9 posmatrača: Međunarodni monetarni fond (koji ima aktivnu ulogu u procesu, ali nema pravo odlučivanja), Svjetska banka, Organizacija za ekonomsku saradnju i razvoj (OECD),

Konferencija za trgovinu i razvoj Ujedinjenih nacija (UNCTAD), Evropska Komisija, Afrička razvojna banke, Azijska razvojna banka, Evropska banka za obnovu i razvoj (EBRD) i Međumerička razvojna banka. Osim stalnih članica, sesijama prisustvuju i zemlje čije se odlaganje dugova razmatra.

2.2. Uloga u restrukturiranju duga

Uopšteno, uloga restrukturiranja duga ogleda se u obezbjeđivanju održivosti javnih finansija i sprečavanju produbljivanja ekonomskih i socijalnih kriza u zaduženim zemljama. Restrukturiranje omogućava reprogramiranje obaveza, kroz produženje rokova otplate, smanjenje kamatnih stopa ili djelimičan otpis duga, čime se državama daje fiskalni prostor za stabilizaciju ekonomije i sprovođenje reformi. Takođe, ono ima važnu ulogu u obnavljanju povjerenja investitora i kreditora, jer se uspostavljaju jasna i realna pravila otplate duga. U širem smislu, restrukturiranje duga doprinosi očuvanju međunarodne finansijske stabilnosti i smanjenju rizika preliva kriza između zemalja.

U kontekstu Pariškog kluba kreditora, restrukturiranje duga ima ključnu ulogu u pronalasku održivih rješenja za zemlje dužnike i očuvanju stabilnosti međunarodnih finansijskih odnosa. Klub funkcioniše kao forum u kojem bilateralni kreditori koordinirano pregovaraju sa zemljom dužnikom kako bi dogovorili produženje rokova otplate, smanjenje kamatnih stopa, reprogramme ili djelimični otpis duga, uz očuvanje principa komparabilnog tretmana svih kredita.

Ova koordinacija omogućava da se smanji rizik od nekontrolisanih finansijskih kriza i stvori jasan okvir za servisiranje duga, čime se dužniku obezbjeđuje fiskalni prostor za sprovođenje ekonomskih reformi i razvojnih politika. Pored toga, restrukturiranje duga kroz Pariški klub doprinosi stvaranju povjerenja među međunarodnim kreditorima i smanjenju potencijalnih konflikata između bilateralnih zajmodavaca, čime se jača međunarodna finansijska stabilnost.

2.3. Principi djelovanja

Klub djeluje na principima solidarnosti, gdje članice (oko 22 zemlje, uglavnom OECD) pregovaraju zajedno, počevši od prethodno nerestrukturiranog duga (NPRD), uz uslove poput MMF-ovih programa i transparentnosti. Sporazumi uključuju odgađanje, smanjenje NPV duga (*Net Present Value of Debt* – neto sadašnja vrijednost duga) (do 90% na Cologne terms) i kapitalizaciju kamata, ali samo za zemlje sa finansijskim potrebama za koje je priložena adekvatna dokumentacija, koja to dokazuje. Pariški klub počiva na principima koordinacije kreditora, neformalnosti procesa i povezanosti sa IMF programima, što omogućava kredibilno restrukturiranje duga uz očuvanje finansijske discipline zemalja dužnika. Oni dodatno naglašavaju da princip uporedivog tretmana predstavlja ključni mehanizam kojim se izbjegava prebacivanje tereta restrukturiranja na pojedine grupe kreditora (Cruces i Trebesch 2013).

Najvažniji principi kojima se Pariški klub rukovodi u radu su:

- *Konsenzus*. Sve odluke se, bez izuzetka, donose jedinstvenim stavom.
- *Pristup „svaka zemlja je slučaj za sebe“*. Poštovanjem ovog principa se uvažavaju realne činjenice da je svaka zemlja u jedinstvenoj ekonomsko-političkoj situaciji, ali se štite i interesi zemalja-povjerilaca, jer se ne može desiti da oprost duga neke zemlje izazove presedan koji bi uticao na oprost nekoj drugoj zemlji.
- *Uporedivost tretmana*. Ovaj princip je neophodan da bi se definisala standardna procedura u radu Pariškog kluba (Buchheit i Gulati, 2023).
- *Solidarnost*. Suština rada Pariškog kluba je da povjerioci ne konkurišu jedni drugima.
- *Uslovljenost*. Po pravilu Pariški klub zahtijeva od zemlje dužnika da ima regulisane odnose sa MMF-om i uobičajeno se zahtijeva efikasno sprovođenje aranžmana sa MMF-om, kao uslov dobijanja koncesija od Pariškog kluba. MMF se pojavljuje kao nezavisno ekspertsko tijelo ispred Pariškog kluba.

2.4. Mehanizmi restrukturiranja duga

Standardna procedura u okviru Pariškog kluba podrazumijeva da zemlja dužnik najprije proglasi nemogućnost urednog servisiranja spoljnog duga, što se zatim razmatra na osnovu analize Međunarodnog monetarnog fonda i drugih relevantnih finansijskih institucija. Na osnovu tih procjena, zemlja može dobiti status prezaduženosti. Nakon toga se od države dužnika očekuje spremnost da sprovede ekonomske reforme usmjerene ka stabilizaciji makroekonomske i finansijske situacije, a potom Pariški klub kreditora pristupa razmatranju i preispitivanju ukupnih obaveza te zemlje u cilju pronalaženja održivog rješenja za servisiranje duga.

Postoje sljedeće mogućnosti:

- restrukturiranje duga,
- odlaganje plaćanja i
- koncesiono restrukturiranje, koje podrazumijeva oprost dijela duga i ima dva modaliteta: oprost dijela kreditnih obaveza tokom određenog vremenskog perioda (*flow treatment*) i oprost dijela kreditnih obaveza na određeni dan (*stock treatment*).

Zemlja koja želi konsolidaciju svog spoljnog duga treba da ispuní sljedeće uslove (Vilanova i Martin 2001, 2):

- da dokaže da nije u mogućnosti vrši otplatu spoljnih dugova,
- da pripremi detaljan memorandum o makroekonomskoj situaciji u zemlji, sa naglaskom na stanje platnog bilansa i uticaj spoljnog duga,
- da pripremi detaljan zahtjev sa jasno navedenim olakšicama, koje očekuje od strane Pariškog kluba u otplati spoljnog duga,
- da dostavi detaljan spisak spoljnih dugova i plan otplate,
- da primjenjuje program strukturnog prilagođavanja iz aranžmana sklopljenog sa MMF-om.

3. PRIMJERI RESTRUKTURIRANJA DUGA (STUDIJE SLUČAJA)

Pariški klub je ključan u restrukturiranju suverenog duga, s brojnim studijama slučaja koje ilustriraju njegove procedure i ishode.

Tabela 1. Iskustva zemalja u restrukturiranju duga kroz Pariški klub Argentina (1956 i 2001)

Zemlja	Period	Efekti restrukturiranja (otpisi/uslovi)
Surinam	2022-2024.	Reprogramiranje spoljnog javnog duga kroz produženje ročnosti: ODA (20 god. uz 7 god. grejs), NODA (15 god. uz 8 god. grejs) u skladu sa MMF programom.
Honduras i Nikaragva	1998.	Privremeno odlaganje svih plaćanja prema Pariškom klubu kao dio širih aranžmana pomoći uz MMF strategiju rekonstrukcije.
SR Jugoslavija/Srbija (Pariški klub)	2001-2006.	Sporazumi sa članicama kluba rezultirali su otpisom dijela duga, uz produženje ročnosti i plan otplate prema bilateralnim sporazumima; Prvi otpis 51% i dodatnih 15% nakon uspješnog programa.
Haiti	2010.	Potpuno otpisan dug kao pomoć za prevazilaženje posljedica razornog zemljotresa (debt cancellation).
Myanmar	2013.	Oko 50% otpisane glavnice dospjelih obaveza, ostatak reprogramiran na 15 godina uz grejs period.
Argentina (Pariški klub/ Aranžman 2014)	2014-2016.	Dogovoreno rješavanje dugova u zaostatku - planirano izmirenje oko 9,7 milijardi USD uz strukturane rokove plaćanja.

Pariški klub kreditora nastao je 1956. godine kao odgovor na dužničke poteškoće Argentine, koja je tada imala ozbiljne probleme u servisiranju svojih obaveza prema službenim bilateralnim povjericima. Prvi sastanak, održan u Parizu između Argentine i njenih kreditora, smatra se početkom institucionalizovane prakse koordinacije državnih zajmodavaca, iako Klub u formalnom smislu nije pravno ustanovljena međunarodna organizacija. Prema Cheng, Díaz-Cassou i Erce (2019), upravo slučaj Argentine iz 1956. godine predstavlja prekretnicu u razvoju međunarodnih mehanizama restrukturiranja suverenog duga, jer je tada prvi put uspostavljen okvir zajedničkog pregovaranja između države dužnika i grupe službenih kreditora, čime je stvoren osnov za kasniji razvoj principa konsenzusa i koordinacije u okviru Pariškog kluba. Autori naglašavaju da je ovaj početni aranžman bio usmjeren na obezbjeđivanje privremenog reprogramiranja obaveza, uz očekivanje fiskalne stabilizacije i nastavka otplate u budućnosti, što je postalo temeljni model za kasnije restrukturiranje duga kroz Klub. Sličan istorijski kontekst razvoja ističu i Schumacher, Trebesch i Enderlein (2018), koji ukazuju da je rani aranžman sa Argentinom označio početak institucionalne prakse neformalnih sastanaka kreditora koji su kasnije evoluirali u standardizovan proces rješavanja suverenih dužničkih kriza u okviru Pariškog kluba.

Tokom procesa je ispregovrano 100 miliona dolara duga sa Francuskom i Velikom Britanijom, uspostavljajući model solidarnosti (Cruces i Trebesch, 2013). U krizi 2001. klub je 2005. otpisao 1,4 milijarde dolara duga, u dogovoru sa Londonskim klubom za ukupno 65 milijardi, što je omogućilo rast BDP-a od 8% godišnje (Malamud, 2013).

Najnoviji važan sporazum postignut je 2014. godine, kada je Argentina dogovorila reprogramiranje približno 9,7 milijardi USD duga prema članicama Pariškog kluba. Sporazum je uključivao obavezu otplate u periodu od više godina uz kamatnu stopu koja je bila povezana sa tržišnim uslovima, a istovremeno je bio uslovljen nastavkom fiskalnih reformi i saradnjom sa međunarodnim finansijskim institucijama. Ovaj dogovor se u literaturi posmatra kao primjer reintegracije zemlje u međunarodne finansijske tokove nakon perioda tehničkog neplaćanja (default) (Cheng i drugi 2019).

ZAKLJUČAK

Pariški klub kreditora predstavlja jedan od najvažnijih i najstarijih međunarodnih mehanizama za rješavanje diplomatskih i finansijskih problema vezanih za otplatu spoljnog duga. Iako je neformalna grupa bez pravnog statusa, njegova uloga u koordinaciji bilateralnih kredita i pronalaženju održivih rješenja za dužnike je velika, a principi koje klub primjenjuje često služe kao model za druge oblike međunarodnog finansijskog rješavanja dugova.

U zaključku se može istaći da kreditori imaju ključnu ulogu u procesu koordinacije i restrukturiranja duga u međunarodnom kontekstu, posebno u situacijama kada države ili druge dužničke institucije nisu u mogućnosti da redovno izmiruju svoje finansijske obaveze. Efikasna saradnja između različitih kategorija kreditora, uključujući bilateralne, multilateralne i privatne kreditore, od presudnog je značaja za postizanje održivih rješenja koja omogućavaju finansijsku stabilnost dužnika i očuvanje povjerenja na međunarodnim finansijskim tržištima. Mehanizmi koordinacije, poput djelovanja Pariškog kluba i drugih međunarodnih inicijativa, doprinose usklađivanju interesa svih učesnika u procesu restrukturiranja i smanjenju rizika od neuređenog bankrota.

Restrukturiranje duga predstavlja važan instrument za prevazilaženje dužničkih kriza, jer omogućava prilagođavanje uslova otplate stvarnim ekonomskim mogućnostima dužnika. Kroz produženje rokova dospeljeća, smanjenje kamatnih stopa, djelimični otpis dugova ili druge mjere, stvara se prostor za ekonomski oporavak i nastavak razvoja zemlje dužnika. Istovremeno, kreditori nastoje zaštititi svoje interese i osigurati najveći mogući stepen naplate potraživanja.

Savremeni izazovi, poput globalnih ekonomskih kriza, pandemija, geopolitičkih sukoba i klimatskih promjena, dodatno naglašavaju potrebu za unapređenjem međunarodnih mehanizama

koordinacije kreditora. Stoga je neophodno kontinuirano razvijati transparentne, pravične i efikasne modele restrukturiranja duga koji će doprinijeti stabilnosti međunarodnog finansijskog sistema, smanjenju rizika od dužničkih kriza i stvaranju uslova za održiv ekonomski razvoj zemalja širom svijeta.

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THE PARIS CLUB OF CREDITORS: COORDINATION AND DEBT RESTRUCTURING IN THE INTERNATIONAL CONTEXT

Abstract: The issue of international borrowing and the resolution of sovereign debt problems represents one of the central topics of contemporary economic and financial policy. In this context, institutions that facilitate coordinated debt resolution have become essential for preventing financial crises and promoting sustainable economic stability. One such mechanism is the Paris Club of Creditors—an informal group of bilateral creditor countries that assists debtor nations in restructuring their debts under conditions that are sustainable and acceptable to all parties involved. This paper presents the practices, procedures, and specific characteristics of the operation of the Paris Club.

Keywords: *debt crisis, Paris Club of Creditors, debt restructuring mechanism, case studies*

JEL Classification: *E5, F3*

INTRODUCTION

One of the major issues at the global level is the debt problem (debt crisis). A country's indebtedness arises from the need of governments to finance budget deficits, development projects, or extraordinary economic circumstances. It encompasses a state's obligations to both domestic and foreign creditors and is most commonly expressed through public and external debt relative to gross domestic product (GDP). Although borrowing can be an important instrument of economic growth when funds are used productively, excessive indebtedness may lead to fiscal instability, constraints on economic policy, and the emergence of debt crises.

The Paris Club (Club de Paris) is an informal organization and a group of creditors that negotiates arrangements with countries experiencing difficulties in servicing their external debt in order to find ways to overcome such challenges. The Paris Club provides a unique platform for negotiations, reducing transaction costs for debtor countries and facilitating creditors in reaching a common solution for debt restructuring. Over more than six decades of existence, the Paris Club has become one of the key mechanisms for resolving sovereign debt problems, particularly during periods of financial crises and debt distress in developing countries.

1. CONCEPT AND HISTORICAL DEVELOPMENT OF INTERNATIONAL BORROWING

Countries resort to borrowing due to insufficient domestic capital accumulation (savings) available for investment and the need to achieve faster economic growth and greater competitiveness

in international markets. In this context, a country must implement an effective public debt management policy in order to avoid conflicts between short-term and long-term macroeconomic objectives, including monetary stability, economic growth, and the fair distribution of the benefits and burdens of public debt repayment among current and future taxpayers.

1.1. The Concept of Indebtedness

From the 1980s onwards, numerous countries have faced debt crises, as evidenced by the fact that, in addition to transition economies, more and more developed countries have also been affected. In economic theory, public debt is most commonly defined as the total amount of financial obligations owed by a state within its borders and abroad, resulting from the accumulation of budget deficits (i.e., when government expenditures exceed revenues). Public indebtedness is measured at a specific point in time and represents a stock variable, rather than a flow, which is important to distinguish from the budget deficit, which is a flow variable measured over a one-year period (Boniface and Zaccareus 2021).

In academic literature, the concept of sovereign debt is frequently used, and most authors define it as debt issued or guaranteed by the state in order to finance public spending, budget deficits, and other governmental obligations:

- According to Olivares-Caminal (2017), sovereign debt represents the financial obligations of the state contained in public borrowing instruments issued on domestic or international capital markets.
- Dvorkin, Sánchez, Sapriza, and Yurdagül (2021) view sovereign debt as an instrument through which the state borrows funds from investors with the promise of future repayment of principal and interest, where no supranational mechanism exists to compel the state to fulfill its obligations.
- Kroszner defines sovereign debt as a form of public borrowing in which the state acts as the debtor, while investors or international financial institutions act as creditors.

Many developing countries run budget deficits that are primarily financed through borrowing. Borrowing in itself does not violate any economic principle, provided that the funds are directed toward productive investments that will ensure and facilitate debt servicing, debt repayment, and the creation of additional value in terms of improving citizens' living standards (Ogwuma, Ikenna and Odili 2015).

Thus, international borrowing represents a form of external financing in which states or their institutions borrow capital from foreign creditors, including banks, funds, and international organizations, in order to cover balance of payments deficits or finance development. A state may borrow through loans from banks and other financial institutions, as well as through the issuance of government securities on domestic and international financial markets.

In international academic literature, the term public debt is defined as the total financial obligation of the state arising from borrowing from domestic and foreign creditors in order to finance budget deficits, public investment, and other state needs:

- According to Panizza and Presbitero (2014), public debt represents the total liabilities of the central government and other public institutions arising from previous borrowing on domestic and international capital markets.
- Reinhart and Rogoff view public debt as the total amount of government liabilities resulting from the issuance of government securities and other forms of public borrowing.
- Checherita-Westphal and Rother (2012) define public debt as the value of outstanding financial obligations of the general government resulting from persistent fiscal deficits.

Increasing indebtedness of developing countries is a consequence of their economic development model, as these countries, in order to stimulate economic growth, often implement policies based on faster growth of domestic consumption compared to production. This leads to an increased need for external borrowing. Particularly concerning is the fact that external debt, as a result of long-term imbalances in the current accounts of developing countries' balance of

payments, today represents one of the key risks to the stability of the global financial and economic system.

1.2. Historical Development

Contemporary economic literature emphasizes that the emergence and development of public debt spans a long history of state finance, whereby states' obligations to creditors have evolved from early forms of borrowing to complex modern sovereign bond markets. Studies show that governments in different periods have used borrowing as a tool to finance expenditures related to wars, public investments, and crisis situations, while attitudes toward debt have changed over time—from initial rejection to its institutionalized acceptance as a normal element of fiscal policy. For example, research on the history of public debt highlights the transformation in the perception and justification of government borrowing through five main historical phases, from the Middle Ages to the modern era, indicating that the concept of public debt has become increasingly legitimate in state fiscal practice. Historical analyses also show that episodes of sharp increases in debt were often associated with major wars, economic depressions, and financial crises, which shaped the structure and strategies of sovereign debt management in the 20th and 21st centuries (Sokolov and Sokolova 2012).

Over the past 40 years, government debt levels have increased, accompanied by changes in debt structure, particularly the shift from external to domestic debt, especially during and after economic crises.

1.3. Debt Crisis in the Contemporary Context

In the modern period, debt crises have become a global phenomenon, particularly after the 2008–2009 financial crisis, when many countries, both developed and developing, experienced a sharp rise in public debt and difficulties in servicing it. During the eurozone debt crisis (2008–2015), countries such as Greece, Portugal, Spain, Ireland, and Italy faced severe problems in servicing their debt, which led to high spreads on government bonds and required interventions by the European Central Bank and international financial institutions in order to prevent the collapse of European financial systems (Samodol, and Sosa 2024).

Contemporary debt crises represent complex economic and financial disturbances that occur when a state is no longer able to regularly service its long-term and short-term obligations to domestic and international creditors. Unlike earlier debt crises, modern crises are characterized by strong interconnectedness of global financial markets, high capital mobility, and significant exposure of countries to external economic shocks. According to Reinhart and Rogoff (2011), debt crises are most often the result of a combination of excessive borrowing, fiscal imbalances, and slowing economic growth, whereby high levels of public debt increase the likelihood of financial instability and reduce opportunities for economic recovery. Similarly, Panizza and Presbitero (2014) emphasize that debt crises are not only a consequence of high levels of indebtedness, but also of problems in public finance management, unfavorable financing conditions, and weakening investor confidence. Experiences following the global financial crisis of 2008 and the European debt crisis have shown that contemporary debt crises can have long-lasting consequences for economic growth, employment, and fiscal sustainability of states, which is why public debt management remains one of the key challenges of economic policy in the 21st century.

2. THE PARIS CLUB OF CREDITORS

The Paris Club is an informal group of official creditors whose main role is to find common and sustainable solutions to the problem of over-indebtedness of individual countries, that is, the issue of sovereign public debt.

The Paris Club of creditors plays an important role in the international financial architecture by providing mechanisms for debt management and the prevention of financial crises that could arise from debt default.

Programs designed to ease the debt burden of developing countries have been implemented by bilateral, commercial, and multilateral creditors, while sovereign debt has been restructured through negotiations within the framework of the Paris Club (Blackmon 2014).

2.1. Origin and Institutional Framework

The Paris Club of creditors is an informal group of official bilateral creditors, mainly developed countries, which since 1956 has coordinated the restructuring and rescheduling of debts of countries facing difficulties in repaying external debt. The Club was created following negotiations between Argentina and its creditors in Paris, after which it received its name. The main objective of the Paris Club is to find sustainable solutions to the debt problems of debtor countries, while maintaining financial stability and ensuring equal treatment of all official creditors. Its work is based on the principles of consensus, solidarity among creditors, conditionality linked to programs of the International Monetary Fund, and comparability of treatment with other creditor groups.

Throughout the development of the international financial system, the Paris Club has evolved from an institution primarily focused on debt collection into an important mechanism for providing debt relief to developing and highly indebted countries. Empirical research shows that restructurings conducted through the Paris Club have had a significant impact on the economic recovery of debtor countries, especially when they included partial debt forgiveness, contributing to faster economic growth, poverty reduction, and improved fiscal sustainability. At the same time, the Paris Club remains one of the key actors in the international architecture of sovereign debt management and debt crisis resolution (Cheng, Díaz-Cassou and Erce 2018).

Thus, the Paris Club represents an informal forum composed of governmental creditors who coordinate the restructuring of sovereign debt of countries in crisis owed to official bilateral creditors.

The Paris Club is not a formal international organization and does not have legal personality. However, it operates according to certain principles and procedures established by creditor countries in order to reach agreements with debtor countries on the postponement of sovereign debt repayments (Martin 2013).

In the 1990s and 2000s, its role expanded through the “Evian Approach” (The Evian Approach represents a more flexible and individualized approach to addressing debt problems, particularly for middle-income countries that are not covered by traditional debt relief programs designed for the poorest states (such as the HIPC Initiative).

In academic literature, the Evian Approach is described as a shift from a mechanical “one-size-fits-all” solution toward an analytical and selective approach to sovereign debt restructuring. In this way, the Paris Club responded to new patterns of global indebtedness and increasingly complex financial relations).

, emphasizing coordination with new creditors and initiatives such as the HIPC Initiative (The HIPC Initiative (Heavily Indebted Poor Countries Initiative) is an international debt relief program launched in 1996 by the International Monetary Fund (IMF) and the World Bank. Its aim is to enable the poorest and most heavily indebted countries to achieve a permanent reduction of external debt to sustainable levels).

The Paris Club consists of:

- 19 permanent member creditor countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, the Netherlands, Norway, Russia, Spain, Sweden, Switzerland, the United Kingdom, and the United States. The aim of the permanent

members is to cooperate in order to achieve the best possible solution for all creditors.

- 13 associate members: United Arab Emirates, Argentina, Brazil, Israel, Kuwait, Mexico, Morocco, New Zealand, Portugal, South Africa, South Korea, Trinidad and Tobago, and Turkey.
- 9 observers: International Monetary Fund (which plays an active role in the process but has no decision-making power), World Bank, Organisation for Economic Co-operation and Development (OECD), United Nations Conference on Trade and Development (UNCTAD), European Commission, African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development (EBRD), and Inter-American Development Bank. In addition to the permanent members, meetings are also attended by countries whose debt rescheduling is being considered.

2.2. The Role in Debt Restructuring

In general, the role of debt restructuring is reflected in ensuring the sustainability of public finances and preventing the deepening of economic and social crises in indebted countries. Restructuring allows for the rescheduling of obligations through the extension of repayment periods, reduction of interest rates, or partial debt forgiveness, thereby giving states fiscal space to stabilize the economy and implement reforms. It also plays an important role in restoring the confidence of investors and creditors, as it establishes clear and realistic repayment rules. In a broader sense, debt restructuring contributes to the preservation of international financial stability and reduces the risk of crisis spillovers between countries.

In the context of the Paris Club of creditors, debt restructuring plays a key role in finding sustainable solutions for debtor countries and in maintaining the stability of international financial relations. The Club operates as a forum in which bilateral creditors coordinate negotiations with the debtor country in order to agree on the extension of repayment periods, reduction of interest rates, rescheduling arrangements, or partial debt forgiveness, while maintaining the principle of comparable treatment of all creditors.

This coordination helps reduce the risk of uncontrolled financial crises and creates a clear framework for debt servicing, thereby providing the debtor country with fiscal space to implement economic reforms and development policies. In addition, debt restructuring through the Paris Club contributes to building trust among international creditors and reducing potential conflicts between bilateral lenders, thereby strengthening overall international financial stability.

2.3. Principles of Operation

The Club operates on the principles of solidarity, where member countries (around 22 states, mostly OECD members) negotiate collectively, starting from non-restructured debt (NPRD), under conditions such as IMF programs and transparency requirements. Agreements include rescheduling, reduction of the net present value (NPV) of debt (Net Present Value of Debt) (up to 90% under the Cologne terms), and interest capitalization, but only for countries with demonstrated financial need supported by adequate documentation.

The Paris Club is based on the principles of creditor coordination, informality of the process, and linkage with IMF programs, which enables credible debt restructuring while maintaining the financial discipline of debtor countries. It further emphasizes that the principle of comparable treatment is a key mechanism to prevent shifting the burden of restructuring onto specific groups of creditors (Cruces and Trebesch 2013).

The most important principles guiding the Paris Club's work are:

- Consensus – All decisions are made unanimously, without exception.
- Case-by-case approach – This principle recognizes that each country is in a unique economic and political situation, while also protecting the interests of creditor countries, as debt relief granted to one country must not create a precedent for others.

- Comparability of treatment – This principle is essential for defining a standardized procedure in the work of the Paris Club (Buchheit and Gulati, 2023).
- Solidarity – The essence of the Paris Club is that creditors do not compete with one another.
- Conditionality – As a rule, the Paris Club requires the debtor country to have an arrangement with the IMF, and effective implementation of IMF-supported programs is typically required as a condition for obtaining concessions from the Paris Club. The IMF acts as an independent expert body on behalf of the Paris Club.

2.4. Debt Restructuring Mechanisms

The standard procedure within the Paris Club involves the debtor country first declaring its inability to regularly service external debt, which is then assessed based on analysis by the International Monetary Fund and other relevant financial institutions. Based on these assessments, the country may be granted a status of over-indebtedness. The debtor country is then expected to demonstrate willingness to implement economic reforms aimed at stabilizing the macroeconomic and financial situation, after which the Paris Club creditors begin reviewing the country’s total obligations in order to find a sustainable solution for debt servicing.

The available options include:

- debt restructuring,
- payment rescheduling, and
- concessional restructuring, which involves partial debt forgiveness and has two modalities: partial cancellation of debt obligations over a certain period (flow treatment) and partial cancellation of debt obligations at a specific point in time (stock treatment).

A country seeking consolidation of its external debt must meet the following conditions (Vilanova and Martin 2001, 2):

- demonstrate that it is unable to service its external debt,
- prepare a detailed memorandum on the macroeconomic situation in the country, with emphasis on the balance of payments position and the impact of external debt,
- prepare a detailed request clearly specifying the debt relief measures expected from the Paris Club regarding external debt repayment,
- submit a detailed list of external debts and a repayment plan,
- implement a structural adjustment program under an arrangement concluded with the IMF.

3. EXAMPLES OF DEBT RESTRUCTURING (CASE STUDIES)

The Paris Club plays a key role in sovereign debt restructuring, with numerous case studies illustrating its procedures and outcomes.

Table 1. Countries’ experiences in debt restructuring through the Paris Club Argentina (1956 and 2001)

Country	Period	Restructuring effects (write-offs / terms)
Suriname	2022–2024	Rescheduling of external public debt through maturity extensions: ODA (20 years with a 7-year grace period), NODA (15 years with an 8-year grace period), in line with the IMF program.
Honduras and Nicaragua	1998	Temporary suspension of all payments to the Paris Club as part of broader aid arrangements under an IMF reconstruction strategy.

SFR Yugoslavia / Serbia (Paris Club)	2001–2006	Agreements with Paris Club members resulted in partial debt write-offs, maturity extensions, and payment plans under bilateral agreements; the first write-off was 51%, with an additional 15% after successful program implementation.
Haiti	2010	Full debt cancellation as assistance to overcome the consequences of the devastating earthquake.
Myanmar	2013	About 50% of overdue principal obligations were written off, while the remainder was rescheduled over 15 years with a grace period.
Argentina (Paris Club / 2014 Arrangement)	2014–2016	Agreed resolution of arrears debt, with planned repayment of about USD 9.7 billion under restructured payment schedules.

The Paris Club of creditors was created in 1956 as a response to Argentina's debt difficulties, as the country at that time faced serious problems in servicing its obligations to official bilateral creditors. The first meeting held in Paris between Argentina and its creditors is considered the beginning of the institutionalized practice of coordinating sovereign lenders, although the Club is not formally established as a legal international organization.

According to Cheng, Díaz-Cassou and Erce (2019), the Argentine case of 1956 represents a turning point in the development of international sovereign debt restructuring mechanisms, as it was the first time a framework for collective negotiation between a debtor state and a group of official creditors was established. This laid the foundation for later development of the principles of consensus and coordination within the Paris Club. The authors emphasize that this initial arrangement aimed at providing temporary rescheduling of obligations, with the expectation of fiscal stabilization and future repayment, which became the fundamental model for subsequent debt restructurings through the Club. A similar historical perspective is provided by Schumacher, Trebesch and Enderlein (2018), who argue that the early arrangement with Argentina marked the beginning of institutional practice of informal creditor meetings that later evolved into a standardized process for resolving sovereign debt crises within the Paris Club.

During the process, approximately 100 million USD of debt owed to France and the United Kingdom was renegotiated, establishing a model of creditor solidarity (Cruces and Trebesch 2013). In the 2001 crisis, the Club wrote off 1.4 billion USD in 2005, in coordination with the London Club for a total of 65 billion USD, which enabled annual GDP growth of around 8% (Malamud 2013). The most recent major agreement was reached in 2014, when Argentina agreed to reschedule approximately 9.7 billion USD of debt owed to Paris Club member countries. The agreement included repayment over several years at an interest rate linked to market conditions, and it was also conditioned on continued fiscal reforms and cooperation with international financial institutions. This arrangement is viewed in the literature as an example of the reintegration of a country into international financial flows after a period of technical default (Cheng et al. 2019).

CONCLUSION

The Paris Club of creditors represents one of the most important and oldest international mechanisms for addressing diplomatic and financial issues related to the repayment of external debt. Although it is an informal group without legal status, its role in coordinating bilateral lending and finding sustainable solutions for debtor countries is significant, while the principles it applies often serve as a model for other forms of international debt resolution.

In conclusion, it can be emphasized that creditors play a key role in the process of coordination and debt restructuring in the international context, particularly in situations where states or other

debtor entities are unable to regularly meet their financial obligations. Effective cooperation between different categories of creditors, including bilateral, multilateral, and private creditors, is of crucial importance for achieving sustainable solutions that ensure the financial stability of debtors and maintain confidence in international financial markets. Coordination mechanisms, such as the Paris Club and other international initiatives, contribute to aligning the interests of all participants in the restructuring process and reducing the risk of disorderly default.

Debt restructuring is an important instrument for overcoming debt crises, as it allows repayment conditions to be adjusted to the real economic capacity of the debtor. Through the extension of maturities, reduction of interest rates, partial debt forgiveness, or other measures, space is created for economic recovery and continued development of the debtor country. At the same time, creditors seek to protect their interests and ensure the highest possible level of repayment. Contemporary challenges, such as global economic crises, pandemics, geopolitical conflicts, and climate change, further highlight the need to improve international creditor coordination mechanisms. Therefore, it is necessary to continuously develop transparent, fair, and efficient debt restructuring models that will contribute to the stability of the international financial system, reduce the risk of debt crises, and create conditions for sustainable economic development of countries around the world.

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REZULTATI RADA AGENCIJE ZA MIRNO RJEŠAVANJE RADNIH SPOROVA U REPUBLICI SRPSKOJ U PERIODU 2010-2025.

Rezime: Odlukom Vlade Republike Srpske 2009. godine osnovana je Agencija za mirno rješavanje radnih sporova u Republici Srpskoj. Kroz postupak mirnog rješavanja radnih sporova, koji se vode pred Agencijom, uz djelovanje arbitara i miritelja, rješavaju se individualni i pravni, odnosno interesni kolektivni radni sporovi, bez podnošenja tužbe nadležnom sudu. Cilj ovog rada je da se prikažu rezultati rada Agencije od 1. juna 2010. do 31. decembra 2025. godine. Period od 15 godina predstavlja idealan vremenski okvir kako bi se, na osnovu prikupljenih rezultata, mogli analizirati rezultati rada jedne ovakve Agencije. Metodom intervjua, uporednom metodom te prikupljanjem i analiziranjem dostupnih informacija, kalkulacijom autora utvrđeno je da je u navedenom periodu zaprimljeno ukupno 16.406 predmeta. Od 16.259 okončanih predmeta, oko 70% je pozitivno riješeno. Prednosti rješavanja sporova posredstvom Agencije su da su procedure kraće i sporovi se rješavaju brže, u prosjeku za oko 45 do 60 dana, a postupak je potpuno besplatan. Samim uvidom u broj pokrenutih predmeta, da se zaključiti da radnici znaju kome da se obrate u ovim slučajevima, te da je Agencija opravdala svoje postojanje.

Ključne riječi: radni sporovi, arbitar, miritelj, kolektivni radni sporovi, individualni radni sporovi

JEL klasifikacija: K15, K31, K40, K49, J7

UVOD

Radni odnos je odnos između poslodavca i radnika, koji se zasniva zaključenjem ugovora o radu, odlukom o prijemu, odlukom o izboru ili imenovanju i drugim pravnim osnovom uređenim posebnim zakonom. Radni odnos uvijek je bilateralan, a prava, obaveze i odgovornosti iz radnog odnosa, kako za radnika tako i za poslodavca, nastaju danom kada radnik stupa na rad.

Prema zakonskoj definiciji, radni spor je spor između zaposlenika i poslodavaca u vezi s interesima ekonomske, profesionalne ili socijalne prirode ili pravima koja proizlaze iz razvoja radnih ili službenih odnosa. Radni sporovi mogu biti kolektivni ili individualni. Kolektivni radni spor je radni spor koji se javlja između zaposlenika i poslodavaca, a čiji je cilj pokretanje, vođenje ili zaključivanje pregovora o kolektivnim ugovorima ili sporazumima. Individualni radni sporovi su radni sporovi čiji je predmet ostvarivanje određenih prava ili ispunjavanje obaveza koje proizlaze iz individualnih i kolektivnih ugovora o radu ili iz kolektivnih ugovora o radu i radnih odnosa državnih službenika, kao što su i iz zakona ili drugih normativnih akata (Vološevići 2021, 56-57).

Pravni sistem, pravna profesija i pravne institucije prilagođavaju se izazovima vremena i okruženja te na putu tih izmjena tradicionalnog sistema rješavanja sporova, stoji na raspolaganju i niz novih

načina rješavanja sporova koje predvodi medijacija, koji se nazivaju alternativni načini rješavanja sporova. Medijacija je metoda za konstruktivno i dobrovoljno rješavanje ili izbjegavanje sukoba u sporu. Stranke u postupku mirenja, uz pomoć treće neutralne osobe (medijatora) nastoje razriješiti spor i postići prihvatljiv sporazum koji im je u interesu. Pokušavaju se rješavati sporovi dijalogom, a ne sudskim, dugotrajnim i skupim postupcima. Postupak je brži i fleksibilniji, stranke imaju uticaja na konačnu odluku koja teži biti obostrano prihvatljiva, zasnovana na pravu, ali i na zadovoljavanju interesa stranaka, jer se rješava konflikt i pokušavaju se popraviti odnosi među strankama, a konačno rješenje ima snagu izvršne isprave (Haubrich 2025, 163-164).

Sve većoj popularnosti medijacije doprinijela je Međunarodna organizacija rada. Tako je postupak mirenja u individualnim radnim sporovima utemeljen još 1951. godine Preporukom MOR-a br. 92 o dobrovoljnom mirenju i arbitraži. Preporuka se odnosi na mirno rješavanje industrijskih sporova između poslodavaca i radnika, koji počiva na načelima dobrovoljnosti, zajedničkog učešća i ravnopravne zastupljenosti radnika i poslodavaca, te načelima besplatnosti i efikasnosti. Iako je preporuka usmjerena na rješavanje kolektivnih sporova, ne postoje formalne smetnje da se ne može primijeniti i u pogledu rješavanja individualnih radnih sporova. U Preporuci pažnja je posvećena i prirodni sporazuma o rješenju spora koji mora imati pisanu formu i jednake je pravne snage kao i sporazumi koji su zaključeni u redovnim okolnostima. Mirnim rješavanjem sporova dalje se bavi Konvencija MOR-a o kolektivnom pregovaranju iz 1981. godine (br. 154.) (Selesković 2023, 265). U pogledu pitanja vezanih za prirodu radnog odnosa i neformalnog rada, Preporuka o radnim odnosima iz 2006. (br. 198) poziva nadležne organe da usvoje mjere kako bi se osiguralo poštovanje i sprovođenje zakona i propisa koji se odnose na radni odnos, uključujući i mehanizme za rješavanje sporova. Takođe, ukazuje na to da bi nacionalna politika na koju se poziva u Preporuci trebala uključivati mjere za obezbjeđivanje efikasnog pristupa odgovarajućim, brzim, jeftinim, pravednim i efikasnim postupcima i mehanizmima za rješavanje sporova u vezi sa postojanjem i uslovima radnog odnosa. Preporuka br. 198 u stavu 14 dodaje da: „Rješavanje sporova u vezi sa postojanjem i uslovima radnog odnosa treba da bude stvar industrijskih ili drugih sudova ili arbitražnih organa kojima radnici i poslodavci imaju efikasan pristup u skladu sa nacionalnim zakonodavstvom i praksom“. U sličnom smislu, Preporuka o prelasku iz neformalne u formalnu ekonomiju iz 2015. (br. 204), takođe poziva članice da uspostave mehanizme s ciljem osiguranja usklađenosti s nacionalnim zakonima i propisima koji osiguravaju priznavanje i provođenje radnih odnosa. Važno je napomenuti da se ovo ne ograničava samo na radni odnos, već se od članica traži da uspostave odgovarajuće mehanizme ili preispitaju postojeće mehanizme s ciljem osiguranja usklađenosti s nacionalnim zakonima i propisima kako bi se olakšao prelazak u formalnu ekonomiju (Koukiadaki 2020, 7).

Radni odnosi širom svijeta doživljavaju brze i duboke promjene. Globalizacija, tehnološki napredak, promjene ekonomskih struktura i pojava novih oblika rada - poput gig i platformskog zapošljavanja - mijenjaju tradicionalni odnos između poslodavca i zaposlenika. U ovom promjenjivom okruženju, sporovi koji proizlaze iz primanja, uslova rada, sigurnosti posla i organizacijskog restrukturiranja postali su sve složeniji. Konvencionalni mehanizmi za rješavanje sporova, poput radnih sudova i tribunala, često pate od kašnjenja, proceduralne rigidnosti i visokih troškova, što ih čini manje učinkovitim u rješavanju modernih industrijskih sukoba. Ovaj rastući jaz između potreba tržišta rada i kapaciteta tradicionalnih sudskih sistema povećao je značaj alternativnog rješavanja sporova u radnim odnosima. Mehanizmi alternativnih rješavanja sporova uključujući mirenje, medijaciju, arbitražu i, u novije vrijeme, online rješavanje sporova, nude fleksibilan, efikasan i participativan pristup sprečavanju i rješavanju industrijskih sporova (Pandey 2025, 284).

1. UPOREDNI POKAZATELJI ZAKONSKIH RJEŠENJA U POSTUPCIMA MIRONOG RJEŠAVANJA RADNIH SPOROVA

Godine 1790. donesena je Francuska uredba koja je u sebi sadržavala francuski koncept mirenja. Taj koncept je osnovan po uzoru buržoaske revolucije koji je implementiran u Zakon o

parničnom postupku iz 1806. tzv. *Code de procédure civile*. Napoleon je taj zakon širio svojim osvajanjima i tako je taj model mirenja, čija je glavna osobina da prethodi parnicama, ušao u sve pravne sisteme koji su nastali nakon Napoleonovih osvajanja. Danas u Francuskoj mirenje može biti provedeno u svim stepenima suđenja i postupka. U Engleskoj su, takođe, bile mirovne sudije još od srednjovjekovnih vremena, ali različiti od onih u Francuskoj. Oni su bili državni dužnosnici koji su rješavali sporove, ali ne primjenom prava, već su se pozivali na zdrav razum i društvene konvencije. U Engleskoj, u industrijskom i radnom pravu, do upotrebe mirnog rješavanja sporova dolazi početkom 19. vijeka kao privatne inicijative blisko vezane uz preduzetničke poduhvate. Tako 1824. godine na snagu dolazi propis koji ističe obavezu da se radni i industrijski sporovi iznose ispred mirovnog sudije ili mirovnog vijeća koje se sastoji od jednakog broja poslodavaca i zaposlenih (Milašinčić 2022, 124).

Američki profesor Frank Sander pozvao je američke advokate i sudije da redefinišu građanske sudove kao skup postupaka za rješavanje sporova prilagođenih raznim sporovima koje stranke iznose pred pravosudni sistem. Vizija profesora Sander o pravosudnom sistemu obuhvatala je tradicionalne parnice koje vode do suđenja, ali njegov govor na konferenciji Roscoe Pound 1976. godine skrenuo je pažnju na alternative tradicionalnom rješavanju sporova za koje je tvrdio da bi bolje služile stranama u sporu i društvu od tradicionalnih suparničkih procesa. Danas je interes za rješavanje sporova velik (R. Hensler 2017, 349).

Član 6. Evropske konvencije o ljudskim pravima odnosi se na pravo na pravično suđenje. Kritičari dovode u pitanje da li je obavezna medijacija legitiman proces u svjetlu ovih odredbi. U tom smislu, Sud pravde EU je potvrdio da obavezna medijacija ne predstavlja kršenje člana 6(1) Evropske konvencije o ljudskim pravima o pravu na pravično suđenje (Kepuladze 2023, 105).

Vladavina prava nalaže mirno rješavanje sporova na dostupnim pravnim forumima. Radna prava su često ukorijenjena u ustavnim demokratijama. Budući da složena radna pitanja utiču na nečiju egzistenciju, često se stvaraju i specijalizovani forumi „na kojima se radni sporovi razmatraju i mirno rješavaju“ (Smit 2022, 8).

Ono što je zajedničko za sve postupke mirenja jeste da je sam postupak baziran na načelima kojima se insistira, prije svega, na dobrovoljnosti postupka, kao i na tripartizmu, što predstavlja obavezu da u postupku učestvuju predstavnici obe strane i miritelj, odnosno arbitar.

Prema Blackovom pravnom rječniku, tripartitnost je termin koji se primjenjuje na ugovor u kojem postoje tri strane (prve, druge i treće strane) i koji se potpisuje u tri primjerka. Tripartizam je organizacijski okvir radnih odnosa u kojem vlada, sindikat zaposlenih i udruženje poslodavaca sarađuju kako bi ostvarili zajedničke interese i donijeli obostrano korisne odluke kako bi stvorili situaciju u kojoj svi dobijaju. Tripartizam ima za cilj rješavanje radnih sporova stavljanjem vlada, preduzeća i zaposlenih na sličan put. Osigurava da će sve tri strane učestvovati u postupku rješavanja sukoba. Predstavnici strana uključenih u proces su uključeni kako bi se garantovalo ovo učešće. Učešće predstavnika radnika (sindikati), predstavnika poslodavaca (poslovne organizacije) i predstavnika vlade (ministarstva rada, regulatornih tijela, itd.) osigurava da su sva tri glavna aktera zastupljena u procesu rješavanja sporova (Pavithra 2024, 120).

Republička agencija za mirno rješavanje radnih sporova u Srbiji osnovana je Zakonom o mirnom rješavanju radnih sporova, kao posebna organizacija u sistemu državne uprave Republike Srbije, koja se bavi mirnim rješavanjem individualnih i kolektivnih radnih sporova. Postupak pred Republičkom agencijom pokreće se prijedlogom za pokretanje postupka, a jedini izuzetak od dobrovoljnog pokretanja postupka je kolektivni radni spor u djelatnostima od opšteg interesa, na koje se primjenjuje minimum procesa rada u skladu sa zakonom koji reguliše obustavu rada. U tim slučajevima direktor Republičke agencije za mirno rješavanje radnih sporova postupak pokreće po službenoj dužnosti.

Što se tiče individualnih sporova, rad Agencije je ograničen na sporove koji imaju za predmet samo otkaz ugovora o radu i isplatu minimalne zarade. Ovo ima za posljedicu da bilo koja druga prava, koja su povrijeđena od strane poslodavca u odnosu na individualnog radnika, ne mogu biti predmet rješavanja od strane ove Agencije. Što se tiče kolektivnih radnih sporova, predmet

rješavanja su oni sporovi koji su nastali u vezi sa zaključenjem, izmjenom i dopunom kolektivnog ugovora, ostvarivanje prava na sindikalno organizovanje i štrajk. Sva druga kolektivna prava se ne mogu razmatrati ovom metodom mirnog rješavanja radnih sporova (Počuča i Mirković 2009, 110).

Na godišnjem nivou u Hrvatskoj se u postupku sudskog mirenja, riješi oko 177 predmeta. Kako bi se potaknula svijest o prednostima mirnog rješavanja sporova te ojačali kapaciteti sistema koji bi se bavio postupcima mirnog rješavanja sporova i medijacije, 2023. godine donesen je Zakon o mirnom rješavanju sporova. Njime se dodatno osnažio postupak mirnog rješavanje sporova i povećala se ažurnost i efikasnost sudova. Budući da pri redovnim sudovima uglavnom postoji značajan broj radnih sporova koji se odnose na tužbene zahtjeve vezane za naknadu štete zbog ozljeda na radu, profesionalnih bolesti i mobinga, Zavod za unapređivanje zaštite na radu Hrvatske, predlaže strankama u navedenim sporovima kao i svakoj budućoj situaciji da dobrovoljno pokreću postupke mirnog rješavanja sporova kako bi se smanjili troškovi stranaka, skratilo vrijeme njihovog rješavanja, rasteretili sudovi, postigao sporazum stranaka o nagodbi na njihovo obostrano zadovoljstvo i održali korektni odnosi samih stranaka.

Odredbe Zakona o radu Republike Hrvatske u pogledu ostvarivanja zaštite prava iz radnog odnosa na nedvosmislen način propisuju *sui generis* obavezan način mirnog rješenja spora. U okolnostima kad poslodavac prihvati zahtjev radnika za zaštitu prava iz radnog odnosa iako ne dolazi do formalnog sklapanja nagodbe (kao npr. u slučajevima medijacije ili sudske nagodbe), poslodavac prihvatanjem zahtjeva radnika jednostrano mijenja odluku kojom je radniku bilo povrijeđeno pravo. Moguća je i situacija da radnik nakon primitka negativnog odgovora poslodavca prihvati argumente koje je poslodavac iznio i odustane od traženja daljnje zaštite pred sudom. U oba opisana slučaja odredbama samog zakona radniku i poslodavcu (ugovornim stranama ugovora o radu) pružena je mogućnost rješenja nastalog spornog odnosa. Pri tom se propisivanjem kratkih rokova za podnošenje zahtjeva i odgovora na zahtjev te daljnjeg obraćanja sudu vodilo računa o nužnosti brzog rješenja spornog odnosa što je u okolnostima povreda prava iz radnog odnosa nužno budući da se radi o pitanjima koja zadiru u osnovnu egzistenciju radnika.

U Mađarskoj je koncept kolektivnog radnog spora uveden 1989. godine, nakon pada socijalističkog državnog režima. Zakon predviđa medijaciju i arbitražu za rješavanje kolektivnih radnih sporova. Ona je obavezna i uvijek predhodi rješavanju spora u okviru redovne nadležnosti državnih sudova. Dosadašnja praksa je pokazala zavidan nivo efikasnosti rješavanja sporova ovim putem, što se naročito pozitivno reflektovalo na privrednu aktivnost u ovoj zemlji, što ima za posljedicu smanjenje štrajkova radnika, naročito onih koji su zaposleni u državnim institucijama (Počuča i Mirković 2009, 113).

U Sloveniji ne postoji nacionalna agencija koja pruža uslugu intervencije od treće strane u radnim sporovima. Takva procedura, u formi arbitraže i medijacije, isključivo je regulisana kolektivnim ugovorima, što ima za posljedicu postojanje raznih odbora koji utvrđuju određena osnovna proceduralna pravila. Ovaj proces tzv. dogovorenog redoslijeda, pokazao se veoma efikasnim tako da su skoro svi kolektivni radni sporovi rješavani na ovaj način, mada je bilo i sporova koji su završili na sudu (Počuča i Mirković 2009, 114).

Takođe, u Španiji postoje dvije vrste postupaka mirenja: predsudsko i sudsko mirenje. Predsudsko administrativno mirenje je obavezno za individualne radne sporove u privatnom sektoru, uz neke izuzetke za određene jurisdikcije. Nepojavljivanje bilo koje strane povlači za sobom novčanu kaznu. Ako mirenje završi bez dogovora, strankama će biti otvoren put da se obrate sudskim putem. U Velikoj Britaniji, rano mirenje smatrano je neophodnim procesom prije podnošenja zahtjeva koji bi izbjegao „previše skupe, dugotrajne i složene postupke pred sudovima za radne sporove“. U Australiji i Belgiji, specijalizovani sud je zadužen za pojedinačne sporove. U slučaju Australije, postoji praksa besplatnog telefonskog mirenja u području njene nadležnosti (tj. prava na otkaz). Potrebno je spomenuti da je mirenje putem telefona (umjesto sastanaka licem u lice) bila kontroverzna inicijativa. Međutim, istraživački dokazi ukazuju na to da je telefonsko mirenje uglavnom bilo brzo i efikasno, postižući nagodbu u oko četiri petine slučajeva nepravednog otkaza (Kepu-

ladze 2023, 105-106).

Ubrzanim napretkom informaciono-komunikacionih tehnologija od 2000. godine, *online* rješavanje sporova (engl. *Online Dispute Resolution - ODR*) privlačilo je sve više pažnje, posebno u Sjedinjenim Američkim Državama te je bilo pitanje vremena kada će se početi primjenjivati u Evropi. ADR podrazumijeva konvencionalne metode vansudskog rješavanja sporova (medijacija, arbitraža), uz prisustvo treće strane (medijator, arbitar) u realnom vremenu i prostoru. Koncepti i ciljevi ODR-a identični su onima iz ADR-a i zasnovani su na nepristrasnosti, transparentnosti, efektivnosti, pravičnosti i zakonitosti, dok je najočiglednija razlika u sredstvu koje se koristi za rješavanje sporova: ADR koristi direktnu ljudsku interakciju, dok ODR koristi programirani softver (Selesković 2023, 274-275).

Preciznije, ODR je nusprodukt stalno širećeg područja rješavanja sporova i napretka informacionih tehnologija. Od 2000. godine, ODR je dobio mnogo pažnje jer su ga organizacije počele koristiti kako bi profitirale od njegovih prednosti poput fleksibilnosti, isplativosti i tako dalje. Iako su se ODR programi prvobitno pojavili u Sjedinjenim Američkim Državama (Philadelphia, Univerzitet Villanova), bilo je samo pitanje vremena kada će se proširiti po Evropi (Mokhinur 2022, 527). Svakako da je cilj svake države da ima što uređenije zakonodavstvo i zaokružen pravni sistem, tako da će se u doglednoj budućnosti raditi na tome da se većina radnih sporova rješava ovim putem.

2. MIRNO RJEŠAVANJE RADNIH SPOROVA U ZAKONODAVSTVU BOSNE I HERCEGOVINE

Istorija mirnih načina rješavanja (kolektivnih) radnih sporova u Bosni i Hercegovini seže do perioda poslije Drugog svjetskog rata, doduše, u obliku prilagođenom tadašnjem odnosu radnika, sindikata i poslodavca. Mirenje i arbitraža kao mirni načini rješavanja radnih sporova našli su svoje mjesto i u prvim entitetskim zakonima o radu usvojenim krajem 1990-ih godina. Pitanje mirnog rješavanja radnih sporova danas je predmetom posebnih zakona o mirnom rješavanju radnih sporova usvojenih u Federaciji BiH i Republici Srpskoj, dok se ovo pitanje u Brčko distriktu BiH i dalje uređuje Zakonom o radu Brčko distrikta BiH. Kao dodatni propisi relevantni za ovo pitanje su i entitetski zakoni o štrajku (Grubešić 2023, 303).

Kada govorimo o modalitetima mirnog načina rješavanja kolektivnih radnih sporova, Zakon o mirnom rješavanju radnih sporova Federacije BiH predviđa mirenje i arbitražu, Zakon o radu Brčko distrikta BiH takođe, ali u vrlo oskudnom obliku, dok Zakon o mirnom rješavanju radnih sporova Republike Srpske predviđa isključivo mirenje. Osnovno načelo na kojem se temelje mirenje i arbitraža, prema navedenim propisima, je načelo dobrovoljnosti. Već se, u uvodnim odredbama oba entitetska zakona, navodi da strane u sporu dobrovoljno odlučuju da li će pokrenuti postupak mirenja, odnosno, arbitraže u Federaciji BiH. Zakon u Federaciji BiH predviđa nužnu saglasnost obe strane u sporu, bez obzira o kojoj vrsti kolektivnog radnog spora se radi, obzirom da se postupak mirenja i arbitraže može inicirati na prijedlog jedne od strana. Načelo dobrovoljnosti se ogleda i u slobodi stranaka da imenuju miritelje i arbitre sa ponuđene liste (Grubešić 2023, 304).

Agencija za mirno rješavanje radnih sporova u Republici Srpskoj osnovana je Odlukom Vlade Republike Srpske 2009. godine, kao javna ustanova sa sjedištem u Banjaluci, za obavljanje poslova mirnog rješavanja individualnih i kolektivnih radnih sporova. Sa radom je počela 2010. godine obavljajući poslove koji se odnose na:

- 1) mirno rješavanje radnih sporova,
- 2) određivanje arbitara ili miritelja za postupanje u konkretnom sporu,
- 3) vođenje Imenika arbitara i miritelja,
- 4) edukaciju i stručno usavršavanje arbitara i miritelja,
- 5) evidenciju postupaka mirnog rješavanja radnih sporova i
- 6) druge poslove utvrđene zakonom.

U skladu sa Zakonom o mirnom rješavanju radnih sporova Republike Srpske, organi Agencije su Upravni odbor i direktor koje, nakon provedenog postupka javne konkurencije, imenuje i razrješava Vlada Republike Srpske na period od četiri godine.

Postupak mirnog rješavanja radnih sporova pokreće se podnošenjem prijedloga Agenciji, nakon čega se određuje arbitar ili miritelj koji će da postupa po istom. Nakon okončanog postupka, arbitar, odnosno miritelj dužan je da podnesu izvještaj Agenciji. Kroz ovaj postupak, uz djelovanje arbitara i miritelja, rješavaju se individualni i pravni, odnosno interesni kolektivni radni sporovi, koji se okončavaju pred Agencijom za mirno rješavanje radnih sporova, bez podnošenja tužbe nadležnom sudu.

Do donošenja prvog zakona o radu u Federaciji, prilagođenog tržišnom načinu privređivanja, alternativni načini rješavanja radnih sporova, uglavnom su bili vezani za kolektivne radne sporove, zasnivajući se, prvenstveno, na međunarodnim standardima utvrđenim od strane Međunarodne organizacije rada. Stupanjem na snagu Zakona o radu Federacije Bosne i Hercegovine 1999. godine, konačno je normirana mogućnost rješavanja individualnih radnih sporova. Dakle, u smislu odredbe čl. 103. stav (4) i (5) Zakona, postojala je mogućnost da se kolektivnim ugovorom ili pravilnikom o radu, u skladu sa zakonom, provede postupak mirnog rješavanja radnog spora, te ukoliko se postupak ne okonča u skladu sa stavom (4) ovog člana u razumnom roku, zaposlenik ima pravo da podnese tužbu nadležnom sudu (Selesković 2023, 262).

U Federaciji Bosne i Hercegovine ne postoji jedinstvena agencija za mirno rješavanje radnih sporova slična Agenciji u Republici Srpskoj. Postupajući u skladu sa Zakonom o mirnom rješavanju radnih sporova u Federaciji Bosne i Hercegovine, često se oslanjajući na odredbe Zakona o radu Federacije Bosne i Hercegovine, mirno rješavanje kolektivnih i individualnih radnih sporova vrši se putem mirovnih vijeća. Postupak uključuje mirenje i arbitražu, a provode ga ovlašćeni miritelji i arbitri s liste koju utvrđuje Federalno ministarstvo rada i socijalne politike. Mirovna vijeća rješavaju kolektivne sporove (npr. štrajkovi, kolektivni ugovori), dok miritelji/arbitri, u slučajevima kada se stranke dogovore, rješavaju individualne sporove (npr. otkaz, plate). Postupak je besplatan i dobrovoljan i često se brže rješava od sudskog postupka.

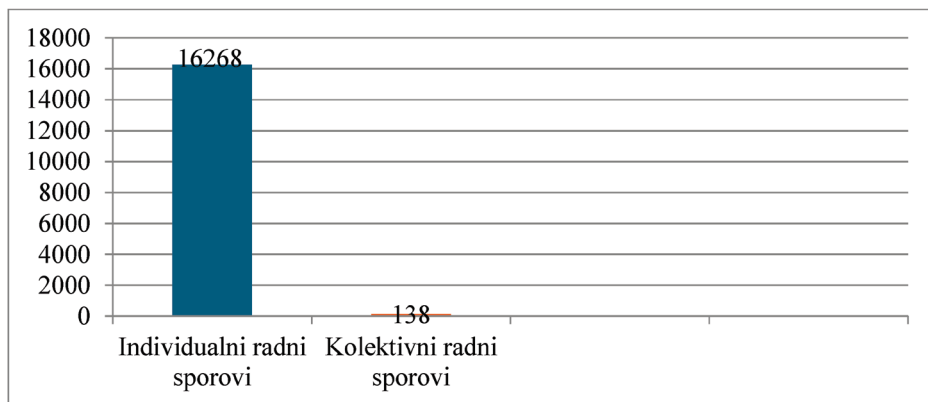
Načelo dobrovoljnosti predviđeno je i Zakonom o radu Brčko distrikta BiH, kojim se, u svega nekoliko članova ističe da stranke u (kolektivnom radnom) sporu mogu pokrenuti postupak mirenja ili postupak arbitraže. Dobrovoljnost se ogleda i u tome da stranke imenuju jednog člana (od ukupno tri) mirovnog vijeća, a u pogledu arbitražnog vijeća, isto se imenuje u skladu sa kolektivnim ugovorom ili sporazumom strana u sporu (Grubešić 2023, 305).

Posmatrajući pravni okvir mirnih načina rješavanja radnih sporova u BiH, zaključujemo da je nužno usvojiti odgovarajući propis u Brčko distriktu BiH po uzoru na entitetske zakone o mirnom rješavanju radnih sporova, obzirom na to da postojećih nekoliko odredbi u okviru Zakona o radu nedovoljno definišu datu materiju. Pravno uređenje postupka mirenja u oba entitetska usklađeno je sa standardima predviđenim u konvencijama MOR-a i aktima Vijeća Evrope (Grubešić 2023, 307).

3. REZULTATI ISTRAŽIVAČKOG DIJELA SA DISKUSIJOM

Po zakonu o mirnom rješavanju radnih sporova Republike Srpske, postupak mirenja je vođen od strane mirovnog vijeća sastavljenog od lica sa liste miritelja i arbitara i iako je, u odnosu na zakon u Federaciji BiH, predviđen nešto drugačiji režim pokretanja postupka, zavisno od toga da li je riječ o pravnom ili interesnom kolektivnom radnom sporu, na jedinstven način je uređeno pitanje okončanja postupka i pravne snage odluke vijeća. Prilikom okončanja postupka, mirovno vijeće je dužno uputiti prijedlog rješenja spora, koji nije obavezujući za stranke i ukoliko se iste ne usaglase sa prijedlogom, smatraće se da je postupak okončan bezuspješno. Međutim, davanjem saglasnosti na sporazum, isti postaje obavezujući za stranke, sa svojstvom konačne i izvršne isprave (Grubešić 2023, 306).

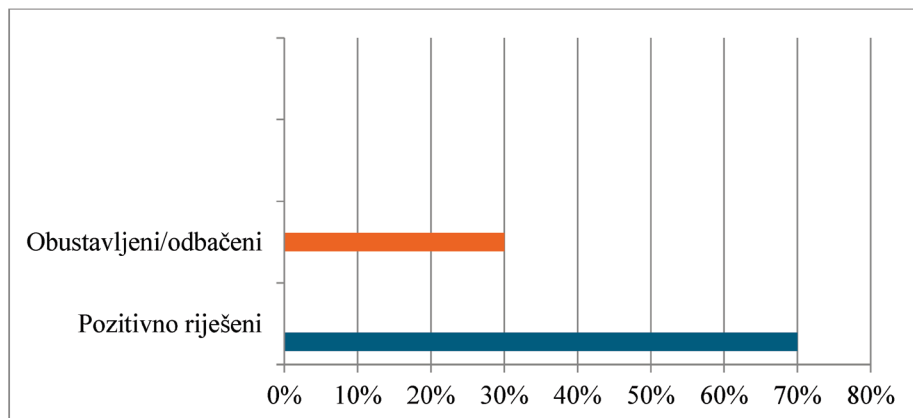
Nakon provedenog istraživačkog dijela metodom intervjua te prikupljanjem i analiziranjem dostupnih informacija, kalkulacijom autora, utvrđeno je da je u periodu od 1. juna 2010. godine do 31. decembra 2025. godine, pred Agencijom za mirno rješavanje radnih sporova Republike Srpske, zaprimljeno ukupno 16.406 predmeta, od kojih se 16.268 odnosilo na pokretanje individualnih radnih sporova, među kojima su i tri predmeta koja su pokrenuta radi pribavljanja saglasnosti na otkaz ugovora o radu izabranom predstavniku radnika u savjetu radnika ili u organima sindikata, dok se 138 predmeta odnosilo na pokretanje kolektivnih radnih sporova.



Grafikon 1. Prikaz pokrenutih individualnih i kolektivnih radnih sporova (autori)

Takođe, od zaprimljenih 16.406 predmeta, okončano je 16.259 predmeta i to 16.121 predmet koji se odnosio na pokretanje individualnih radnih sporova, među kojima su i tri predmeta za pribavljanje saglasnosti na otkaz ugovora o radu izabranom predstavniku radnika u savjetu radnika ili u organima sindikata. U navedenom vremenskom periodu, okončano je i svih 138 predmeta koji su se odnosili na kolektivne radne sporove.

Iz navedenog se može zaključiti da je od ukupnog broja zaprimljenih predmeta, 99,10% okončanih predmeta od čega je oko 70% pozitivno riješenih. U ostalih 30% su predmetni koji su okončani na način da je postupak obustavljen, jer između strana u sporu nije bilo moguće postići kompromisno rješenje, kao i neznatan broj onih u kojima je došlo do odbacivanja prijedloga zbog nenadležnosti, neblagovremenosti ili nedopuštenosti.



Grafikon 2. Odnos pozitivno riješenih naspram obustavljenih/odbačenih prijedloga za pokretanje postupka mirnog rješavanja radnih sporova (autori)

Tri postupka koja su pokrenuta pred Agencijom radi pribavljanja saglasnosti na otkaz ugovora o radu izabranom predstavniku radnika u savjetu radnika ili u organima sindikata, okončana su na način da je u jednom uskraćena saglasnost, u drugom je utvredno da sindikalna organizacija, čiji je predsjednik bio strana u sporu, ne ispunjava uslove reprezentativnosti i u trećem da je postupak pokrenut neblagovremeno.

Postupak mirnog rješavanja radnog spora je besplatan i u prosjeku traje oko 45 do 60 dana, a kao najčešći predmet spora u individualnim radnim sporovima odnosi se na plate, prestanak radnog odnosa (otkaz), doprinosi, otpremnine, troškovi prevoza, godišnji odmor, regres za korišćenje godišnjeg odmora, jubilarna nagrada i drugo. Interesni kolektivni radni sporovi su veoma rijetki, a inače se pokreću povodom zaključivanja kolektivnog ugovora.

Preventivna uloga je u poslednjim godinama izuzetno značajna i pokazala se kao veoma efikasna, jer je sve veći broj radnika i poslodavaca koji traže stručni savjet kako i na koji način treba da postupe u određenoj situaciji kako bi izbjegli eventualni radni spor.

Budućnost alternativnog rješavanja sporova u radnim odnosima je obećavajuća, ali nekoliko pitanja i zabrinutosti i dalje osporava njegovu efikasnu primjenu. Ove zabrinutosti se moraju riješiti kako bi se osiguralo da alternativno rješavanje sporova ostane kredibilan, efikasan i mehanizam prilagođen radnicima. Alternativno rješavanje sporova ima ogroman potencijal da oblikuje budućnost rješavanja radnih sporova, a njegov uspjeh zavisi od rješavanja pitanja kao što su pravna jasnoća, digitalna pismenost, nepristrasnost, mehanizmi provođenja i neravnoteža moći. Jačanje institucija i osiguravanje procesa prilagođenih radnicima biće ključni za pravedan i održiv okvir alternativnih rješavanja sporova. Izazovi i dalje postoje, uključujući nedostatak svijesti, neravnotežu moći između poslodavaca i radnika, nedostatak kvalificiranih neutralnih stručnjaka, ograničenu provedbu ishoda alternativnog rješavanja sporova i institucionalna ograničenja. Osim toga, novi oblici radnih odnosa (platformski radnici, nezavisni izvođači radova, neformalni rad) zahtijevaju ažurirane modele rješavanja sporova. Budućnost alternativnog rješavanja sporova u radnim odnosima ovisi o jačanju pravnog priznanja, poboljšanju obuke i izgradnje kapaciteta, ulaganju u tehnologiju i osiguravanju pravednosti za ranjive radnike. Ako se efikasno provede, alternativno rješavanje sporova može postati temelj modernih industrijskih odnosa stvaranjem bržih, isplativih i skladnih rješenja koja podržavaju socio-ekonomsku pravdu i održivi industrijski rast (Pandey 2025, 296-297).

ZAKLJUČAK

Na osnovu dosadašnjeg iskustva može se konstatovati da se Zakon o mirnom rješavanju radnih sporova pokazao kao veoma dobar, da su rješenja koja su u njemu sadržana adekvatna pravnim i društvenim odnosima našeg sistema. Prednosti rješavanja sporova posredstvom Agencije za mirno rješavanje radnih sporova, jesu da su procedure kraće i sporovi se rješavaju brže, u prosjeku za oko 45 do 60 dana, a postupak je potpuno besplatan. Samim uvidom u broj pokrenutih predmeta, da se zaključiti da radnici znaju kome da se obrate u ovim slučajevima. Takođe, veliki broj zahtjeva od strane i radnika i poslodavaca upućuje se Agenciji za stručnu pomoć, u smislu njene preventivne uloge, što znači da i radnici i poslodavci vjeruju u rad ove Agencije.

Određene nejasnoće koje se pojavljuju su posljedica nedorečenosti u usvojenim rješenjima na koje se nailazi u toku rada, a sve u zavisnosti od predmeta do predmeta. Činjenica da je u periodu od 15 godina, od ukupnog broja pokrenutih predmeta, njih 99,10% okončanih, od čega je oko 70% pozitivno riješenih, u konačnici predstavlja izrazito profesionalan i odgovoran pristup radu i obavljanju svojih nadležnosti te daje zaključak da je Agencija opravdala svoje postojanje.

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RESULTS OF THE WORK OF THE AGENCY FOR PEACEFUL SETTLEMENT OF LABOR DISPUTES IN REPUBLIC OF SRPSKA IN THE PERIOD 2010-2025

Summary: *By decision of the Government of the Republic of Srpska in 2009, the Agency for the Peaceful Resolution of Labor Disputes in the Republic of Srpska was established. Through the peaceful resolution of labor disputes, which are conducted before the Agency, with the help of arbitrators and conciliators, individual and legal, or interest-based collective labor disputes are resolved, without filing a lawsuit with the competent court. The aim of this paper is to present the results of the work of the Agency from June 1, 2010 to December 31, 2025. A period of 15 years represents an ideal time frame in order to analyze the results of the work of such an Agency based on the collected results. Using the interview method, the comparative method, and the collection and analysis of available information, the author's calculation determined that a total of 16.406 cases were received in the aforementioned period. Of the 16.259 completed cases, about 70% were resolved positively. The advantages of resolving disputes through the Agency are that procedures are shorter and disputes are resolved faster; on average in about 45 to 60 days, and the procedure is completely free of charge. Just by looking at the number of cases initiated, it can be concluded that workers know who to turn to in these cases, and that the Agency has justified its existence.*

Keywords: *Republic of Srpska, labor disputes, arbitrator, conciliator, collective labor disputes, individual labor disputes.*

JEL classification: *K15, K31, K40, K49, J7*

INTRODUCTION

An employment relationship is a relationship between an employer and an employee, which is based on the conclusion of an employment contract, a decision on admission, a decision on selection and appointment and other legal grounds regulated by a special law. An employment relationship is always bilateral, and the rights, obligations and responsibilities arising from the employment relationship, both for the employee and the employer, arise on the day the employee starts work.

According to the legal definition, a labor dispute is a dispute between employees and employers regarding interests of an economic, professional or social nature or rights arising from the development of labor or service relations. Labor disputes can be collective or individual. A collective labor dispute is a labor dispute that arises between employees and employers, the purpose of which is to initiate, conduct or conclude negotiations on collective agreements or agreements. Individual labor disputes are labor disputes whose subject matter is the exercise of certain rights

or fulfillment of obligations arising from individual and collective labor contracts or from collective labor contracts and employment relations of civil servants, as well as from laws or other normative acts (Volosevici 2021, 56-57).

The legal system, legal profession and legal institutions are adapting to the challenges of time and the environment, and in the process of changing the traditional dispute resolution system, a number of new ways of resolving disputes, led by mediation, are available, which are called alternative dispute resolution methods. Mediation is a method for constructive and voluntary resolution or avoidance of conflict in a dispute. The parties in the mediation process, with the help of a third neutral person (mediator), try to resolve the dispute and reach an acceptable agreement that is in their interest. Disputes are attempted to be resolved through dialogue, rather than through court, lengthy and expensive procedures. The procedure is faster and more flexible, the parties have influence on the final decision, which tends to be mutually acceptable, based on law, but also to satisfy the interests of the parties, because the conflict is resolved and attempts are made to improve relations between the parties, and the final solution has the force of an executive document (Haubrich 2025, 163-164).

The growing popularity of mediation has been contributed to by the International Labour Organization. Thus, the conciliation procedure in individual labour disputes was established in 1951 by ILO Recommendation No. 92 on Voluntary Conciliation and Arbitration. The Recommendation refers to the peaceful settlement of industrial disputes between employers and workers, which is based on the principles of voluntariness, joint participation and equal representation of workers and employers, as well as the principles of free and efficient mediation. Although the Recommendation is aimed at resolving collective disputes, there are no formal obstacles that prevent it from being applied to resolving individual labour disputes. The Recommendation also pays attention to the nature of the agreement on the settlement of the dispute, which must be in writing and have the same legal force as agreements concluded in regular circumstances. The peaceful settlement of disputes is further addressed by the ILO Convention on Collective Bargaining from 1981 (No. 154) (Selesković 2023, 265).

With regard to issues relating to the nature of the employment relationship and informal work, the Employment Relations Recommendation, 2006 (No. 198) calls on the competent authorities to adopt measures to ensure compliance with and enforcement of laws and regulations relating to the employment relationship, including mechanisms for the settlement of disputes. It also indicates that the national policy referred to in the Recommendation should include measures to ensure effective access to appropriate, prompt, inexpensive, fair and efficient procedures and mechanisms for the settlement of disputes concerning the existence and conditions of employment. Recommendation No. 198 adds in paragraph 14 that “the settlement of disputes concerning the existence and conditions of employment should be a matter for industrial or other tribunals or arbitration bodies to which workers and employers have effective access in accordance with national law and practice”. In a similar vein, the Transition from the Informal to the Formal Economy Recommendation, 2015 (No. 204), also calls on members to establish mechanisms to ensure compliance with national laws and regulations that ensure the recognition and enforcement of employment relationships. It is important to note that this is not limited to employment relationships, but rather requires members to establish appropriate mechanisms or review existing mechanisms to ensure compliance with national laws and regulations to facilitate the transition to the formal economy (Koukiadaki 2020, 7).

Labor relations around the world are experiencing rapid and profound changes. Globalization, technological progress, changes in economic structures and the emergence of new forms of work - such as gig and platform employment - are changing the traditional relationship between employer and employee. In this changing environment, disputes arising from remuneration, working conditions, job security and organizational restructuring have become increasingly complex. Conventional dispute resolution mechanisms, such as labor courts and tribunals, often suffer from delays, procedural rigidity and high costs, making them less effective in resolving

modern industrial disputes. This growing gap between the needs of the labor market and the capacity of traditional court systems has increased the importance of alternative dispute resolution in labor relations. Alternative dispute resolution mechanisms including conciliation, mediation, arbitration and, more recently, online dispute resolution, offer a flexible, efficient and participatory approach to the prevention and resolution of industrial disputes (Pandey 2025, 284).

1. COMPARATIVE INDICATORS OF LEGAL SOLUTIONS IN PROCEDURES FOR THE AMICABLE RESOLUTION OF LABOR DISPUTES

In 1790, a French Decree was passed that contained the French concept of conciliation. This concept was based on the model of the bourgeois revolution and was implemented in the Civil Procedure Code of 1806, the so-called *Code de procédure civile*. Napoleon spread this law with his conquests and thus this model of conciliation, whose main feature is that it precedes litigation, entered all legal systems that emerged after Napoleon's conquests. Today in France, conciliation can be carried out at all levels of trial and procedure. In England, there have also been justices of the peace since medieval times, but they were different from those in France. They were state officials who resolved disputes, but not by applying the law, but referred to common sense and social conventions. In England, in industrial and labor law, the use of peaceful dispute resolution came at the beginning of the 19th century as a private initiative closely related to entrepreneurial ventures. Thus, in 1824, a regulation came into force that emphasized the obligation to bring labor and industrial disputes before a justice of the peace or a peace council consisting of an equal number of employers and employees (Milašinčić 2022, 124).

American professor Frank Sander called on American lawyers and judges to redefine civil courts as a set of dispute resolution procedures adapted to the variety of disputes brought before the judicial system by parties. Professor Sander's vision of the judicial system included traditional litigation leading to trial, but his speech at the Roscoe Pound Conference in 1976 drew attention to alternatives to traditional dispute resolution that he argued would serve the parties and society better than traditional adversarial processes. Today, interest in dispute resolution is high (R. Hensler 2017, 349).

Article 6 of the European Convention on Human Rights concerns the right to a fair trial. Critics question whether mandatory mediation is a legitimate process in light of these provisions. In this regard, the Court of Justice of the EU has confirmed that mandatory mediation does not constitute a violation of Article 6(1) of the European Convention on Human Rights on the right to a fair trial (Kepuladze 2023, 105).

The rule of law requires the peaceful resolution of disputes in accessible legal forums. Labor rights are often entrenched in constitutional democracies. Because complex labor issues affect one's livelihood, specialized forums are often created "in which labor disputes are considered and peacefully resolved" (Smith 2022, 8).

What is common to all mediation procedures is that the procedure itself is based on principles that insist primarily on the voluntariness of the procedure, as well as on tripartism, which represents the obligation for representatives of both parties and a mediator, or arbitrator, to participate in the procedure.

According to Black's Legal Dictionary, tripartism is a term applied to a contract in which there are three parties (first, second and third parties) and which is signed in triplicate. Tripartism is an organizational framework for labor relations in which the government, the labor union, and the employers' association cooperate to achieve common interests and make mutually beneficial decisions to create a win-win situation. Tripartism aims to resolve labor disputes by putting governments, businesses, and employees on a similar path. It ensures that all three parties will participate in the dispute resolution process. Representatives of the parties involved in the process are included to guarantee this participation. The participation of workers' representatives

(unions), employers' representatives (business organizations), and government representatives (labor ministries, regulatory bodies, etc.) ensures that all three main actors are represented in the dispute resolution process (Pavithra 2024, 120).

The Republic Agency for Peaceful Resolution of Labor Disputes in Serbia was established by the Law on Peaceful Resolution of Labor Disputes, as a special organization in the state administration system of the Republic of Serbia, which deals with the peaceful resolution of individual and collective labor disputes. The procedure before the Republic Agency is initiated by a proposal to initiate the procedure, and the only exception to the voluntary initiation of the procedure is a collective labor dispute in activities of general interest, to which the minimum work process is applied in accordance with the law regulating the suspension of work. In such cases, the Director of the Republic Agency for Peaceful Resolution of Labor Disputes initiates the procedure *ex officio*. As for individual disputes, the work of the Agency is limited to disputes that have as their subject only the termination of the employment contract and the payment of the minimum wage. This has the consequence that any other rights that have been violated by the employer in relation to the individual worker cannot be the subject of resolution by this Agency. As for collective labor disputes, the subject of resolution are those disputes that arose in connection with the conclusion, amendment and supplement of a collective agreement, the exercise of the right to organize a union and strike. All other collective rights cannot be considered by this method of peaceful resolution of labor disputes (Počuča and Mirković 2009, 110).

At the judicial level in Croatia, about 177 cases are resolved in the court conciliation procedure. In order to raise awareness of the benefits of peaceful dispute resolution and to strengthen the capacities of the system dealing with peaceful dispute resolution and mediation procedures, the Law on Peaceful Dispute Resolution was adopted in 2023. It additionally strengthened the procedure for the peaceful resolution of disputes and increased the promptness and efficiency of the courts. Since there are generally a significant number of labor disputes in regular courts that relate to lawsuits related to compensation for damages due to injuries at work, occupational diseases and mobbing, the Institute for the Improvement of Occupational Safety in Croatia suggests to the parties in the aforementioned disputes, as well as in any future situation, that they voluntarily initiate procedures for the peaceful resolution of disputes in order to reduce the costs of the parties, shorten the time of their resolution, relieve the courts, reach an agreement between the parties on a settlement to their mutual satisfaction and maintain correct relations between the parties themselves. The provisions of the Labor Law of the Republic of Croatia regarding the protection of rights from the employment relationship unambiguously prescribe a *sui generis* mandatory method of peaceful dispute resolution. In circumstances where the employer accepts the employee's request for protection of rights from the employment relationship even though no formal settlement is reached (such as in cases of mediation or court settlement), the employer unilaterally changes the decision by which the employee's right was violated by accepting the employee's request. It is also possible for the employee, after receiving a negative response from the employer, to accept the arguments presented by the employer and give up seeking further protection before the court. In both described cases, the provisions of the law itself provided the employee and the employer (contractual parties to the employment contract) with the possibility of resolving the disputed relationship. At the same time, by prescribing short deadlines for submitting requests and responding to requests and further appeals to the court, the need for a quick resolution of the disputed relationship was taken into account, which is necessary in the circumstances of violations of rights from the employment relationship, since these are issues that encroach on the basic existence of workers.

In Hungary, the concept of a collective labor dispute was introduced in 1989, after the fall of the socialist state regime. The law provides for mediation and arbitration to resolve collective labor disputes. It is mandatory and always precedes the resolution of disputes within the regular jurisdiction of state courts. Previous practice has shown an enviable level of efficiency in resolving

disputes in this way, which has had a particularly positive impact on economic activity in this country, which has resulted in a decrease in strikes by workers, especially those employed in state institutions (Počuča and Mirković 2009, 113).

In Slovenia, there is no national agency that provides third-party intervention services in labor disputes. Such a procedure, in the form of arbitration and mediation, is exclusively regulated by collective agreements, which has resulted in the existence of various committees that establish certain basic procedural rules. This process of the so-called agreed order has proven to be very efficient, so that almost all collective labor disputes have been resolved in this way, although there have also been disputes that have ended up in court (Počuča and Mirković 2009, 114).

Also, in Spain there are two types of conciliation procedures: pre-trial and judicial conciliation. Pre-trial administrative conciliation is mandatory for individual employment disputes in the private sector, with some exceptions for certain jurisdictions. Failure to appear by either party entails a fine. If the conciliation ends without agreement, the parties will be free to take legal action.

In the UK, early conciliation was considered a necessary pre-application process that would avoid “excessively expensive, lengthy and complex proceedings before the employment tribunals”. In Australia and Belgium, a specialised court is responsible for individual disputes. In the case of Australia, there is a practice of free telephone conciliation in its area of jurisdiction (i.e. the right to dismissal). It should be noted that telephone conciliation (instead of face-to-face meetings) was a controversial initiative. However, research evidence suggests that telephone mediation has generally been quick and effective, achieving a settlement in around four-fifths of unfair dismissal cases (Kepuladze 2023, 105-106).

With the rapid development of information and communication technologies since 2000, online dispute resolution (ODR) has attracted increasing attention, especially in the United States, and it was only a matter of time before it would be implemented in Europe. ADR involves conventional methods of out-of-court dispute resolution (mediation, arbitration), with the presence of a third party (mediator, arbitrator) in real time and space. The concepts and objectives of ODR are identical to those of ADR and are based on impartiality, transparency, effectiveness, fairness and legality, while the most obvious difference is in the means used to resolve disputes: ADR uses direct human interaction, while ODR uses programmed software (Selesković 2023, 274-275).

More precisely, ODR is a by-product of the ever-expanding field of dispute resolution and the advancement of information technologies. Since 2000, ODR has received a lot of attention as organizations have started to use it to benefit from its advantages such as flexibility, cost-effectiveness, etc. Although ODR programs initially emerged in the United States (Philadelphia, Villanova University), it was only a matter of time before they spread to Europe (Mokhinur 2022, 527).

Of course, the goal of every country is to have as well-organized legislation and a well-rounded legal system as possible, so in the foreseeable future, efforts will be made to resolve the majority of labor disputes in this way.

2. PEACEFUL RESOLUTION OF LABOR DISPUTES IN THE LEGISLATION OF BOSNIA AND HERZEGOVINA

The history of peaceful methods of resolving (collective) labor disputes in Bosnia and Herzegovina dates back to the period after World War II, albeit in a form adapted to the then-current relationship between workers, unions, and employers. Conciliation and arbitration as peaceful methods of resolving labor disputes also found their place in the first entity labor laws adopted in the late 1990s. The issue of peaceful resolution of labor disputes is today the subject of special laws on peaceful resolution of labor disputes adopted in the Federation of Bosnia and Herzegovina and Republic of Srpska, while this issue in the Brčko District of BH is still regulated by the Labor Law of the Brčko District of BH. Additional regulations relevant to this issue are the entity laws on strikes (Grubešić 2023, 303).

When we talk about the modalities of peaceful resolution of collective labor disputes, the Law on Peaceful Resolution of Labor Disputes of the Federation of Bosnia and Herzegovina provides for mediation and arbitration, the Labor Law of the Brčko District of BH also, but in a very limited form, while the Law on Peaceful Resolution of Labor Disputes of the Republic of Srpska provides exclusively for mediation. The basic principle on which mediation and arbitration are based, according to the aforementioned regulations, is the principle of voluntariness. The introductory provisions of both entity laws already state that the parties to the dispute voluntarily decide whether to initiate mediation or arbitration proceedings in the Federation of BH. The law in the Federation of BH stipulates the necessary consent of both parties to the dispute, regardless of the type of collective labor dispute, since mediation and arbitration proceedings can be initiated at the proposal of one of the parties. The principle of voluntariness is also reflected in the freedom of the parties to appoint mediators and arbitrators from the list provided (Grubešić 2023, 304).

The Agency for Peaceful Resolution of Labor Disputes in the Republic of Srpska was established by a Decision of the Government of the Republic of Srpska in 2009, as a public institution with its headquarters in Banja Luka, to carry out the tasks of peaceful resolution of individual and collective labor disputes. It began operating in 2010, performing tasks related to:

- 1) peaceful resolution of labor disputes
- 2) appointment of arbitrators or conciliators to act in a specific dispute
- 3) maintaining the Register of arbitrators and conciliators
- 4) education and professional development of arbitrators and conciliators
- 5) records of peaceful resolution of labor disputes procedures and
- 6) other tasks stipulated by law.

In accordance with the Law on Peaceful Resolution of Labor Disputes of the Republic of Srpska, the bodies of the Agency are the Management Board and the Director, who, after a public competition procedure, are appointed and dismissed by the Government of the Republic of Srpska for a period of four years.

The peaceful resolution of labor disputes procedure is initiated by submitting a proposal to the Agency, after which an arbitrator or conciliator is appointed to act on the proposal. After the procedure is completed, the arbitrator or conciliator is obliged to submit a report to the Agency. Through this procedure, with the help of arbitrators and conciliators, individual and legal, or interest-based collective labor disputes are resolved, which are finalized before the Agency for Peaceful Resolution of Labor Disputes, without filing a lawsuit with the competent court.

Until the adoption of the first labor law in the Federation, adapted to the market economy, alternative methods of resolving labor disputes were mainly related to collective labor disputes, based primarily on international standards established by the International Labor Organization. With the entry into force of the Labor Law of the Federation of Bosnia and Herzegovina in 1999, the possibility of resolving individual labor disputes was finally standardized. Therefore, in terms of the provisions of Art. 103, paragraphs (4) and (5) of the Law, there was a possibility to conduct a procedure for amicable resolution of a labor dispute by means of a collective agreement or labor regulations, in accordance with the law, and if the procedure is not completed in accordance with paragraph (4) of this Article within a reasonable time, the employee has the right to file a lawsuit with the competent court (Selesković 2023, 262).

There is no single agency for peaceful resolution of labor disputes in the Federation of Bosnia and Herzegovina similar to the Agency in the Republic of Srpska. Acting in accordance with the Law on Peaceful Resolution of Labor Disputes in the Federation of Bosnia and Herzegovina, often relying on the provisions of the Labor Law of the Federation of Bosnia and Herzegovina, peaceful resolution of collective and individual labor disputes is carried out through peace councils. The procedure includes mediation and arbitration, and is carried out by authorized conciliators and arbitrators from the list established by the Federal Ministry of Labor and Social Policy. Peace

councils resolve collective disputes (e.g. strikes, collective agreements), while conciliators/arbitrators, in cases where the parties agree, resolve individual disputes (e.g. dismissal, salaries). The procedure is free of charge and voluntary and is often resolved faster than court proceedings. The principle of voluntariness is also provided for in the Labor Law of the Brčko District of BH, which, in just a few articles, emphasizes that parties to a (collective labor) dispute may initiate conciliation or arbitration proceedings. Voluntariness is also reflected in the fact that the parties appoint one member (out of a total of three) of the conciliation council, and with regard to the arbitration council, it is appointed in accordance with the collective agreement or agreement of the parties to the dispute (Grubešić 2023, 305).

Observing the legal framework of peaceful methods of resolving labor disputes in BH, we conclude that it is necessary to adopt an appropriate regulation in the Brčko District of BH modeled on the entity laws on peaceful resolution of labor disputes, given that the existing several provisions within the Labor Law insufficiently define the given matter. The legal regulation of the conciliation procedure in both entities is harmonized with the standards provided for in the ILO conventions and the acts of the Council of Europe (Grubešić 2023, 307).

3. RESULTS OF THE RESEARCH PART WITH DISCUSSION

According to the Law on Peaceful Resolution of Labor Disputes of the Republic of Srpska, the mediation procedure is conducted by a peace council composed of persons from the list of mediators and arbitrators, and although, in comparison to the law in the Federation of BH, a slightly different regime for initiating the procedure is provided for depending on whether it is a legal or interest-based collective labor dispute, the issue of completing the procedure and the legal force of the council's decision is regulated in a unique manner. When completing the procedure, the peace council is obliged to submit a proposal for resolving the dispute, which is not binding on the parties, and if they do not agree with the proposal, the procedure will be considered to have been completed unsuccessfully. However, by giving consent to the agreement, it becomes binding on the parties, with the status of a final and enforceable document (Grubešić 2023, 306).

After conducting the research part using the interview method, and collecting and analyzing available information, according to the author's calculations, it was determined that in the period from June 1, 2010 to December 31, 2025, a total of 16,406 cases were received before the Agency for Peaceful Resolution of Labor Disputes of Republic of Srpska, of which 16,268 related to the initiation of individual labor disputes, including three cases that were initiated to obtain consent to terminate the employment contract of an elected employee representative in the workers' council or in the trade union bodies, while 138 cases related to the initiation of collective labor disputes.

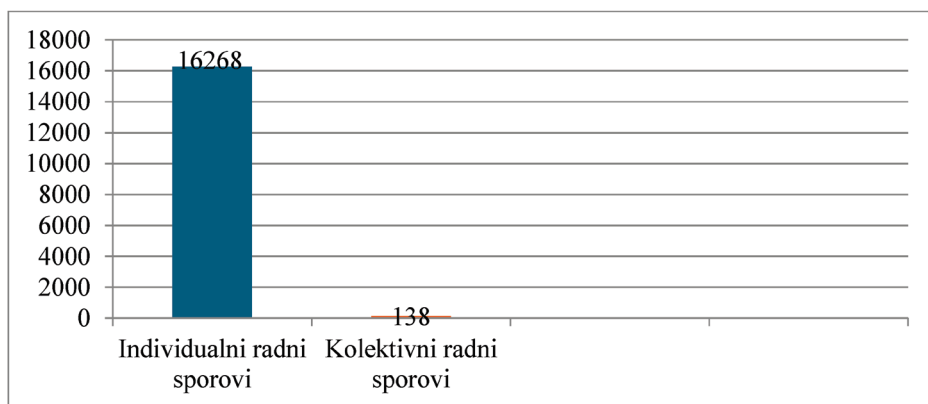


Chart 1. Overview of initiated individual and collective labor disputes

Also, out of the 16,406 cases received, 16,259 cases were concluded, namely 16,121 cases related to the initiation of individual labor disputes, including three cases for obtaining consent to terminate the employment contract of an elected employee representative in the workers' council or in the trade union bodies. In the aforementioned period of time, all 138 cases related to collective labor disputes were also concluded.

From the above, it can be concluded that of the total number of cases received, 99.10% were concluded, of which about 70% were positively resolved. The remaining 30% are cases that were concluded in such a way that the procedure was suspended, because it was not possible to reach a compromise solution between the parties to the dispute, as well as a small number of those in which the proposal was rejected due to lack of jurisdiction, untimeliness or inadmissibility.

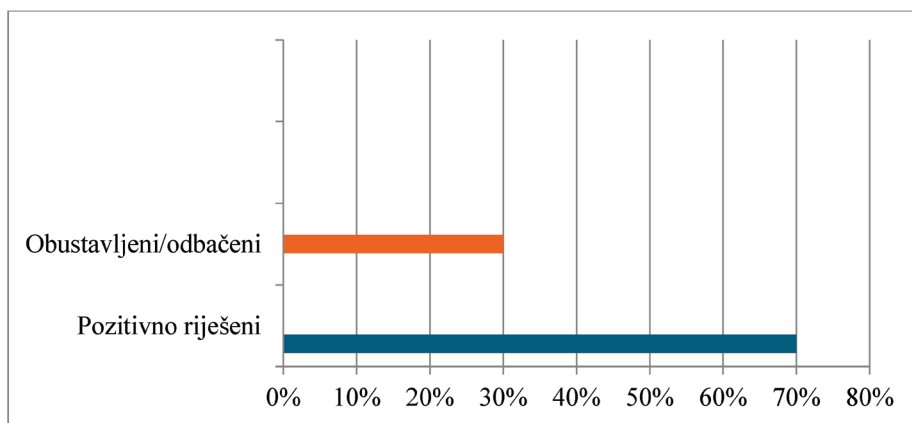


Chart 2. The ratio of positively resolved versus suspended/rejected proposals for the initiation of the peaceful resolution of labor disputes

Three procedures initiated before the Agency for the purpose of obtaining consent to terminate the employment contract of an elected employee representative in the employee council or in the trade union bodies were concluded in such a way that in one case consent was denied, in another it was determined that the trade union organization, whose president was a party to the dispute, did not meet the requirements for representativeness, and in the third that the procedure was initiated untimely.

The procedure for amicable resolution of a labor dispute is free of charge and lasts on average about 45 to 60 days, and the most common subject of dispute in individual labor disputes relates to salaries, termination of employment (dismissal), contributions, severance pay, transportation costs, annual leave, vacation allowance, anniversary award, and other. Interest-based collective labor disputes are very rare, and are usually initiated on the occasion of concluding a collective agreement.

The preventive role has been extremely important in recent years and has proven to be very effective, as an increasing number of workers and employers are seeking expert advice on how and in what manner they should act in a certain situation in order to avoid a possible labor dispute.

The future of alternative dispute resolution in employment relations is promising, but several issues and concerns continue to challenge its effective implementation. These concerns need to be addressed to ensure that alternative dispute resolution remains a credible, effective and worker-friendly mechanism. Alternative dispute resolution has enormous potential to shape the future of employment dispute resolution, and its success depends on addressing issues such as legal clarity, digital literacy, impartiality, enforcement mechanisms and power imbalances. Strength-

ening institutions and ensuring worker-friendly processes will be key to a fair and sustainable alternative dispute resolution framework. Challenges remain, including lack of awareness, power imbalances between employers and workers, lack of qualified neutral experts, limited implementation of alternative dispute resolution outcomes and institutional constraints. In addition, new forms of employment relationships (platform workers, independent contractors, informal work) require updated dispute resolution models. The future of ADR depends on strengthening legal recognition, improving training and capacity building, investing in technology and ensuring fairness for vulnerable workers. If implemented effectively, ADR can become the foundation of modern industrial relations by creating faster, cost-effective and harmonious solutions that support socio-economic justice and sustainable industrial growth (Pandey 2025, 296-297).

CONCLUSION

Based on past experience, it can be concluded that the Law on Peaceful Resolution of Labor Disputes has proven to be very good, and that the solutions contained therein are adequate for the legal and social relations of our system. The advantages of resolving disputes through the Agency for Peaceful Resolution of Labor Disputes are that the procedures are shorter and disputes are resolved faster, on average in about 45 to 60 days, and the procedure is completely free of charge. Just by looking at the number of cases initiated, it can be concluded that workers know who to turn to in these cases. Also, a large number of requests from both workers and employers are sent to the Agency for professional assistance, in terms of its preventive role, which means that both workers and employers trust the work of this Agency.

Certain ambiguities that appear are the result of vagueness in the adopted solutions that are encountered during the work, all depending on the case. The fact that over a period of 15 years, out of the total number of initiated cases, 99.10% were completed, of which around 70% were positively resolved, ultimately represents a highly professional and responsible approach to work and the performance of its responsibilities, and leads to the conclusion that the Agency has justified its existence.

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