

Empirijsko istraživanje determinanti stranih direktnih investicija u zemljama u razvoju: Studija slučaja zemalja Zapadnog Balkana

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Apstrakt: U radu su predstavljeni rezultati originalnog empirijskog istraživanja efekata i značaja stranih direktnih investicija na ekonomski razvoj zemalja u razvoju, kao i determinanti privlačenja istih, sa posebnim osvrtom na evropske zemlje u razvoju, koje je sprovedeno primenom panel podataka, na primeru izabranih zemalja Zapadnog Balkana: Srbije, Crne Gore, Bosne i Hercegovine i Makedonije. Istraživanje je sprovedeno za period od 2000. do 2017. godine. Rezultati istraživanja pokazuju da ne postoji statistički značajna veza između indeksa političkog rizika, BDP i stope nezaposlenosti i transfera tehnologije, sa jedne i stope priliva SDI, sa druge strane. Rezultati analize otkrivaju da je stopa SDI obratno srazmerna stopi inflacije u zemlji domaćina.

Ključne reči: strane direktne investicije, socio-politička nestabilnost, zemlje u razvoju, panel analiza

JEL: E22, C22

Uvod

Strane direktne investicije predmet su značajnog interesovanja stručne i akademske zajednice u zemljama u razvoju. Ovo interesovanje je naročito povećano u poslednjoj dekadi XX veka i taj trend se i dalje nastavlja. Osnovni razlog tome je dramatično povećanje stranih direktnih investicija u zemlje u razvoju. Naime, poslednjih godina svedoci smo dramatičnog povećanja stranih direktnih investicija, naročito u tzv. tržišta u nastajanju. Strane direktne investicije su povećane sa 24 milijarde dolara (1990. godine) na 178 milijardi dolara u 2001. godini (Word Bank, 2001; Asiedu, 2011). Zemlje u razvoju predstavljaju veoma interesantne investicione alternative za strane investitore koji dolaze iz razvijenih zemalja, kako u pogledu međunarodne diversifikacije plasmana kapitala, jer imaju veoma niske ili čak i negativne koeficijente korelacija prihoda sa razvijenim zemljama, tako i s aspekta mogućnosti ostvarivanja izuzetno velike premije za rizik. Naime, uprkos određenim razlikama u stepenu razvijenosti i uređenosti, većina ovih zemalja jeste izložena sličnim procesima snažnog uticaja priliva stranih direktnih investicija i nude mogućnost za ostvarivanje velikih profita za investitore. Iz tog razloga, ova tržišta predstavljaju interesantne investicione alternative za strane banke, investicione fondove i osiguravajuće kompanije. Poetski rečeno, mogućnost ostvarivanja ekstremno visoke premije za rizik i niski koeficijenti korelacije sa razvijenim zemljama, učinili su ova tržišta izuzetno atraktivnim investicionim alternativama u procesu međunarodne diversifikacije plasmana. O ovome svedoče brojne studije (Dailami, Atkin (1990), Harvey (1995), Bekaert, Harvey (1997), Ogunjimi, Amune (2017), Asiedu, Gyimah-Brempong, (2008), Basse, Temitope (2015), Jensen, McGillivray (2005)), koje ukazuje na rastući udeo finansijskih tržišta ovih zemalja u svetskom tržištu kapitala. Iz gore spomenutih razloga, multinacionalne korporacije i finansijske institucije iz razvijenih zemalja sve više žele da svoja slobodna sredstva plasiraju u ove zemlje. Sa druge strane, zemlje u razvoju, usled nedostatka kapitala, male ekonomske moći, neuspelih i nezavršenih procesa tranzicija, u privlačenju direktnih stranih investicija vide svoje prilike za pokretanje privrednog i ekonomskog razvoja, redukovanju stope nezaposlenosti, te povećanje društvenog blagostanja uopšte. Jednom rečju, u direktnim stranim investicijama one vide mogućnost povećanja svih makroekonomskih pokazatelja rasta i razvoja, počev od stope bruto društvenog proizvoda, pa do stope konkurentnosti domaće privrede. Ovo još više dobija na značaju kada se ima u vidu činjenica da veliki broj zemalja iz ove grupe nema ili ima veoma ograničen pristup drugim izvorima finansiranja. Kada se imaju u vidu kreditni rejtingi ovih zemalja, te njihov uticaj na uslove dobijanja kredita kod međunarodnih finansijskih institucija ili mogućnosti plasiranja svojih dužničkih hartija od vrednosti na svetskom tržištu kapitala, njihova očekivanja u pogledu efekata i značaja stranih direktnih investicija čine se veoma opravdanim.

Efekti stranih direktnih investicija ne ogledaju se samo u prilivu svežeg kapitala, već i u transferu novih tehnologija, *know-how*, organizacionih i menadžerskih rešenja i sl. Nažalost, efekti stranih direktnih investicija na privredni i ekonomski razvoj zemalja domaćina nisu uvek onakvi kakvi bi se očekivali na osnovu teorijskih postulata koncepta stranih direktnih investicija. Postoje i one strane

direktne investicije koje se prema svojim efektima mogu svrstati u eksploatatorske ili „predatorske“ investicije.

Međutim, nezavisno od ovoga, zemlje u razvoju nastoje da kreiranjem povoljnih makroekonomskih uslova privuku strane direktne investicije. Različiti makroekonomski uslovi i njihove kombinacije različito utiču na stepen njihovog privlačenja. Otuda, cilj ovog rada jeste da ispita da li i u kom stepenu određene determinante, kao što su socio-politička nestabilnost, poslovno okruženje i privredni ambijent i know-how utiču na privlačenje stranih direktnih investicija. Reč je o determinantama o kojima u širim akademskim i stručnim krugovima postoje određene predrasude u vezi stepena i smera njihovih uticaja na privlačenje direktnih stranih investicija. Međutim, rezultati empirijskih istraživanja često nisu u skladu sa ovim predrasadama i očekivanjima šire javnosti. Otuda cilj ovog rada jeste da ispita kakav je uticaj ovih determinanti na privlačenje stranih direktnih investicija u Srbiji, Crnoj Gori, Bosni i Hercegovini i Makedoniji.

Empirijsko istraživanje

Kako bi se odgovorilo na pitanje da li socio-politička (ne)stabilnost, poslovno okruženje i privredni ambijent, kao i transfer tehnologije predstavljaju značajnu determinantu privlačenja stranih direktnih investicija u izabranim zemljama Zapadnog Balkana, kao što su Srbija, Crna Gora, Bosna i Hercegovina i Makedonija, u radu je izvršeno ispitivanje sledećih varijabli, kao odgovarajućih proksija prethodno spomenutih determinanti stranih direktnih investicija: indeks političkog rizika zemlje, stopa rasta bruto društvenog proizvoda, stopa inflacije, stopa nezaposlenosti i indeks tehnološkog transfera. Prvi indeks korišćen je kao proksi za (ne)stabilnost socio-političkog okruženja. Indeks političkog rizika zemlje je ukupna mera rizika za datu zemlju, izračunata korišćenjem svih 17 komponenti rizika iz metodologije Službe za politički rizik (Political Risk Services International Country Risk Guide - PRS), uključujući previranja, finansijske transfere, direktna ulaganja i izvozna tržišta. Indeks pruža osnovni, pogodan način za direktno poređenje zemalja, kao i demonstriranje promena u proteklih pet godina.

Godišnja stopa rasta bruto domaćeg proizvoda, stopa inflacije i stopa nezaposlenosti korišćeni su kao adekvatni proksi za poslovno okruženje i privredni ambijent (videti u Pflüger, Michael, et. al. (2013)). Godišnja stopa rasta bruto domaćeg proizvoda iskazana je u konstantnim cenama izraženim u lokalnoj valuti i predstavlja zbir bruto dodatne vrednosti svih rezidentnih proizvođača u ekonomiji plus bilo koji porez na proizvod i minus bilo koje subvencije koje nisu uključene u vrednost proizvoda. Izračunava se bez odbitaka za amortizaciju proizvedene imovine, ili za iscrpljivanje i degradaciju prirodnih resursa. Agregati se zasnivaju na konstantnim američkim dolarima za 2010. godinu.

Za potrebe ovog istraživanja stopa inflacije izračunata je primenom Lasperove formule i predstavlja stopu inflacije merenu indeksom potrošačkih cena koja odražava godišnju procentualnu promenu u trošku za prosečnog potrošača u kupovini korpe roba i usluga koje mogu biti fiksirane ili promenjene u određenim intervalima, kao što je godišnja.

Stopa nezaposlenosti je takođe korišćena kao proksi za poslovno okruženje i privredni ambijent, pri čemu stopa nezaposlenosti, korišćena kao proksi u ovom radu, predstavlja procenat radne snage koja je bez posla, ali koja je dostupna na tržištu radne snage.

Kao proksi za transfer tehnologije u radu je iskorišćen indeks izvoza visoke tehnologije. Indeks predstavlja procenat od ukupnog izvoza, a u njegovu korpu spadaju svi proizvodi sa visokim intenzitetom istraživanja i razvoja, kao što su vazduhoplovstvo, kompjuteri, farmaceutske proizvodi, naučni instrumenti i električni uređaji i sl. Očekivano je da postoji značajna pozitivna korelacija između ovog indeksa i stope privlačenja stranih direktnih investicija.

Podaci su prikupljeni sa zvaničnog veb sajta Svetske banke i Globalne ekonomije, za period od 2000. do 2017. godine. Za svrhu analize korišćen je metod panel podataka između zemalja (*cross-sectional panel data approach*), koji se bavi analizom podataka u kojima se ponašanje entiteta posmatra tokom vremena. Glavna svrha ove analize jeste da se identifikuje da li postoji neki obrazac u prikupljenim podacima, tokom vremena i u različitim entitetima (Radivojević, Jovović, 2017). Drugim rečima, to je korisno za praćenje efekata specifičnih za zemlju i nevidljivih razlika između zemalja, što omogućava kontrolu pristrasnosti izazvane problemom potencijalne heterogenosti i nedostajućih podataka (videti u Radivojević et al, 2019). Zbog strukturnih pauza za neke podatke, u istraživanju je korišćen nebalansirani panel podataka.

Zavisna varijabla u istraživanju jeste stopa stranih direktnih investicija, koju predstavljaju neto prilivi investicija za sticanje trajnog upravljačkog interesa u preduzeću koje posluje u zemlji domaćina. Tačnije, ona predstavlja zbir akcijskog kapitala, reinvestiranja zarade, drugog dugoročnog kapitala i kratkoročnog kapitala prikazanog u platnom bilansu.

Varijable su izabrane imajući u vidu sledeće tri činjenice: 1) da su izabrane varijable adekvatni proksi za determinante stranih direktnih investicija; 2) da su dostupni podaci o svim varijablama za sve zemlje koje su predmet istraživanja; 3) da u literaturi nema jasnog stava niti radova koji su proučavali njihovo dejstvo primenom panel podataka.

Prethodno rečeno može se predstaviti sledećom jednačinom:

$$FDI_{i,t} = \beta_1 + \beta_2 gdp_{i,t} + \beta_3 unr_{i,t} + \beta_4 inf_{i,t} + \beta_5 prs_{i,t} + \beta_6 tt_{i,t} + \beta_7 FDI_{i,t-1} + \varepsilon_{i,t} \quad (1)$$

pri čemu su:

- $FDI_{i,t}$ - stopa stranih direktnih investicija za i -tu zemlju u (t) vremenskom periodu
- $FDI_{i,t-1}$ - stopa stranih direktnih investicija za i -tu zemlju u ($t-1$) vremenskom periodu
- $gdp_{i,t}$ - stopa bruto domaćeg proizvoda za i -tu zemlju u (t) vremenskom periodu
- $unr_{i,t}$ - stopa nezaposlenosti za i -tu zemlju u (t) vremenskom periodu
- $inf_{i,t}$ - stopa inflacije za i -tu zemlju u (t) vremenskom periodu
- $prs_{i,t}$ - indeks političkog rizika za i -tu zemlju u (t) vremenskom periodu
- $tt_{i,t}$ - indeks tehnološkog transfera za i -tu zemlju u (t) vremenskom periodu
- $\varepsilon_{i,t}$ - rezidual

Za ocenu jednačine korišćene su dve metode ocene panel podatka: 1) metod fiksnog efekta, koji uzima u obzir neopaženu heterogenost između zemalja. Cilj je da se uhvate efekti nezavisnih varijabli na stopu stranih direktnih investicija. Svaka zemlja ima svoje specifičnosti koje mogu da utiču na privlačenje stranih direktnih investicija, otuda je realno pretpostaviti da postoji korelacija između $\varepsilon_{i,t}$ i (SDI); Drugim rečima, ona omogućava da se zadrži vremenski konstantna neopažena heterogenost između entiteta (zemlje). Metod omogućava da se eliminišu efekti ovih vremensko-invarijantnih karakteristika, tako da se samo procenjuje neto efekat prediktora; 2) uopšteni metod momenata (GMM). Za razliku od drugih ocenjivača, glavna prednost GMM je da se može koristiti čak i kada pretpostavke drugih metoda nisu zadovoljene. Generalno govoreći, GMM se može posmatrati kao generalizacija mnogih drugih metoda, i kao rezultat toga, manje je verovatno da će generisati netačne ocene parametara (Chausse, 2010). Kako bi se otkrilo da li stopa privlačenja stranih direktnih investicija utiče na privlačenje novih, u jednačini (1) kao nezavisna varijabla uključena je stopa stranih direktnih investicija iz prethodnog perioda. S obzirom na to da se može očekivati da je ova varijabla u korelaciji sa slučajnom varijablom iz tekućeg perioda, to je još jedan razlog za primenu GMM ocenjivača, uz napomenu da će jednačina (1) biti transformisana primenom operatora (Δ) prve diferencijacije, koja se može zapisati u sledećem obliku:

$$\Delta FDI_{i,t} = \beta_1 + \beta_2 \Delta gdp_{i,t} + \beta_3 \Delta unr_{i,t} + \beta_4 \Delta inf_{i,t} + \beta_5 \Delta prs_{i,t} + \beta_6 \Delta t_{i,t} + \beta_6 \Delta FDI_{i,t-1} + \varepsilon_{i,t} \quad (2)$$

Na ovaj način se rešava potencijalni problem pristrasnosti dinamičkog panela podataka (detaljnije videti u Radivojevic et al. 2019).

Rezultati istaživanja

U tabeli 1 prikazani su sumarni podaci deskriptivne statistike izabranih varijabli za period od 2000. do 2017.

Tabela 1: Sumarni prikaz podataka deskriptivne statistike varijabli (%), izuzetak je PSR)

Varijable	Br. Opser.	Srednja vrednost	Standar. devijacija	Minimalna vrednost	Maksimum vrednost
FDI	70	7,114	6,749	0,401	37,249
FDI _{t-1}	66	7,2178	6,856	0,401	37,249
GDP	72	3,236	2,930	-6,002	9,301
UNR	72	24,801	25,816	12,600	37,250
INF	60	6,582	2,855	-1,089	95,005
PSR	72	0,626	0,120	0,091	0,832
TK	63	2,547	1,222	0,832	5,530

Izvor: Autori

Kretanje nivoa SDI kreće se od 0,401% do 37,3%, što odražava značajnu fluktuaciju i ukazuje na veliku varijabilnost u prilivu stranih direktnih investicija u ovim zemljama tokom posmatranog perioda, o čemu svedoči i stopa standardne devijacije koja se kreće oko 6,8%. Prosečna vrednost SDI približno iznosi 7,1%, što ukazuje na veoma nizak prosečan priliv stranih direktnih investicija u ovom regionu tokom poslednjih 18 godina. BDP pokazuje i negativne i pozitivne vrednosti. Najveća negativna vrednost ovog indikatora iznosila je oko 6%, što je ukazivalo na veliku stagnaciju, dok je najveća pozitivna vrednost ovog indikatora u posmatranom periodu iznosila oko 9%. Prosečna stopa BDP beleži pozitivnu vrednost, što ukazuje da je ovaj region ostvario blagi privredni rast u posmatranom periodu jer prosečna stopa BDP iznosi oko 3,2%. Stopa nezaposlenosti u ovom regionu kreće se prosečno oko 25%. Najveća stopa nezaposlenosti iznosila je oko 37%, dok je njena najniža zabeležena vrednost 12%, što ukazuje na veliki problem nezaposlenosti u ovim zemljama. Stopa inflacije kretala se od rekordnih 95%, do negativne vrednosti od oko 1%. Prosečna vrednost ove varijable iznosi oko 6%. Visoka stopa standardne devijacije makroekonomskih varijabli, može se, između ostalog, protumačiti kao posledica velikih oscilacija u ekonomskim i privrednim aktivnostima u ovim zemljama tokom prethodnih petnaestak godina. Što se tiče vrednosti indeksa političkog rizika zemlje, on se kretao od minimalne vrednosti 0,09 do maksimalne vrednosti 0,8, što ukazuje na značajnu fluktuaciju u kvalitetu socio-političkog okruženja. Prilikom tumačenja ovog rezultata treba biti oprezan jer su do kraja devedesetih godina bili ratni sukobi u ovom regionu, te kako se vremenski horizont povećava, tako se vrednost ovog indikatora stabilizuje. Prosečna vrednost ovog indikatora iznosi oko 0,6, što ukazuje na umereni rizik. Maksimalna vrednost ovog indikatora jeste 1 i implicira pozitivno i stabilno okruženje, obratno je kada je vrednost ovog indikatora nula. Vrednosti proksija za transfer tehnologije tj. indeksa izvoza visoke tehnologije, više nego jasno svedoče o malom učešću *know how* ovih zemalja u ukupnom izvozu, što bi se moglo protumačiti da bi ove zemlje trebalo da rade na privlačenju stranih direktnih investicija, kako bi došle do novih saznanja. Sa druge strane, posmatrano iz ugla stranih investitora, zbog svoje zaostalosti, ove bi zemlje trebalo da budu dobre investicione alternative za nešto starije vrste tehnologija (crne, „prljave“ tehnologije). Kretanje ovog indeksa kretalo se od minimalnih 0,8%, do maksimalnih 5,5%. Pohvalno je što je prosečna vrednost ovog indeksa u posmatranom periodu bila pozitivna, oko 2%, što znači da ove zemlje ipak izvoze neke visoko sofisticirane proizvode tj. vrše transfer *know how*.

Kada se vrši ekonometrijska analiza na panel podacima, prvi korak u analizi predstavlja testiranje prisustva jediničnog korena kod vremenskih serija. Drugim rečima, kako bi analiza bila valjana neophodno je da serije pokazuju osobine stacionarnosti. Iz tog razloga analiza je započeta ispitivanjem stacionarnosti vremenskih serija varijabli primenom *Im-Pesaran-Shin* (IPS) testa, uz napomenu da je broj docnji određen primenom pravila trećeg korena. Rezultati testa su prikazani u tabeli 2.

Tabela 2: Rezultati IPS testa

	Varijabla	Vrednost testa	P - vrednost
FDI	Nivo	-0,184	0,426
	1. difer.	-0,615	0,269
	2. difer.	-3,909	0,000
FDI _{t-1}	Nivo	-0,654	0,256
	1. difer.	-2,210	0,0135
GDP	Nivo	-0,708	0,239
	1. difer.	-0,668	0,251
	2. difer.	-4,088	0,000
UNR	Nivo	0,599	0,725
	1. difer.	-0,478	0,316
	2. difer.	-3,309	0,001
INF	Nivo*	14,599	0,067
	1. difer.*	9,393	0,000
PSR	Nivo	-1,726	0,042
	1. difer.	-3,049	0,001
TK	Nivo	1,497	0,932
	1. difer.	-2,079	0,018

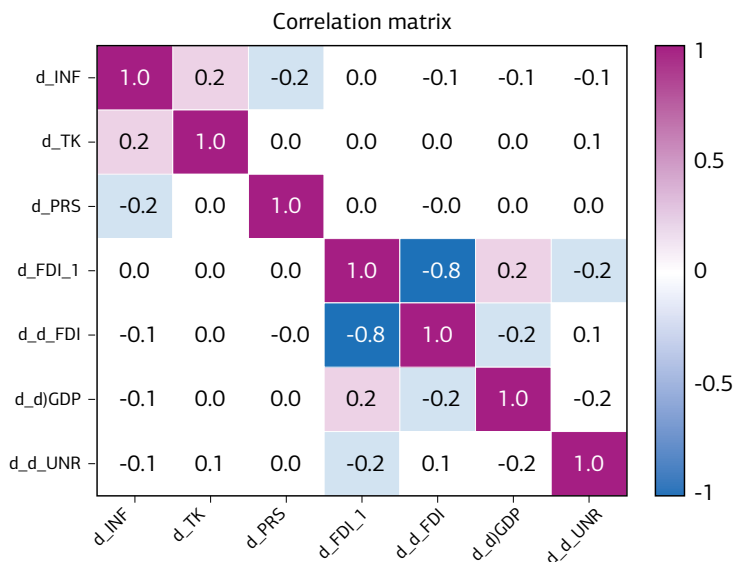
Napomena: * označava vrednost inverzno chi-kvadrata testa sa osam stepeni slobode.

Izvor: Autori

Kao što se može videti iz tabele, sve varijable pokazuju nestacionarnost prvog reda. Iz tog razloga test je ponovljen nakon diferencijacije prvog reda. Nakon diferencijacije prvog reda sve varijable, izuzev stope SDI, stope BDP i stope nezaposlenosti su postale stacionarne. Postupak je nastavljen diferenciranjem drugog reda za nestacionarne varijable. Nakon diferencijacije drugog reda sve varijable su postale stacionarne, tako da je analiza dalje nastavljena izračunavanjem matrice korelacije. Matrica korelacije prikazana na je slici 1.

Kao što se može videti sa slike 1 nijedna varijabla nije pozitivno visoko korelisana sa ostalim varijablama, tako da su sve varijable zadržane u daljem istraživanju, osim varijable SDI iz prethodnog perioda (t-1) sa zavisnom varijablom, što je i očekivano.

Slika 1: Matrica korelacije



Izvor: Autori

Rezultati ocene parametara jednačine (1) i (2), primenom prethodno opisanih metoda ocene parametara panel podataka, prikazani su u tabeli 3.

Tabela 3: Rezultati ocene parametara

Varijabla	Metod fiksnog efekta			Jedno-stepeni GMM ocenjivač		
	Koef.	p vred.		Koef.	p vred.	
Konstanta	-0,204	0,861		-0,055	0,479	
FDI _{t-1}	-0,596	<0,0001	***	-0,598	<0,0001	***
GDP	-0,090	0,629		-0,088	0,634	
UNR	-0,113	0,838		-0,115	0,722	
INF	-0,549	0,095	*	0,547	0,089	*
PSR	-13,135	0,551		-13,488	0,237	
TK	0,310	0,778		0,311	0,708	

	Metod fiksnog efekta	Jedno-stepeni GMM ocenjivač	
		AR(2)	-1,283 (0,199)
R ²	0,40	Šargan test	Chi-kvadrat (38) = 46,936 (0,1519)
Zajednički test regresora	F(6, 40) = 4,3829 (0,002)		
Test različitih odsečaka	F(3, 40) = 0,012 (0,998)		
Valdov test heteroskedastičnosti	41,5796 (2,03e-008)		
Test normalnosti reziduala modela	Chi-kvadrat (2) = 8,746 (0,013)**		

*Napomena: U zagradi su date p-vrednosti testa autokorelacije prvog i drugog reda. *, **, *** statistički značajne varijable za nivoe poverenja od 1%, 5% i 10%, retrospektivno. Šarganov test pokazuje da su svi instrumenti uključeni u model su validni. H-matrix je korišćena za ocenu matrice varijanse-kovarijanse.*

Izvor: Autori

Kao što se može videti iz tabele 3, ocene parametara primenom dinamičkog modela ocene panel podataka pokazuju da R kvadrat ovog ocenjivača iznosi 0,40, što znači da skoro 40% varijacija u zavisnoj varijabli može biti objašnjeno pomoću izabranih varijabli. Dalji rezultati pokazuju da postoji statistička značajna veza između SDI iz prethodnog perioda i stope priliva iz tekućeg perioda, što je očekivano. Međutim, iznenađujući je znak ove korelacije i može se tumačiti da će opadanje stope priliva SDI od 0,59% iz prethodnog perioda dovesti do povećanja tekuće stope priliva stranih direktnih investicija. Takođe, rezultati otkrivaju da postoji statistički značajna veza između inflacije i SDI, koja iznosi -0,549%. Tumačenje ovog rezultata je sledeće: rast stope inflacije od 1% dovešće do pada SDI za 0,549% i obratno važi. Ovo je i očekivano, i sa ekonomskog aspekta može se tumačiti da strani direktni investitori zahtevaju stabilno okruženje i da imaju averziju prema inflaciji, što je i razumljivo kada se imaju u vidu efekti inflacije na efikasnost poslovanja. Što se tiče ostalih varijabli, između njih i priliva SDI nije otkrivena statistički značajna veza.

Rezultati testova prikazani u tabeli 3 ukazuju na opravdanost primene dinamičkog ocenjivača. Primena ovog ocenjivača opravdana je kada je ispunjena pretpostavka da zemlje imaju svoje specifičnosti, koje su vremenski invarijantne. S obzirom da to da dinamički model fiksnih efekata grešku modela dekomponuje na dve komponente, determinističku, koja u stvari predstavlja refleksiju vremenski invarijantne specifičnosti ovih zemalja (alfa u modelu (1)) i stohastičku komponentu (rezidual u modelu (1)), izbor ovog ocenjivača panel podataka je bio razumljiv. Budući da se zasniva na pretpostavci o identičnoj i nezavisnoj distribuciji reziduala, kako bi se ispitala njegova validnost, u nastavku rada je izvršen dijagnostički test, čiji su rezultati prikazani u prvom delu tabele 3. Test zajedničkih regresora iznosi oko 4,4, što ukazuje na to da je potrebno odbaciti nultu hipotezu na kojoj se test zasniva. Test različitih odsečaka (alfa) ukazuje da među zemljama nema vremenski invarijantnih specifičnosti. Takođe i Valdov test heteroskedastičnosti otkriva da zemlje nemaju zajedničku grešku varijanse. Test normalnosti distribucije reziduala pokazuje da za nivo značajnosti od 95% za koji je rađen test, reziduali slede normalnu distribuciju.

Izneti rezultati dijagnostičkog testa impliciraju da je u ovom slučaju ocenjivač združenih najmanjih običnih kvadrata adekvatniji od metoda fiksnih efekata. Stoga su u nastavku rada prikazani rezultati ocene modela (1) primenom ovog ocenjivača. Rezultati su prikazani u tabeli 4.

Tabela 4: Rezultati metoda združenih najmanjih običnih kvadrata

Metod združenih najmanjih običnih kvadrata			
Varijabla	Koef.	p vrednost	
Konstanta	-0,202	0,857	
FDI _{t-1}	-0,595	<0,0001	***
GDP	-0,091	0,616	
UNR	-0,616	0,847	
INF	-0,544	0,084	*
PSR	-13,843	0,501	
TK	0,314	0,767	
R ²	0,40		
Wald-ov test heteroskedastičnosti	38,6196 (8,347e-008)		
Test normalnosti reziduala modela	Chi-kvadrat (2) = 8,948 (0,011)**		

Izvor: Autori

Rezultati ocene panel podataka modela prikazani izrazom (1) ukazuju da sve varijable, izuzev stope priliva SDI iz prethodnog perioda i stope inflacije, nemaju statistički značajnu vezu sa stopom priliva SDI u tekućem periodu. Kako bi se ispitala validnost i ovog ocenjivača urađen je dijagnostički test, čiji su rezultati, takođe, prikazani u tabeli 4. Rezultati testa pokazuju odsustvo homoskedastičnosti varijanse i prisustvo normalnosti distribucije kod reziduala. Imajući ovo u vidu, treba istaći da rezultate dobijene primenom i ovog ocenjivača treba uzeti sa rezervom, zbog kršenja pretpostavke o homoskedastičnosti.

Kako opšti metod momenata predstavlja efikasan metod ocene panel podataka, čak i u situaciji kada nisu zadovoljene osnovne pretpostavke svih ostalih ocenjivača, u nastavku rada je potrebno fokusirati se isključivo na rezultate dobijene primenom ovog ocenjivača. Rezultati ovog ocenjivača dati su u drugom delu tabele 3. Šarganov test pokazuje da su izabrani instrumenti validni, dok test serijske autokorelacije drugog reda pokazuje odsustvo autokorelacije, što ukazuje na validnost ovog ocenjivača.

Rezultati ovog ocenjivača potvrđuju zaključke iznete na osnovu prethodna dva ocenjivača, tj. za priliv stranih direktnih investicija u izabranim zemljama značajne su samo dve varijable, stopa inflacije i stopa priliva SDI iz prethodnog perioda i obe varijable imaju negativnu vezu.

Diskusija o dobijenim rezultatima

Dobijeni rezultati su pomalo iznenađujući, odnosno nisu u skladu sa preovladavajućim uverenjem šire, ali ne i akademske javnosti, koja je upoznata sa rezultatima različitih studija vezanih za ovu problematiku za zemlje u razvoju (videti istraživanja Alesina (1996), Alvarez (1996) i sl.). Prvi interesantni nalaz jeste nepostojanje statistički značajne veze između indeksa političkog rizika i priliva SDI, što je za širu javnost iznenađujuće, ali kada se ima u vidu da je prosečan indeks 0,6 tokom posmatranog perioda (uz napomenu da je maksimalna vrednost ovog indikatora 1, što ukazuje na nepostojanje političkog rizika i što je indikator stabilnog socio-političkog okruženja) i da nakon završetka ratnih sukoba s kraja devedesetih godina, vrednost ovog indeksa ne varira značajnije, može se protumačiti da strani investitori ova tržišta doživljavaju kao relativno stabilna u socio-političkom smislu, te da se prilikom odlučivanja o ulaganju rukovode pre svega subvencijama i povlasticama koje ove zemlje nude stranim ulagačima.

Sledeći interesantan nalaz, za šire mnjenje, jeste da ne postoji statistički značajna veza između BDP i stope priliva SDI. Realno je očekivati da sa povećanjem BDP raste i odliv SDI jer to znači da se više vrednosti odliva u vidu investicija na strana tržišta. Međutim, u pogledu priliva SDI, različite studije pokazuju postojanje i pozitivne i negativne veze. Pozitivna se tumači da rast BDP znači poboljšanje uslova poslovanja, što predstavlja povoljno okruženje za investiranje, te dolazi do rasta SDI u nerazvijene zemlje. Sa druge strane, negativna korelacija se tumači da povoljno utiče na privlačenje stranih direktnih investicija, jer investitori ulažu na tržište gde će da dođe do smanjenja cena resursa i radne snage. Naravno, postoje istraživanja i koja ukazuju na nepostojanje zavisnosti između ove dve varijable, već da se pri odlučivanju o ulaganju na tržišta zemlja u razvoju strani investitori rukovode drugim kriterijumima (videti u Hur et al. (2013a), Hur et al. (2013b)).

Rezultati analize otkrivaju da stopa nezaposlenosti nije statistički značajna i da ne utiče na priliv SDI. Ovo se može protumačiti da strani ulagači, iako ulažu u ova tržišta, u radno intenzivne proizvode i da nastoje da ekonomsku korist ostvare, pre svega, iskorišćavanjem jeftine radne snage, ipak pri ulaganju ne vode računa o nezaposlenosti, smatrajući da nezaposleno stanovništvo nije dovoljno kvalifikovano i da je to uzrok njihovog neangažovanja. Fokus im je na jeftinoj radnoj snazi, za koju im nije važno da li će da ih privuče sa tržišta rada (nezaposlenih) ili već radno angažovanih kadrova. Sa druge strane, stopa priliva SDI je obrnuto srazmerna stopi inflacije u zemlji domaćina. Ovo je i očekivano kada se ima u vidu da strani ulagači na ovim tržištima isključivo ulažu zbog jeftinih resursa. Rast inflacije uticaće na rast cena resursa, a to nije u njihovom interesu.

Rezultati analize otkrivaju da ne postoji statistički značajna veza između priliva SDI i transfera tehnologije, što se može objasniti činjenicom da se strani investitori, kada se odlučuju za ulaganja u tržišta u razvoju, rukovode, pre svega, činjenicom da će prednost ostvariti iskorišćavanjem jeftinih resursa i radne snage. Drugim rečima, ne ulaže se na ova tržišta da bi se iskoristili znanje i tehnologija koje poseduju ove zemlje. Otuda je ovaj rezultat razumljiv i očekivan.

Međutim, za dublju analizu po ovom pitanju potrebno je poznavati strukturu SDI. Postoje brojna istraživanja koja ukazuju da je motiv stranim investitorima bio da iskoriste tehnološka dostignuća zemlje domaćina, ali su takvi primeri u ovim zemljama retki.

Zaključak

Jedan od glavnih problema sa kojim se suočavaju zemlje u razvoju, kakve su zemlje Zapadnog Balkana, kao što su Srbija, Crna Gora, Bosna i Hercegovina i Makedonije jeste nizak nivo privrednog i ekonomskog rasta. Ovaj problem skopčan je, sa jedne strane, sa nedovoljnom domaćom akumulacijom i, sa druge strane, sa nedostatkom svežeg kapitala za investicije. Otuda se ove zemlje bore da privuku strane direktne investicije davanjem različitih podsticajnih mera stranim ulagačima i nastojanjem da kreiraju što povoljnije privredne uslove i ambijent. Međutim, ratni sukobi i politička i opšta makroekonomska nestabilnost u ovom regionu početkom devedesetih godina uticala je na slabu stopu priliva SDI u ove zemlje, te neiskorišćenja njihovog ekonomskog položaja i dostignuća s kraja osamdesetih godina, kada su i druge socijalističke zemlje ušle u proces tranzicije.

Priliv SDI u ove zemlje bio je ispod nivoa koji bi obezbedio ubrzanje strukturnih reformi, više stope rasta, veću ekonomsku aktivnost stanovništva, povećanje deviznih rezervi i dobijanje povoljnog kreditnog rejtinga. Otuda, priliv stranih direktnih investicija u ove zemlje ne znači samo priliv svežeg kapitala, već transfer *know how* u oblasti tehničko-tehnoloških procesa, načina upravljanja i marketing miksa. Istovremeno znači i smanjenje nezaposlenosti i ubravanje privrednog rasta koji ima značajnih implikacija po političku stabilost i kreiranje zdravog privrednog ambijenta za dalje privlačenje stranih direktnih investicija. To je inače i razlog zašto kreatori makroekonomske politike nastoje da stvore što privlačnije uslove za privlačenje stranih direktnih ulagača, nudeći pre svega različite podsticaje i pokušavajući da modernizuju poslovni ambijent, kako kroz izgradnju kvalitetne pravne regulative, tako i kroz infrastrukturu.

Međutim, nalazi u ovom radu na indirektan način impliciraju da strani ulagači ulažu na ova tržišta samo radi iskorišćenja jeftinih reursa i radne snage, što kreatorima makroekonomske politike može da posluži kao etalon za donošenje adekvatnih podsticajnih mera, kojim bi privukli investicije koje dovode do povećanja izvoza visoko sofisticiranih proizvoda i usluga, a neiskorišćenju nacionalnih bogatstava i radne snage.

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Empirical Research of Foreign Direct Investment Determinants in Developing Countries: A Case Study of the Western Balkan Countries

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Summary: This paper presents the results of an original empirical research of the effects and the importance of foreign direct investments on the economic development of developing countries, as well as the determinants of attracting them, with particular reference to European developing countries, which was conducted using panel data through an example of selected Western Balkan countries: Serbia, Montenegro, Bosnia and Herzegovina and Macedonia. The research was conducted during the period from 2000 to 2017. The research results show that there is no statistically significant connection between political risk indices, GDP and unemployment rates and technology transfers, on the one hand, and FDI inflow rates, on the other. The results of the analysis reveal that the FDI rate is inversely proportional to the inflation rate in the host country.

Keywords: foreign direct investments, socio-political instability, developing countries, panel analysis

JEL: E22, C22

Introduction

Foreign direct investments are a subject of considerable interest of the professional and academic community in developing countries. This interest has been particularly increased in the last decade of the twentieth century and this trend continues. The main reason for this is the dramatic increase of foreign direct investments in developing countries. Namely, in recent years we have witnessed a dramatic increase of foreign direct investments, especially in the so-called emerging markets. Foreign direct investments increased from 24 billion dollars (1990) to 178 billion dollars in 2001 (World Bank, 2001, Asiedu, 2011). Developing countries are very interesting investment alternatives for foreign investors coming from developed countries, both in terms of international diversification of equity placements, because they have very low or even negative correlation coefficients of returns with developed countries, and in terms of the possibility of achieving a very high risk premium. To be specific, despite certain differences in the degree of development and orderliness, most of these countries are exposed to similar processes of strong influence of foreign direct investment inflows and offer the opportunity to generate large profits for investors. For this reason, these markets are interesting investment alternatives for foreign banks, mutual funds and insurance companies. Poetically speaking, the possibility of achieving extremely high risk premiums and low correlation coefficients with developed countries, has turned these markets into extremely attractive investment alternatives in the process of international placement diversification. Numerous studies testify to this (Dailami, Atkin, 1990, Harvey, 1995, Bekaert, Harvey, 1997, Ogunjimi, Amune, 2017, Asiedu, Gyimah-Brempong, 2008, Bassey, Temitope 2015, Jensen, McGillivray, 2005), which points to the growing share of these countries' financial markets in the global capital market. For the reasons mentioned above, multinational corporations and financial institutions from developed countries are increasingly more eager to place their free funds in these countries. On the other hand, developing countries, due to lack of capital, low economic power, failed and incomplete transition processes, see foreign direct investment inflows as an opportunity to achieve economic and business development, reduce unemployment rates and increase social well-being in general. In a word, in foreign direct investments they see the possibility of increasing all macroeconomic indicators of growth and development, starting from the rate of gross domestic product to the level of competitiveness of the domestic economy. This is all the more important when one considers the fact that a large number of countries in this group lack or have very limited access to other sources of funding. Considering the credit ratings of these countries and their impact on the conditions of obtaining loans with the global financial institutions, or the ability to place their debt securities on the global capital market, their expectations regarding the effects and importance of foreign direct investments seem very justified.

The effects of foreign direct investments are not only reflected in the inflow of fresh capital, but also in the transfer of new technologies, *know-how*, organizational and managerial solutions, etc. Unfortunately, the effects of foreign direct investments on the economic and business development of the host countries are not always as expected from the theoretical postulates of the concept of

foreign direct investments. There are also those foreign direct investments which, by their effects, can be classified as exploitative or “predatory” investments.

However, apart from this, developing countries seek to attract foreign direct investments by creating favorable macroeconomic conditions. Different macroeconomic conditions and their combinations differently affect the degree of their attraction. Therefore, the aim of this paper is to examine whether, and to what extent, certain determinants, such as socio-political instability, the business environment, and the economic environment and *know-how*, influence the attraction of foreign direct investments. These are determinants which, in the broader academic and professional circles, evoke certain prejudices regarding the extent and direction of their effects on attracting foreign direct investments. However, the results of empirical research are often not in line with these prejudices and expectations of the general public. Therefore, the aim of this paper is to examine the impact of these determinants on attracting foreign direct investments in Serbia, Montenegro, Bosnia and Herzegovina and Macedonia.

Empirical Research

To answer the question whether socio-political (in)stability, business environment and economic environment, as well as technology transfer, are a significant determinant of attracting foreign direct investments in selected Western Balkan countries, such as Serbia, Montenegro, Bosnia and Herzegovina and Macedonia, the paper examines the following variables as appropriate proxies of the aforementioned foreign direct investment determinants: country’s political risk index, gross domestic product (GDP) growth rate, inflation rate, the unemployment rate and technology transfer index. The first index was used as a proxy for the (in)stability of the socio-political environment. Country Political Risk Index is the total measure of risk for that country, calculated using all 17 risk components of the Political Risk Services International Country Risk Guide (PRS) methodology, including turmoils, financial transfers, foreign direct investments and export markets. The index provides a basic, convenient way to directly compare countries, as well as to demonstrate changes over the past five years.

Annual Gross Domestic Product Growth Rate, Inflation Rate and Unemployment Rate were used as adequate proxies for the business environment and economic environment (see Pflüger et al. 2013). The annual gross domestic product growth rate at market prices is based on a constant local currency and represents the sum of the gross value added of all resident producers in the economy, plus any product tax and minus any subventions not included in the value of the product. It is calculated without deduction for depreciation of manufactured property, or for depletion and degradation of natural resources. The aggregates are based on constant US dollars for the year 2010.

For the purposes of this research, the inflation rate was calculated using the Laspeyres’ formula and represents the inflation rate measured by the Consumer Price Index, which reflects the annual percentage change in cost of the

average consumer in purchasing a basket of goods and services that may be fixed or changed at specific intervals, such as annual.

The unemployment rate was also used as a proxy from the aspect of business environment and the economic environment, where the unemployment rate, used as a proxy in this paper, represents the percentage of workforce that is unemployed, but is available in the labor market.

The high technology export index was used as a proxy for technology transfer in this paper. The index represents a percentage of total export, and its basket includes all products with high research and development intensity, such as aviation, computers, pharmaceuticals, scientific instruments and electrical appliances, etc. It is expected that there is a significant positive correlation between this index and the rate of attraction of foreign direct investments.

The data were collected from the official website of the World Bank and the Global Economy, for the period from 2000 to 2017. A cross-sectional panel data approach was used to analyze the data in which entity behavior is observed over time. The main purpose of this analysis is to identify if there is any pattern in the data collected over time in different entities (Radivojevic, Jovovic, 2017, 303). In other words, it is useful for monitoring country-specific effects and invisible differences between countries, allowing for control of bias caused by the problem of potential heterogeneity and missing data (see Radivojevic et al. 2019, 488). Due to structural breaks, an unbalanced data panel was used for some data in the research.

A dependent variable in the research is the rate of foreign direct investments, which represents the net inflows of investments for the acquisition of a lasting management interest in a company operating in the host country. More specifically, it represents the sum of share capital, earnings reinvestment, other long-term capital and short-term capital shown in the balance of payments.

The variables were selected considering the following three facts: 1) that the variables selected are adequate proxies for the determinants of foreign direct investments; 2) that data on all variables are available for all researched countries; 3) that there is no clear position in the literature or papers that have studied their effect using panel data.

The foregoing can be represented by the following equation:

$$FDI_{i,t} = \beta_1 + \beta_2 gdp_{i,t} + \beta_3 unr_{i,t} + \beta_4 inf_{i,t} + \beta_5 prs_{i,t} + \beta_6 tt_{i,t} + \beta_7 FDI_{i,t-1} + \varepsilon_{i,t} \quad (1)$$

wherein:

- $FDI_{i,t}$ - foreign direct investment rate for the i -th country in the (t) time period
- $FDI_{i,t-1}$ - foreign direct investment rate for the i -th country in the $(t-1)$ time period
- $gdp_{i,t}$ - the rate of gross domestic product for the i -th country in the (t) time period
- $unr_{i,t}$ - unemployment rate for the i -th country in the (t) time period
- $inf_{i,t}$ - the inflation rate for the i -th country in the (t) time period
- $prs_{i,t}$ - Political Risk Index for the i -th country in the (t) time period
- $tt_{i,t}$ - Technology Transfer Index for the i -th country over a (t) time period

$cap_{i,t}$ - the rate of capital between equity and assets for the i -th country over a (t) time period•

$\varepsilon_{i,t}$ - residual

Two methods of evaluating panel data were used to evaluate the equation: 1) the fixed effect method, which takes into account the unnoticed heterogeneity between countries. The aim is to capture the effects of independent variables on the rate of foreign direct investments. Each country has its own specificities that can influence the attraction of foreign direct investments, so it is realistic to assume that there is a correlation between $\varepsilon_{i,t}$ and (FDI); In other words, it allows one to maintain a constant undetected heterogeneity between entities (countries) over time. The method allows for the elimination of the effects of these time-invariant characteristics, by only estimating the net effect of the predictors; 2) Generalized Momentum Method (GMM). Unlike other estimators, the main advantage of GMM is that it can be used even when the assumptions of other methods are not satisfied. Generally speaking, GMM can be viewed as a generalization of numerous other methods, and as a result, it is less likely to generate incorrect parameter estimates (Chausse, 2010). In order to find out whether the rate of attracting foreign direct investments affects attracting new ones, equation (1) includes the foreign direct investment rate from the previous period as an independent variable. Since this variable can be expected to correlate with a random variable from the current period, this is another reason for applying the GMM estimator, noting that equation (1) will be transformed by applying the operator (Δ) of the first differentiation, which can be written in the following form:

$$\Delta FDI_{i,t} = \beta_1 + \beta_2 \Delta gdp_{i,t} + \beta_3 \Delta unr_{i,t} + \beta_4 \Delta inf_{i,t} + \beta_5 \Delta prs_{i,t} + \beta_6 \Delta t_{i,t} + \beta_6 \Delta FDI_{i,t-1} + \varepsilon_{i,t} \quad (2)$$

This method solves the potential problem of dynamic panel data bias (see Radivojevic et al. 2019 for details).

Research Results

Table 1 summarizes the descriptive statistics of the selected variables for the period from 2000 to 2017.

Table 1: Summary of Variable Descriptive Statistics (% , exception is PSR)

Variables	Nr. Obser.	Mean value	Standar. deviation	Minimum value	Maximum value
FDI	70	7.114	6.749	0.401	37.249
FDI _{<i>t-1</i>}	66	7.2178	6.856	0.401	37.249
GDP	72	3.236	2.930	-6.002	9.301
UNR	72	24.801	25.816	12.600	37.250

Variables	Nr. Obser.	Mean value	Standar. deviation	Minimum value	Maximum value
INF	60	6.582	2.855	-1.089	95.005
PSR	72	0.626	0.120	0.091	0.832
TK	63	2.547	1.222	0.832	5.530

Source: Authors

The FDI level fluctuates from 0.401% to 37.3%, reflecting significant fluctuation and indicating great variability in foreign direct investment inflows in these countries over the observed period, as evidenced by the standard deviation rate of about 6.8%. The average FDI value is approximately 7.1%, which indicates a very low average foreign direct investment inflow in this region over the last 18 years. GDP shows both negative and positive values. The highest negative value of this indicator was about 6%, which indicated a great stagnation, while the highest positive value of this indicator in the observed period was about 9%. The average GDP rate is positive, indicating that this region recorded a slight economic growth over the observed period, as the average GDP rate is about 3.2%. The unemployment rate in this region averages at around 25%. The highest unemployment rate was around 37%, while its lowest rate was recorded at 12%, which indicates a major unemployment problem in these countries. The inflation rate ranged from a record 95% to a negative value of about 1%. The average value of this variable is about 6%. The high rate of standard deviation of macroeconomic variables can be interpreted, inter alia, as a consequence of large fluctuations in economic and business activities in these countries over the past fifteen years. Regarding the value of the country's political risk index, it ranged from a minimum value of 0.09 to a maximum value of 0.8, indicating a significant fluctuation in the quality of the socio-political environment. Caution should be exercised in interpreting this result, as there were war conflicts in this region up until the end of the 1990s, and as the time horizon increased, the value of this indicator stabilized. The average value of this indicator is around 0.6, indicating a moderate risk. The maximum value of this indicator is 1 and implies a positive and stable environment, it is the other way around when the value of this indicator is zero. Proxy values of technology transfer, i.e. high-technology export indices, more than clearly testify to the low share of *know-how* of these countries in total exports, which could be interpreted as requiring these countries to work to attract foreign direct investments, in order to gain new knowledge. On the other hand, from the perspective of foreign investors, because of their backwardness, these countries should be good investment alternatives to slightly older types of technology (black, "dirty" technologies). The movement of this index ranged from a minimum of 0.8%, to a maximum of 5.5% in total exports. It is commendable that the average value of this index in the observed period was positive, about 2%, which means that these countries still export some highly sophisticated products, i.e. transfer *know-how*.

When performing econometric analysis on panel data, the first step in the analysis is to test the presence of unit root in time series. In other words, in order for the analysis to be valid, it is necessary that the series exhibit stationarity properties. For this reason, the analysis was started by examining the stationarity of time series of variables using the *Im-Pesaran-Shin* (IPS) test, noting

that the number of delays was determined by applying the third root rule. The test results are shown in Table 2.

Table 2: IPS Test Results

	Variable	Test value	P - value
FDI	Level	-0.184	0.426
	1. differ.	-0.615	0.269
	2. differ.	-3.909	0.000
FDI _{,t-1}	Level	-0.654	0.256
	1. differ.	-2.210	0.0135
GDP	Level	-0.708	0.239
	1. differ.	-0.668	0.251
	2. differ.	-4.088	0.000
UNR	Level	0.599	0.725
	1. differ.	-0.478	0.316
	2. differ.	-3.309	0.001
INF	Level*	14.599	0.067
	1. differ.*	9.393	0.000
PSR	Level	-1.726	0.042
	1. differ.	-3.049	0.001
TK	Level	1.497	0.932
	1. differ.	-2.079	0.018

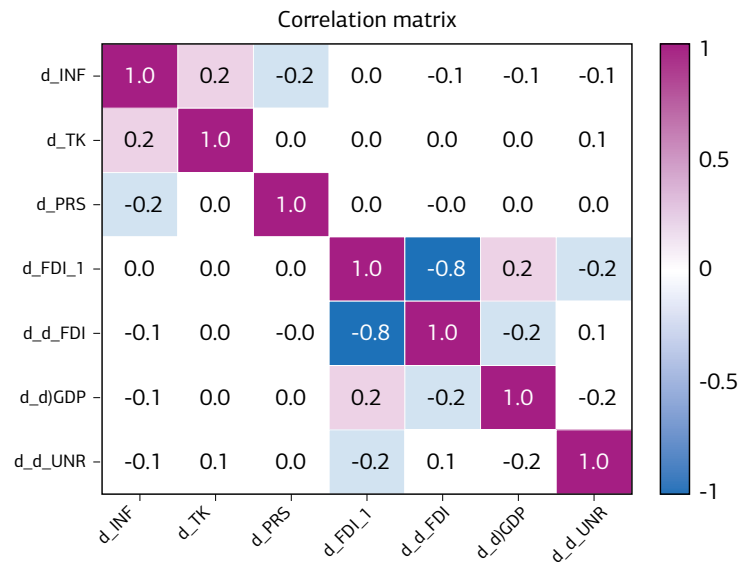
*Note: * indicates the value of the inverse chi-square of the test with eight degrees of freedom.*

Source: Authors

As can be seen from the table, all variables show the first-order non-stationarity. For this reason, the test was repeated after the first-order differentiation. After the first-order differentiation, all variables, except FDI rates, GDP rates and unemployment rates became stationary. The procedure was continued by the second-order differentiation for the non-stationary variables. After the second-order differentiation, all variables became stationary, so the analysis was further continued by calculating the correlation matrix. The correlation matrix is shown in Figure 1.

As can be seen from Figure 1, none of the variables is positively highly correlated with the other variables, so that all variables are retained in the further study, except the FDI variable from the previous period (t-1) with the dependent variable, as expected.

Figure 1: Correlation Matrix



Source: Authors

The results of estimating the parameters of equations (1) and (2) using the previously described methods of estimating the parameters of the panel data are shown in Table 3.

Table 3: Results of Parameter Estimation

Variable	Method of fixed effect			One-step GMM estimator		
	Coeff.	p value		Coeff.	p value	
Constant	- 0.204	0.861		-0.055	0.479	
FDI _{t-1}	-0.596	<0.0001	***	-0.598	<0.0001	***
GDP	-0.090	0.629		-0.088	0.634	
UNR	-0.113	0.838		-0.115	0.722	
INF	-0.549	0.095	*	0.547	0.089	*
PSR	- 13.135	0.551		-13.488	0.237	
TK	0.310	0.778		0.311	0.708	

	Method of fixed effect	One-step GMM estimator	
		AR(2)	
R2	0.40	AR(2)	-1.283 (0.199)
		Sargan test	Chi-square (38) = 46.936 (0.1519)
Common Regressors Test	F(6, 40) = 4.3829 (0.002)		
Test of different sections	F(3, 40) = 0.012 (0.998)		
Wald's heteroskedasticity test	41.5796 (2.03e-008)		
Normality test of model residuals	Chi-square (2) = 8.746 (0.013)**		

Note: The first and second order autocorrelation p-values are given in parentheses. *, **, *** statistically significant variables for confidence levels of 1%, 5% and 10%, respectively. Sargan test shows that all instruments included in the model are valid. The H-matrix was used to evaluate the variance-covariance matrix.

Source: Authors

As can be seen from Table 3, parameter estimates using the dynamic panel data estimating model, show that the R square of this estimator is 0.40, meaning that almost 40% of the variations in the dependent variable can be explained by the selected variables. Further results indicate that there is a statistically significant connection between FDI from the previous period and the inflow rate from the current period, as expected. However, it is a surprising sign of this correlation and it can be interpreted that a decrease in the FDI inflow rate of 0.59% from the previous period, will lead to an increase in the current rate of foreign direct investment inflow. Also, the results reveal that there is a statistically significant connection between inflation and FDI, which stands at -0.113%. The interpretation of this result is as follows: an increase in the inflation rate of 1% will cause the FDI to fall by -0.549% and vice versa. This is expected, and also from an economic point of view it can be interpreted that foreign direct investors require a stable environment and have an aversion towards inflation, which is understandable, given the effects of inflation on business efficiency. As for the other variables, between them and the FDI influx, no statistically significant connection was detected.

The results of applying the dynamic estimator show that this decision was correct. Namely, the implementation of this estimator is justified, when the assumption that the selected countries have their specificities, which are time invariant, is established as realistic. Given that the dynamic fixed effects model decomposes the model error into two components, a deterministic one, which is in fact a reflection of the time-invariant specificity of these countries (alpha in model (1)) and a stochastic component (residual in model (1)), the choice of this panel data estimator was understandable. Since it is based on the assumption of an identical and independent distribution of the residuals, in order to test its validity, a diagnostic test was carried out below, the results of which are shown in the first part of Table 3. The common regressors test is about 4.4, indicating no acceptance of the null hypothesis on which the test is based. The cross-sectional test (alpha) indicates that there are no time-invariant specificities.

ties between countries. Also, Wald's heteroskedasticity test reveals that countries have no common variance error. The residual distribution normality test shows that, for a significance level of 95% for which the test was performed, residuals follow the normal distribution.

The results of the diagnostic test imply that, in this case, the estimator of the united ordinary least squares is more adequate than the fixed effects method. Therefore, the results of model evaluation (1) using this estimator are presented below. The results are shown in Table 4.

Table 4: Results of the Method of United Ordinary Least Squares

The united ordinary least squares method			
Variable	Coeff.	p value	
Constant	-0.202	0.857	
FDI _{m-1}	-0.595	<0.0001	***
GDP	-0.091	0.616	
UNR	-0.616	0.847	
INF	-0.544	0.084	*
PSR	-13.843	0.501	
TK	0.314	0.767	
R ²	0.40		
Wald's heteroskedasticity test	38.6196 (8.347e-008)		
Normality test of model residuals	Chi-square (2) = 8.948 (0.011)**		

Source: Authors

The results of the evaluation of the model panel data presented by the expression (1) indicate that all variables, except for the FDI inflow rate from the previous period and the inflation rate, have no statistically significant connection with the FDI inflow rate in the current period. In order to test the validity of this estimator as well, a diagnostic test was performed, the results of which are also shown in Table 4. The test results show the absence of homoskedasticity of variance and the presence of normality of distribution at residuals. With this in mind, it should be noted that the results obtained by the implementation of this estimator should be considered with caution for violating the assumption of homoskedasticity.

As the general method of moments is an effective method of evaluating panel data, even in the situation where the basic assumptions of all other estimators are not met, this further work should focus solely on the results obtained by the implementation of this estimator. The results of this estimator are given in the second part of Table 3. The Sargan test shows that the selected instruments are valid, while the second-order serial autocorrelation test shows the absence of autocorrelation, indicating the validity of this estimator.

The results of this estimator confirm the conclusions drawn from the previous two estimators, i.e. for foreign direct investment inflows in selected countries,

only two variables are significant, the inflation rate and the FDI inflow rate from the previous period, both of which have a negative connection.

Discussion on the Results Obtained

The results obtained are somewhat surprising, that is, they are not in line with the prevailing belief of the general public, but not of the academic public, who is aware of the results of various studies related to this issue for developing countries (see research by Alesin, 1996, Alvarez, 1996, etc.). The first interesting finding is the absence of a statistically significant connection between the political risk index and the FDI inflow, which is surprising to the general public, but given the average index of 0.6 over the observed period (noting that the maximum value of this indicator is 1, indicating non-existence of political risk and which is an indicator of a stable socio-political environment), and that after the end of the war conflicts in the late 1990s, the value of this index does not vary significantly, it can be interpreted that foreign investors see these markets as relatively stable in socio-political terms, and are primarily guided by the subventions and benefits that these countries offer to foreign investors when deciding to invest.

Another interesting finding, for a broader view, is that there is no statistically significant connection between GDP and FDI inflow rates. It is realistic to expect that with an increase in GDP, the outflow of FDI will increase, as this means that more value outflows in the form of investments in foreign markets. However, regarding the inflow of FDI, various studies show that there are both positive and negative connections. The positive is that GDP growth means improving business conditions, which is a favorable environment for investment, and the growth of FDI in underdeveloped countries. On the other hand, the negative correlation is interpreted to have a beneficial effect on attracting foreign direct investments, as investors invest in a market where resource and labor prices will decrease. Of course, there is research suggesting that there is no dependence between these two variables, but that, when deciding to invest in the markets of developing countries, foreign investors are guided by other criteria (see Hur et al. 2013a, Hur et al. 2013b).

The results of the analysis indicate that the unemployment rate is not statistically significant and does not affect the inflow of FDI. This can be interpreted as that foreign investors, although investing in these markets in labor-intensive products and striving to obtain economic benefits, first of all, by using cheap labor, do not take into account unemployment when investing, considering that the unemployed population is not qualified enough and that this is the cause of their unemployment. Their focus is on cheap labor, and for them, it doesn't matter if the labor will be attracted from the job market (unemployed) or if they are already employed. On the other hand, the FDI inflow rate is inversely proportional to the inflation rate in the host country. This is expected when bearing in mind that foreign investors are exclusively investing in these markets because of their cheap resources. Rising inflation will affect the rise in resource prices, which is not in their interest.

The results of the analysis reveal that there is no statistically significant connection between FDI inflows and technology transfers, which can be explained by the fact that the foreign investors, when deciding to invest in developing markets, are guided above all by the fact that they will gain advantage by using cheap resources and manpower. In other words, they are not investing in these markets to harness the knowledge and technology that these countries possess. Therefore, this result is understandable and expected. However, a deeper analysis of this issue requires knowledge of the FDI structure. There are numerous studies indicating that the motive for foreign investors was to exploit the technological advances of the host country, but such examples are rare in these countries.

Conclusion

One of the main problems faced by developing countries, such as Serbia, Montenegro, Bosnia and Herzegovina and Macedonia in the Western Balkans, is the low level of economic and business growth. This problem is compounded, on the one hand, by insufficient domestic accumulation and, on the other, by a lack of fresh capital for investments. Hence, these countries are struggling to attract foreign direct investments by providing various incentives to foreign investors and seeking to create the most favorable economic conditions and environment. However, the war conflicts and the political and general macroeconomic instability in this region in the early 1990s influenced the low rate of FDI inflow into these countries, and the lack of utilization of their economic position and achievements since the late 1980s, when other socialist countries entered the transition process.

The inflow of FDI into these countries was below a level that would provide for accelerated structural reforms, higher growth rates, higher economic activity of the population, an increase in foreign currency reserves and a favorable credit rating. Therefore, the inflow of foreign direct investments into these countries means not only the inflow of fresh capital, but the transfer of *know-how* in the field of technical and technological processes, management methods and marketing mix. At the same time, it means reduction of unemployment and acceleration of economic growth, which has significant implications for political stability, and the creation of a healthy economic environment to further attract foreign direct investments. This is also the reason why macroeconomic policy makers seek to create the most attractive conditions for attracting foreign direct investors, offering primarily different incentives, and trying to modernize the business environment, both through the construction of quality legal regulations, and through infrastructure.

However, the findings in this paper indirectly imply that foreign investors invest in these markets solely to exploit cheap resources and manpower, which can serve as a benchmark for macroeconomic policy makers to enact adequate incentive measures to attract investments, leading to an increase in exports of highly sophisticated products and services, rather than the exploitation of national wealth and manpower.

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