



Univerzitet za poslovne studije Banja Luka  
University of Business Studies Banja Luka

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ČASOPIS ZA POSLOVNU TEORIJU I PRAKSU

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**POSLOVNE STUDIJE**  
ČASOPIS ZA POSLOVNU TEORIJU I PRAKSU

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## UTICAJ KVALITETA FINANSIJSKIH IZVJEŠTAJA NA VREDNOVANJE PREDUZEĆA U PROCESU SVOJINSKE TRANSFORMACIJE U ZEMLJAMA REGIONA

**Rezime:** *Osnovni cilj istraživanja u ovom radu jeste analiza kvaliteta finansijskih izvještaja u svrhu procjene vrijednosti preduzeća koja se provodi(la) tokom svojinske transformacije u zemljama regiona.*

*Istraživanje je obavljeno primjenom standardnog metodološkog postupka po kojem su korišćeni sekundarni izvori, tj. istraživanje domaće i strane stručne literature (knjige, članci, studije, izvještaji relevantnih institucija, itd.), određenih zakonskih propisa u vezi sa finansijskim izvještavanjem i revizijom, te publikacija vezanih za tu problematiku u zemljama regiona. Na ovako pribavljene podatke primijenjena je metoda sistematizacije, redukcije i klasifikacije podataka. Pripremljeni podaci su predstavljali polaznu osnovu, na koju su primijenjene kvalitativne metode analize: metode opservacije, logičkog objašnjenja, provjeravanja i kritičke analize teorijskih i empirijskih istraživanja itd.*

*Rezultati analize su pokazali da je kvalitet finansijskih izvještaja u početku svojinskih promjena bio na nivou koji je predstavljao jedan od ograničavajućih faktora u procjeni, koji dolazi do izražaja naročito prilikom primjene troškovnog pristupa u procjeni i kod prikupljanja informacija o preduzećima. U ambijentu sa računovodstvom koje je uređivala država i uz odsustvo nezavisne revizije postojale su male šanse za kvalitetno i pouzdano vrednovanje preduzeća. Kasnije,*

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*jačanjem tržišnih mehanizama i primjenom Međunarodnih standarda finansijskog izvještavanja, kao i uvođenjem obavezne revizije, povećana je pouzdanost finansijskih informacija, što je omogućilo realnije vrednovanje kapitala.*

*Međutim, neophodno je dalje činiti sve da se kvalitet finansijskih izvještaja poveća. To se može postići ukoliko se obezbijedi veća usklađenost istih sa Međunarodnim računovodstvenim standardima, ukoliko su kompetentna lica zadužena za njihovo sastavljanje i ukoliko se prilikom njihove revizije poštuju Međunarodni standardi revizije, koju vrše lica koja posjeduju odgovarajuća znanja i iskustvo*

**Ključne reči:** *finansijski izvještaji, međunarodni računovodstveni standardi, međunarodni standardi revizije, vrednovanje preduzeća.*

**JEL klasifikacija:** G32

## UVOD

Transformacija društvenog vlasništva u privatno ili državno vlasništvo započinjala je utvrđivanjem vrijednosti preduzeća, a osnova za utvrđivanje njegove vrijednosti bili su finansijski izvještaji. Iz tog razloga, važno je da finansijsko izvještavanje bude realno i fer, kako bi rezultati procjene bili pouzdani.

Međutim, u ambijentu sa računovodstvom koje je uređivala država, sa procjenjivanjem koje je nadzirala država, uz odsustvo nezavisne revizije, postojale su male šanse za efikasno provođenje procesa procjene vrijednosti preduzeća. Neki od problema koji su vezani za kvalitet finansijskog izvještavanja tiču se činjenice da je u zemljama regiona dugo bila zapostavljena prava svrha sastavljanja finansijskih izvještaja, da oni nisu bili sastavljeni u skladu sa Međunarodnim računovodstvenim standardima, što je otežavalo njihovo poređenje sa izvještajima u drugim zemljama i njihovo razumijevanje od strane inostranih procjenitelja i investitora, a odsustvo njihove revizije pospješilo je nastanak kreativnog računovodstva.

Analizirani su faktori koji su doveli do ovih problema, kao i način na koji oni utiču na procjenu.

## 1. FINANSIJSKI IZVJEŠTAJI KAO TEMELJ PROCJENJIVANJA PREDUZEĆA

Procjena vrijednosti preduzeća kao cjeline predstavlja praktično jednu računovodstveno-finansijsku projekciju, gdje kao dokaz imamo iskustvene finansijske izvještaje, koji su, u principu, glavni izvori podataka za procjenu, prije svega projekcije bilansa stanja, bilansa uspjeha i bilansa novčanih tokova. Pri obavljanju poslova procjene vrijednosti preduzeća, računovodstvo preduzeća ima ogromnu ulogu u pružanju serije periodičnih i godišnjih finansijskih izvještaja, koji treba da budu sačinjeni uz konzistentno poštovanje opšteprihvaćenih računovodstvenih principa i standarda. Finansijski izvještaji predstavljaju standardizovanu formu, kroz koju se vlasnici, svi interesenti i javnost, informišu o glavnim činjenicama koje karakterišu poslovanje preduzeća u određenom izvještajnom periodu. Oni su od velikog značaja za veliki broj njihovih korisnika, kao što su: vlasnici, potencijalni investitori, banke, osiguravajuće kompanije, zaposleni, država i šira javnost. Zbog značaja koji finansijski izvještaji imaju za ove korisnike, oni moraju biti u formi koja je strogo propisana, moraju biti standardizovani, odnosno pri njihovom sastavljanju moraju se koristiti propisani standardi. Sastavljanje finansijskih izvještaja u skladu sa Međunarodnim računovodstvenim standardima obezbjeđuje ne samo uporedivost finansijskih izvještaja jednog preduzeća u nizu sukcesivnih perioda ili uporedivost finansijskih izvještaja za više preduzeća u jednoj zemlji, već obezbjeđuje uporedivost finansijskih izvještaja za preduzeća u različitim zemljama, što je od izuzetnog značaja danas, u uslovima globalizacije i postojanja jednog svjetskog tržišta, čime se obezbjeđuje slobodno kretanje kapitala. Takođe, smatra se da se primjenom ovih standarda obezbjeđuje realan prikaz imovine, kapitala, obaveza, prihoda i rashoda. Finansijski izvještaji su jedan od glavnih izvora informacija o preduzeću, osnova su za donošenje brojnih odluka, ali su i osnova, tj. nezaobilazni izvor informacija neophodnih za procjenu vrijednosti kapitala preduzeća. Zbog svega toga, oni moraju jasno i nedvosmisleno iskazivati pojedine kategorije, moraju biti objektivni i pouzdani. Ne postoje nikakve druge isprave koje imaju veću iskaznu snagu o ekonomskom stanju i o ekonomskim sposobnostima preduzeća, jaču od snage koju imaju fi-

nansijski izvještaji. Procjenitelji u njima nalaze sistematično uređene i prezentovane ključne kategorije koje određuju vrijednost preduzeća: imovinu, obaveze, kapital i prinosnu snagu (Milojević 1999, 591). Iako se finansijski izvještaji baziraju na istorijskim podacima, odnosno odražavaju efekte prošlih događaja, a vrijednost preduzeća je kategorija koja se odnosi na budućnost, odnosno vrijednost je u funkciji budućih koristi koje će vlasnici imati od tog preduzeća, oni nisu nerelevantni za procjenu, jer ni prošlost nije nerelevantna za budućnost. Stanja i promjene u prošlosti koji se iskazuju u finansijskim izvještajima pomažu da se otkriju određeni trendovi, čime se olakšava predviđanje budućih stanja i tokova. Iz tog razloga, finansijski izvještaji imaju naročito veliki značaj u procjeni vrijednosti preduzeća, ako se ona obavlja u stabilnim uslovima privređivanja, standardnim strukturama i načinima ponašanja, odnosno bez nekih velikih promjena i uticaja eksternih faktora na poslovanje preduzeća, kao i prilikom procjene vrijednosti zrelih preduzeća, koja su ušla u mirnu fazu poslovanja, sa stabilnim novčanim tokovima.

Možemo reći da su finansijski izvještaji samo valjana, nezaobilazna i respektabilna početna tačka prilikom procjene vrijednosti preduzeća i da se procjena vrijednosti kapitala ne može provesti bez postojanja finansijskih izvještaja. Kao takvi, oni moraju biti objektivni, pouzdani i kvalitetni. U suprotnom, ako su oni nerealni i iskrivljeni, prilikom procjene vrijednosti nastaju problemi i može doći do nerealne procijenjene vrijednosti. Zbog toga, veliki značaj u procjeni vrijednosti kapitala ima i nezavisna revizija finansijskih izvještaja. Njen značaj se ogleda upravo u obezbjeđivanju većeg kvaliteta, tj. pouzdanosti i objektivnosti finansijskih izvještaja. Dakle, računovodstvo, nezavisna revizija i nepristrasna procjena čine tri međuzavisne komponente metodologije procjenjivanja, bez obzira na odabrani koncept procjene i primijenjene procedure (Cerović 1994, 132).

## **2. ANALIZA KVALITETA FINANSIJSKIH IZVJEŠTAJA**

U zemljama regiona, kvalitet finansijskog izvještavanja nije bio na visokom nivou, a to je, prije svega, posljedica započetog institucionalnog ukidanja privatne svojine 1945. godine, koje je okončano 1948. godine, njenom



strogom zabranom, a koja je trajala skoro četiri decenije. Tokom tog perioda, u potpunosti je zanemarena prava svrha finansijskog izvještavanja, i umanjen je stručni i društveni ugled računovodstvene profesije. Za razliku od zemalja sa tržišnim privredama, čiji je osnov privatna svojina, gdje je svrha računovodstvenog izvještavanja pružanje što pouzdanijih i blagovremenih informacija vlasnicima i drugim korisnicima, radi donošenja poslovnih odluka i kontrole njihovog provođenja, u zemljama regiona je ova svrha računovodstvenog izvještavanja bila zamijenjena zadatkom provođenja državne kontrole, koja je bila više formalistička i neozbiljna. U jugoslovenskoj privredi cijene su bile tradicionalno deformisane državnim monopolima, isključivanjem konkurencije iz inostranstva, različitim državnim subvencijama i direktnom administrativnom kontrolom. U tim okolnostima, finansijskih izvještaji društvenih preduzeća nisu imali mnogo opravdanja da bi, kao takvi, mogli služiti kao ocjena za utvrđivanje, odnosno procjenjivanje njihove vrijednosti. Finansijski izvještaji su nastajali prema odredbama zakonskih propisa, nisu bili profesionalno utemeljeni na računovodstvenim principima i računovodstvenim standardima, te nisu atestirani od strane nezavisne revizije.

To je i bila logična posljedica ukidanja privatne svojine, jer su, faktički, time eliminisani glavni, prirodni korisnici finansijskih izvještaja, a računovodstveno informisanje ograničeno na svoje manje važne zadatke. Kada svemu ovome dodamo još probleme u državi, kao što su nestabilni monetarni uslovi, nedovoljno obučeni kadrovi, koji su stasavali u takvim uslovima, opterećeni zabludama i predrasudama, neprimjenjivanje Međunarodnih računovodstvenih standarda (u nastavku teksta: MRS), neprovođenje revizije finansijskih izvještaja, nedostatak povjerenja u finansijske izvještaje, možemo reći da je kvalitet finansijskog izvještavanja u zemljama regiona, naročito do 2000. godine (izuzev Republike Hrvatske), bio na niskom nivou, ali da ni danas situacija nije mnogo bolja. Cjelokupan razvoj računovodstvene profesije i sve ono što se dešavalo u prošlosti, naravno, ima uticaja na kvalitet finansijskih izvještaja čak i danas, jer nije moguće nagomilane probleme, pogrešnu računovodstvenu praksu, kao i pogrešno shvatanje svrhe finansijskog izvještavanja za kratak vremenski period eliminisati i prilagoditi se razvijenim zemljama. Još uvijek, uprkos tome što se većina ekonomskih entiteta nalazi

u privatnom vlasništvu, državno regulisanje računovodstva je zasnovano na netačnoj pretpostavci da bi računovodstveno informisanje trebalo da služi državnoj kontroli, umjesto da ga koriste privatni vlasnici kapitala i njihovi poslovni partneri (Petrović 2009, 12). Čak i sami domaći privatni vlasnici preduzeća još uvijek nisu shvatili pravu svrhu finansijskih izvještaja, a naročito svrhu njihove revizije, pa na to gledaju kao na zakonom od strane države nametnutu obavezu, od koje oni nemaju koristi. Iz tog razloga, oni nastoje da reviziju obave samo formalno, uz što manje troškove, a to, naravno smanjuje njen kvalitet, a samim tim i pouzdanost finansijskih izvještaja, koji opet, kao izvor informacija za procjenu vrijednosti kapitala, mogu dovesti u pitanje i rezultate procjene. Jedan od uzroka niskog kvaliteta finansijskih izvještaja u periodu kada se počelo sa praksom procjene vrijednosti preduzeća u zemljama regiona, pa sve do 2001. godine, bio je neprimjenjivanje MRS. Naime, kažemo okvirno do 2001. godine, jer je novi milenijum obilježio početak usvajanja i primjene MRS u zemljama regiona.

Nacionalna zakonodavstva zemalja regiona su kroz zakone o računovodstvu regulisala primjenu MRS. Tako je Republika Hrvatska još Zakonom o računovodstvu iz 1992. godine uvela primjenu MRS, čime je došla u prednost u odnosu na ostale zemlje regiona u pogledu finansijskog izvještavanja. Nakon deset godina, 2002. godine, Republika Crna Gora je reformom računovodstvene i revizijske prakse, i donošenjem Zakona o računovodstvu i reviziji uvela obavezu primjene MRS. Period od 2004. godine u Republici Srbiji karakteriše uvođenje MRS, da bi obavezna primjena za sve entitete bila uvedena tek od 2006. godine, donošenjem Zakona o računovodstvu i reviziji. Na osnovu Zakona o računovodstvu i reviziji Bosne i Hercegovine, Republika Srpska i Federacija BiH su svojim nacionalnim zakonodavstvima iz oblasti računovodstva i revizije propisale primjenu MRS. Tako je u Republici Srpskoj obaveza primjene MRS definisana Zakonom o računovodstvu i reviziji Republike Srpske iz 2005, sa obaveznom primjenom od 2006. godine. Zakonom o računovodstvu i reviziji u Federaciji BiH iz 2005. godine propisana je obavezna primjena MRS u Federaciji BiH. Ovde treba napomenuti da su sve zemlje regiona (izuzev Republike Hrvatske, koja je uvela obaveznu primjenu MRS još 1992. godine) imale usvojene nacionalne računovodstvene stan-

darde koji su manje ili više odstupali od MRS, što je svakako doprinosilo neujednačenom pristupu u finansijskom izvještavanju.

Za male zemlje, kao što su zemlje nastale raspadom bivše Jugoslavije, u uslovima globalizacije, slobodnih tržišta, jedino realno rješenje za regulisanje računovodstva bili su MRS. Bez njih, a to je bio slučaj sve do 2001. godine, finansijski izvještaji preduzeća nisu bili uporedivi sa finansijskim izvještajima preduzeća u drugim državama, što je otežavalo investitorima donošenje odluka o ulaganju, jer nisu mogli da vrše njihovu procjenu. Problem je bio u nerazumijevanju pojedinih kategorija, evidentiranju efekata poslovnih događaja na drugačiji, pogrešan način, što je onemogućavalo da „stranci“, bilo da su oni potencijalni investitori ili su to strane revizorske i konsultantske kompanije, razumiju i tumače finansijske izvještaje preduzeća, kao i da ih koriste kao osnovu za procjenu vrijednosti kapitala ili da sprovode njihovu reviziju. Pitanje da li usvojiti MRS ili nacionalne računovodstvene standarde u zemljama regiona javilo se početkom devedesetih godina prošlog vijeka. Međutim, prevagu je dobilo opredjeljenje za nacionalne računovodstvene standarde (izuzev Republike Hrvatske), ali su za potrebe finansijske revizije, radi zadovoljenja zahtjeva inostranih zajmodavaca, primjenjivani MRS, a to iz prethodno pomenutog razloga.

Finansijsko izvještavanje je bilo niskog kvaliteta usljed neprimjenjivanja MRS, jer se smatra da upravo primjena MRS obezbjeđuje prikazivanje finansijske, imovinske situacije i prinosnog položaja preduzeća na realan način, odnosno da njihova primjena obezbjeđuje prikazivanje imovine i obaveza po fer i realnoj vrijednosti.

Samo neki od problema, tačnije, odstupanja od MRS u zemljama regiona su sljedeći:

- Pozicije građevinskih objekata su *često* iskrivljeno prikazivane, a uzrok toga je bio najčešće nepotpuno obuhvatanje fizičke cjeline građevinskih objekata ili obuhvatanje stavki koje po prirodi ne spadaju u ovu kategoriju. To se dešavalo kada su troškovi uređenja građevinskog zemljišta pripisivani vrijednosti zemljišta, a ne vrijednosti građevinskog objekta, kao što propisuje npr. MRS 16. Dešavalo se i da se u vrijednost građevinskih objekata uračunaju neke instalacije koje su fizički odvojive od građevinskih objekata i kao takve treba da

budu zasebno evidentirane u okviru opreme, *što* je takođe u skladu sa MRS 16. Nekada je izostavljano aktiviranje građevinskih objekata izgrađenih u sopstvenoj režiji i sl.

- Suprotno MRS, bila je rasprostranjena praksa grupnog otpisivanja pozicija opreme, a to je posljedica zakonskih odredbi koje su to dozvoljavale, a na taj način dolazi do potcjenjivanja ili precjenjivanja imovine, kao i kapitala, uz neminovni uticaj i na rashode. Pored toga, proizvoljnost da li ili ne obračunavati i iskazivati amortizaciju u finansijskim izvještajima suprotno je MRS jer ostavlja mogućnost pogrešnog iskazivanja dobiti i dr.
- Vršena je pogrešna kategorizacija sitnog inventara ili nije ni postojao akt kojim je uređivana materija alata i inventara.
- Pogrešno su iskazivane stavke nedovršene proizvodnje, jer su u njihovu vrijednost uključivani troškovi kojima tu nije mjesto, kao *što* su: neekonomično trošenje materijala, neiskorišćenost kapaciteta i rashodi finansiranja.
- Prilikom evidentiranja potraživanja nije se dovoljno pažnje posvećivalo odmjeravanju realnosti tih potraživanja, kao *što* to propisuju MRS. Nije vršeno umanjene vrijednosti potraživanja za sumnjiva i sporna potraživanja.
- U velikom broju slučajeva, dešavalo se da je iznos dugoročnih rezervisanja neadekvatan.

Sva ova i mnoga druga odstupanja u finansijskim izvještajima dovodila su do iskrivljenog, nerealnog prikazivanja vrijednosti imovine, kapitala i rezultata poslovanja, a samim tim su uticala i na pokazatelje profitabilnosti, likvidnosti, ali i na multiplikatore vrijednosti koji se koriste u procjeni vrijednosti kapitala putem metode uporedivih preduzeća.

Problem je bio i što su vršene česte i značajne izmjene zakonskih propisa u vezi sa bilansiranjem, pa su finansijski izvještaji u sukcesivnim poslovnim godinama bili teško uporedivi. Pored toga, na uporedivost su uticali i drugi faktori: monetarne fluktuacije i njihovo neadekvatno eliminisanje iz finansijskih izvještaja, nekonzistentnost bilansne politike i drugi. Ovaj problem je bio značajan, jer ako finansijski izvještaji nisu uporedivi, ne može se sagledati da li se finansijska situacija u preduzeću popravlja ili pogoršava, da li prihodi od prodaje rastu ili opadaju, tj. ne mogu se sagledati određeni

trendovi, ne mogu se vršiti projekcije poslovanja u budućnosti, a to je neophodno za procjenu vrijednosti prema prinosnom pristupu.

Ovde je veoma važan kvalitet finansijskih izvještaja, jer se podaci i odnosi pojedinih kategorija iz bilansa stanja i bilansa uspjeha koriste kao osnova za predviđanje novčanih tokova. Ako su oni iskazani pogrešno, ako ne odgovaraju realnom stanju, ta činjenica će se odraziti i na projektovani novčani tok, a time i na vrijednost preduzeća (Ćurić 2014, 181).

Iako se od 2001. godine u zemljama regiona primjenjuju Međunarodni računovodstveni standardi, kvalitet finansijskog izvještavanja nije na visokom nivou. I dalje pri sastavljanju finansijskih izvještaja postoje odstupanja od MRS, a u nekim slučajevima je otežana primjena nekih zahtjeva iz ovih standarda. Jedan od značajnih problema je ispunjavanje najvažnijih zahtjeva u pogledu vrednovanja imovine, koji proizlaze iz MRS. U skladu sa zahtjevima MRS 16, koji se bavi priznavanjem i utvrđivanjem knjigovodstvene vrijednosti nekretnina, postrojenja i opreme, neophodno je povremeno vršiti njihovu revalorizaciju, odnosno svoditi njihovu knjigovodstvenu vrijednost na fer vrijednost. Fer vrijednost se utvrđuje od strane profesionalnog procjenitelja, a na osnovu podataka o tržišnoj vrijednosti imovine. Taj postupak zahtijeva da se vrednovanje nekretnina, postrojenja i opreme vrši primjenom odgovarajuće metodologije za procjenu vrijednosti, koja je u skladu sa međunarodnim standardima procjene (Poznanić 2011, 5). Međutim, praktična primjena ovih zahtjeva u zemljama regiona, kao i u drugim zemljama u kojima tržišna privreda nije dovoljno razvijena, nailazi na veliki broj problema. Neki od tih problema su: nedostatak kvalifikovanih procjenitelja, nesređena evidencija o imovini i teškoće u primjeni metodologije za procjenu.

U zemljama regiona postoji mali broj kompetentnih, sertifikovanih procjenitelja, koji posjeduju sve neophodne vještine, a procjena pojedinih dijelova imovine u velikom broju se i dalje provodi od strane inženjera. O uzrocima i posljedicama nesređene evidencije imovine već je bilo riječi. Činjenica da pojedini dijelovi imovine ne pripadaju preduzeću, a nalaze se u njegovim evidencijama ili obrnuto, kao i nedostatak dokumentacije o karakteristikama imovine i njenoj iskorišćenosti, svakako, otežavaju vrednovanje imovine preduzeća u skladu sa pomenutim MRS.

Treći problem je primjena metodologije i standarda procjene koji se koriste danas u svijetu, a koji se ne mogu u potpunosti primijeniti kod nas. Prilikom vrednovanja pojedinih dijelova imovine, koriste se iste metode procjene kao i za vrednovanje preduzeća kao cjeline, a to su: tržišna, troškovna i prinosna metoda. Svi problemi koji se javljaju u primjeni ovih metoda prilikom procjene vrijednosti preduzeća, javljaju se i u njihovoj primjeni pri vrednovanju pojedinačne imovine.

Problem je i što do sada nisu objavljena Tumačenja, koja su sastavni dio standarda, a nedavno je objavljen Kodeks etike za profesionalne računovođe i Međunarodni standardi revizije. Ovakva situacija dovela je do problema u primjeni MRS i MSFI, jer bez tumačenja nije jasno kako se primjenjuju. Jedan od faktora koji posredno doprinosi povećanju kvaliteta finansijskih izvještaja, a direktno doprinosi povećanju povjerenja u finansijske izvještaje, jeste nezavisna revizija finansijskih izvještaja. Nezavisna revizija je specijalizovano tijelo čija je funkcija ispitivanje i davanje mišljenja o objektivnosti i istinitosti računovodstvenih izvještaja, odnosno njihovoj saglasnosti sa standardima prema kojima se oni sačinjavaju i prezentuju javnosti (Milojević 1999, 602). Zbog toga je revizija od značaja i za samu procjenu vrijednosti preduzeća, jer povećava kredibilitet realne slike finansijske pozicije, zarađivačke sposobnosti i veličine supstance neto kapitala, odnosno obezbjeđuje što pouzdanije informacije.

U zemljama regiona, obaveza revizije uvedena je zakonskim i podzakonskim aktima počev od 1996. godine, izuzev Republike Hrvatske, koja je obaveznu reviziju uvela još 1992. godine, Zakonom o reviziji i Zakonom o računovodstvu. Obveznici revizije u Republici Hrvatskoj utvrđeni su Zakonom o računovodstvu, a to su preduzeća koja ostvaruju preduzetničku djelatnost radi sticanja dobiti. Jednom godišnje reviziji su podlijezala velika preduzeća, te srednja preduzeća ako su ista organizovana kao akcionarska društva. Mala preduzeća koja su organizovana kao akcionarska društva obavezi skraćene revizije podliježu svake treće godine. Skraćenom revizijom smatra se uvid u poslovanje.

Zakonom o reviziji računovodstvenih iskaza iz 1996. godine, donesenim sa nivoa savezne vlade, u Republici Srbiji uvedena je obavezna revizija. Iste godine, Republika Crna Gora je obavezu revizije propisala Uredbom o reviziji računovodstvenih iskaza.

U Republici Srpskoj, Zakonom o računovodstvu iz 1999. godine, pokrenuto je pitanje revizije, ali ne i njene obavezne primjene. Tek stupanjem na snagu Zakona o računovodstvu i reviziji Republike Srpske 2005. godine, uvedena je obavezna revizija za sva pravna lica koja imaju javnu odgovornost. Slično kao i u Republici Srpskoj, uvođenje obavezne revizije u Federaciji Bosne i Hercegovine definisano je Zakonom o računovodstvu i reviziji u Federaciji Bosne i Hercegovine 2005. godine. To nije slučajno, jer su oba entitetska zakona donesena na bazi okvirnog Zakona o računovodstvu i reviziji Bosne i Hercegovine i po strukturi, a naročito suštinski, veoma su slični. Treba napomenuti da je i u Federaciji BiH prije stupanja na snagu Zakona o računovodstvu i reviziji u Federaciji Bosne i Hercegovine iz 2005. godine, pitanje revizije i njene obavezne primjene regulisano u Zakonu o računovodstvu i Zakonu o reviziji, doduše, djelimično jer je obaveza revizije postojala samo za velika pravna lica i akcionarska društva.

Kada je u pitanju primjena Međunarodnih standarda revizije (u nastavku teksta: MSR) u procesu obavljanja revizije, zemlje regiona su je, kao i pitanje obavezne revizije, regulisale računovodstvenim propisima. Kao i sa uvođenjem obavezne revizije, Republika Hrvatska je prva uvela primjenu MSR još 1992. godine, Zakonom o reviziji. Prvi značajniji iskorak u vezi sa primjenom međunarodnih standarda revizije u Bosni Hercegovini učinjen je donošenjem entitetskih zakona 2005. godine, a na osnovu Zakona o računovodstvu i reviziji BiH. Tako je u Republici Srpskoj i Federaciji Bosne i Hercegovine računovodstvenim regulativama uvedena obavezna primjena Međunarodnih standarda revizije. Republika Crna Gora je Zakonom o računovodstvu i reviziji iz 2002. godine uvela obaveznu primjenu MSR, a Republika Srbija je istu obavezu uvela Zakonom o računovodstvu i reviziji iz 2002. godine.

U nekim zemljama regiona, kao što je Republika Srbija, revizija finansijskih izvještaja nametnuta je prerano, kada još nije postojalo interesovanje od strane vlasnika preduzeća, koji prvi treba da budu zainteresovani za njeno provođenje, što je dovelo je do izobličenja njene stvarne svrhe i opadanja njenog kvaliteta (Petrović 2009, 7). Veza između privatne svojine ekonomskih entiteta i uloge eksterne revizije shvaćena je na potpuno pogrešan način. Za razliku od razvijenih zemalja, gdje je potrebu revizije nametnula praksa i potrebe ekonomskih entiteta, potencijalnih investi-

tora i drugih, pa je tek onda ta oblast regulisana određenim propisima i standardima, a tako je bilo i sa procjenom vrijednosti kapitala. U zemljama regiona slučaj je bio obrnut. Pored toga, u praksi zemalja regiona nedovoljan je kvalitet računovodstvenog informisanja i finansijskog izvještavanja, te postoji nenaviknutost na reviziju, što zahtijeva promjenu navika i shvatanja menadžmenta i institucionalnog i drugog okruženja preduzeća.

Kao što je već navedeno, revizija je nametnuta bez prethodne zainteresovanosti onih kojima ta revizija treba da koristi. U tom početnom periodu nije ni bilo dovoljno stručnih kadrova koji bi ove poslove obavljali, oni su bili opterećeni zabludama, išli su linijom manjeg otpora i nastojali da ostvare što veće zarade. Nisu bili usvojeni kako Međunarodni računovodstveni standardi, tako ni određeni standardi za revizore. Naravno, situacija se u oblasti revizije popravila sa ulaskom velikih revizorskih kuća na tržište zemalja regiona. Međutim, i danas postoje određeni faktori koji umanjuju kvalitet revizije. Regulisanje revizije u zakonima, na način kako je regulisana, bez adekvatne kontrole kvaliteta, dodatno doprinosi smanjenju pouzdanosti u finansijske izvještaje. Mali broj revizorskih firmi obavlja reviziju velikog broja finansijskih izvještaja, bez ikakve odgovornosti, tako da revizija nema nikakav poseban značaj za javnost, osim dobrog posla za revizorske firme i značajnog troška za klijente obavezne revizije. Posebno je problematično pitanje broja ovlašćenih revizora, njihove stručne i starosne strukture, programa edukacije i načina nostrifikacije, te sticanja kvalifikacija za obavljanje ovog posla. Svakako je malo ovlašćenih revizora s obzirom na broj pravnih lica koja imaju obavezu revizije u zemljama regiona. Naime, prema registrima profesionalnih asocijacija ovlašćenih računovođa i revizora, u zemljama regiona postoji 1.379 ovlašćenih revizora. Prema podacima Instituta ovlašćenih računovođa Crne Gore, u Crnoj Gori postoje svega 64 ovlašćena revizora. Komora ovlašćenih revizora Republike Srbije broji 275 ovlašćenih revizora, dok u Republici Srpskoj, prema registru Saveza računovođa i revizora Republike Srpske, djeluje 205 ovlašćenih revizora. Prema podacima Revizorske komore Federacije BiH, registar ovlašćenih revizora čini 321 revizor. Najveći broj ovlašćenih revizora ima Republika Hrvatska, a prema podacima Hrvatske revizorske komore, registar čini 514 ovlašćenih revizora.



## ZAKLJUČAK

Na kraju treba reći da su kvalitet finansijskih izvještaja, njihova objektivnost, realnost i pouzdanost od velikog značaja za sprovođenje procjene vrijednosti preduzeća, jer su podaci koji su u njima sadržani polazna osnova procjene. Ako ta osnova nije valjana i realna, to može dovesti do problema u daljim postupcima u procjeni vrijednosti kapitala i dati pogrešne rezultate. Podaci iz finansijskih izvještaja služe za utvrđivanje pojedinih relativnih odnosa određenih kategorija iz bilansa stanja, bilansa uspjeha i izvještaja o novčanim tokovima, koji se koriste u procjeni vrijednosti preduzeća, kao što je to, na primjer, obračun multiplikatora vrijednosti, kada se koriste metode koje pripadaju tržišnom pristupu. Pojedini podaci iz finansijskih izvještaja su nam neophodni za obračun cijene kapitala, odnosno diskontne stope, kada se primjenjuje metoda diskontovanja novčanih tokova. Dakle, finansijski izvještaji su izuzetno važni za provođenje postupka procjene, i izvor su brojnih informacija, koje moraju biti pouzdane, realne i objektivne. Iz tog razloga procjenitelji prije primjene metode procjene moraju obezbijediti da finansijski izvještaji budu u skladu sa MRS i da iz njih budu eliminisani uticaji nekih vanrednih događaja, koji nisu uticali na uporediva preduzeća.

Zbog značaja kvaliteta informacija sadržanih u finansijskim izvještajima za procjenu vrijednosti kapitala i da bi se otklonili određeni problemi koji iz tog razloga mogu nastati u procjeni, neophodno je finansijske izvještaje preduzeća u potpunosti sastavljati u skladu sa MRS i povećati kontrolu kvaliteta revizije i odgovornost revizora.

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## INFLUENCE OF THE FINANCIAL STATEMENTS QUALITY ON VALUATION OF THE COMPANIES IN THE PROCESS OF OWNERSHIP TRANSFORMATION IN THE COUNTRIES IN THE REGION

**Summary:** *The main objective of the present study is to analyze the quality of financial statements for the purpose of assessing the value of the company conducted during companys ownership transformation in the region. The research was conducted using a standard methodological procedure, by which they used secondary sources, i.e . research of the domestic and foreign literature (books, articles, studieds, reports of relevant institutions, etc. ) as well as certain legal regulations in connection with financial reporting and auditing and publications related to this area in the region. Data obtained on the mentioned way, it was used method of systematization, reduction and classification of data. At the prepared data, which are representing a starting point, it was applied qualitative methods of analysis: methods of observation, logical explanations , checking and critical analysis of theoretical and empirical research, etc . Results showed that the quality of financial reports at the beginning of ownership changes, was one of the limiting factors in the assessment, which is particularly emphasized when it was applied the cost approach to the assessment. It was also limiting factor during collection of information on companies. Under the circumstances, where the accounting was audited by the state bodies, and with the absence of an independent audit, there were little chance for a quality and reliable evaluation of the company. Later, the strengthening of market mechani-*

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*sms and with the the application of international financial reporting standards, as well as the introduction of mandatory audits, increased the reliability of financial information, which gave much more realistic evaluation of the capital. However, it is necessary to continue to do all activities aiming to increase the quality of financial report . This can be achieved by increasing the conformity with international accounting standards /IAS/ , performed by competent persons responsible for accounting issues and also, if local companies audits comply with international auditing standards and are carried out by persons who possess the appropriate knowledge and experience in applying IA standards.*

**Key words:** *financial reports, international accounting standards, international auditing standards, evaluating companies*

**JEL Classification:** *G32*

## INTRODUCTION

The transformation of social ownership into private or state ownership began with determining the value of the company and the basis for determining its value were financial reports. For this reason, it is important that the financial reporting is realistic and fair so the results of the assessments have been reliable.

However, in the environment of the accounting which was created by the state authority, with the audit controlled also by the state and with absence of an independent audit, there were a little chance for implementation of effective and correct valuation process of companies.

Some of the problems, concerning the quality of financial reporting, are related to the fact that for a long time in the region was neglected the real purpose of the financial statements and to the fact that they were not reported in accordance with international accounting standards. It makes it difficult to compare the local financial statements with those in developed countries and consequently, in misunderstanding of the foreign appraisors and investors. The absence of proper, professional audit has contributed the emergence of „creative accounting”.

In this paper have been analyzed the factors that led to these problems, as well as the way in which they have been affecting the evaluation

## **1. FINANCIAL STATEMENTS AS THE BASIS OF COMPANIES EVALUATION**

Evaluation of the company, represents the accounting and financial projection, where as the evidence we have experiential financial statements which are, in principle, the main sources of information for the assessment, first of all the balance sheet, income statement and balance cash flows projections. In performing the valuation of the company, the accounting in the companies plays a vital role in providing a series of periodic and annual financial reports, which have to be made with the consistent respect of generally accepted accounting principles and standards. The financial statements are having a standardized form, through which their owners, all interested parties and the public, are informed about the main facts that characterized the company's operations in a given reporting period. They are of great importance for a large number of users, such as owners, potential investors, banks, insurance companies, employees, the state and the general public. Due to the importance which the financial statements have for the above mentioned players, they must be in a form which is strictly regulated, must be standardized, i.e, in their creation must be strictly applied all prescribed standards.

The preparation of financial statements in accordance with International Accounting Standards, provides not only the comparability of financial statements of a company in a series of successive periods or comparability of financial statements for various companies in one country, but also the comparability of financial statements of companies in different countries. This is of great importance today in terms of globalization and the existence of a world market, and consequently ensuring free movement of capital. Also, the application of these standards provides a realistic view of assets, capital, liabilities, income and expenses in the companies. Financial statements as a major source of information about the company, are the basis for many decisions, but also an indispensable source of information necessary to assess the value of capital. Because of this, they must clearly and unambiguously express a particular category, must be objective and reliable. There are no other documents which are providing more correct data on the economic situation and the economic capabili-

ties of enterprises, i.e. there is no stronger power showing position of the company, than it is properly prepared financial statements. Valuers are having in them systematically arranged and presented key categories that determine the value of the company: assets, liabilities, equity and a yield strength ( Milojevic 1999, 591 ).

Although the financial statements are based on historical data, and they reflect the effects of events from previous period and, oposit to that, the value of the company is the category that refers position in the future, i.e. the value is a function of future benefit that will have owners of that company. So, they are relevant for the assessment, because the past is not irrelevant to the future. Balances and changes in the past, are included in the financial statements and help to detect certain trends, thereby facilitating prediction of future status and trends. For this reason, properly created financial statements have particularly great importance in the assessment of the value of the company. This will be the case if following conditions are in place: all activities are performed in stable economic conditions, with standard structures and modes of behavior, and without major changes and the impact of external factors on the company's operations, as well as in the valuation of stable companies which entered the quiet phase of the business, with stable cash flows.

We can conclude that the financial statements are valid, unavoidable and respectable starting point in assessing the value of the company. Also, proper estimation of the capital value can not be implemented without the existence of dependable financial statements. As such statements must be objective, reliable and high-quality. If they are unrealistic and distorted that can lead to unrealistic estimated values . Therefore, a great importance in assessing the value of capital has an independent audit of the financial statements. Its importance is reflected precisely in providing higher quality, reliability and objectivity of the financial statements. Thus, accounting, independent auditing and impartial evaluation creates three interdependent components of the valuations methodology, regardless of the selected concept evaluation and applied procedure. ( Cerovic 1994, 132 ).



## 2. QUALITY ANALYSIS OF FINANCIAL STATEMENTS

In the countries of the region, the quality of financial reporting was not at a high level, and that is primarily the result of the initiated institutional abolition of private property in 1945, which ended in 1948 by its strict prohibition, which lasted nearly four decades. During this period, it was completely ignored the real purpose of financial reporting, and the professional and social reputation of the accounting profession was diminished. Unlike countries with market economies, which have private property as the basis of the ownership structure, the main purpose of financial reporting is to provide a reliable and timely information to the owners and other users, enabling to decision-makers to provide a good business decisions and proper control of their implementation. In the countries of the region the purpose of financial reporting was replaced by the task to be a tool of state control, and the role was more formalistic and frivolous.

In the Yugoslav economy, the prices have traditionally been distorted by being a state monopolies, by excluding competition from abroad, various government subsidies and direct administrative control. In these circumstances, the financial statements of SOEs did not have a lot of excuses in order that they could serve as a mark for determining or -assess their value. The financial statements were created under the provisions of the legislations, were not professionally justified with the accounting principles and accounting standards, have not been certified by an independent audit.

That was the logical consequence of the abolition of private property, because in fact it eliminated a major users of financial statements and accounting information were limited to its less important tasks. When we, to all this issues, add other problems in the country, such as: unstable monetary conditions, insufficiently trained staff, burdened with misconceptions and prejudice, without application of International Accounting Standards (hereinafter IAS), no proper audits of financial statements, lack of confidence in the financial statements, we can say that the quality of financial reporting in the region, particularly till the 2000, (except for the Croatian companies) was low. Unfortunately, even today we could not say that the situation is much better.

The entire development of the accounting profession and everything that happened in the past concerning this field, of course have had an impact on the quality of financial reports even today. It is not possible that all accumulated problems, false accounting practices, as well as misconception of financial reporting purposes to eliminate and adapt to developed countries for a short period of time. Still, despite the fact that most of the economic entity is privately owned, state regulation of accounting is based on the incorrect assumption that the accounting information needed to serve the state control, instead of using the owners of capital and their business partners (Petrovic 2009, 12). Even local private business owners, have not yet realized the true purpose of the financial statements, and in particular the purpose of their audit, and see it as the law of the State has imposed an obligation, of which they have no use. For this reason, they are trying to audit be performed only formally, with the least cost, and that of course reduces its quality. As a consequence such poor financial statements, as a source of information for assessing the value of capital, may jeopardize the results of the assessment.

One of main reasons for the low quality of financial statements in the period when we began the practice of valuation of companies in the region until 2001, was the non-application of IAS. In fact, we say cutt of time is 2001, because the new millennium marked the beginning of the adoption and application of IAS in the region.

The national legislation of countries of the region are the laws regulating the application of IAS accounting. Republic of Croatia introduced the application of IAS by the Accounting Act adopted in 1992, and that put Croatia in the lead in comparing to other countries in the region regarding financial reporting. Ten years later, in 2002, the Republic of Montenegro's reform of accounting and auditing practices and the adoption of the Law on Accounting and Auditing introduced the obligation of IAS. The period from 2004 to the Republic of Serbia is characterized by the introduction of IAS to mandatory application for all entities was only in 2006 with the adoption of the Law on Accounting and Auditing. The application of IAS was obligatory upon adoption of the Law on Accounting and Auditing of Bosnia and Herzegovina, Republic of Srpska and the Federation, through their national legislation in the field of accounting and auditing. Thus, in the Republic of

Serbian obligation to apply IAS is defined in the Law on Accounting and Auditing of the Republic of Serbia in 2005, with mandatory application from 2006. Law on Accounting and Auditing in the Federation in 2005, prescribes the mandatory application of IAS in the Federation. It should be noted that all the countries of the region (except for the Croatia, who has introduced a mandatory application of IAS in 1992), had adopted national accounting standards that are more or less deviate from the IAS, which certainly contributed to the lack of standardization in financial reporting. For small countries, like those emerged from former Yugoslavia, in the conditions of globalization and free market environment, the only realistic solution for the regulation of accounting were introducing the IAS as a mandatory. Without them, and that was the case until 2001, the financial statements of the companies, are not comparable with the financial statements of companies in other countries. Due to that uncomparable statements it was difficult for investors to make a proper decisions on investment. The problem was the lack of understanding of certain categories, recording the effects of business events were different and, incorrect so it was impossible for the “ foreigners “ to understand financial position of the companies they were considering to buy or invest in. Also, it was not possible for potential investors or to the auditing and consulting companies, to understand and interpret the financial statements of companies and to use them as a basis for estimating the value of capital or to conduct their audit . The question has emerged in early nineties: whether the adoption of either IAS or the national accounting standards in the countries of the region. Prevailed the decision on national accounting standards to be in use (Except for the Croatia). Nevertheless, for the purpose of proper financial audit and in order to satisfy foreign lenders, it has been required to apply the IAS. Financial reporting was poor quality due to not applying IAS. It is considered that the application of IAS provides a reporting of financial, material situation and yield position of the company in a realistic way, ie , that their application provides a presentation of assets and liabilities at real value.

- Some of the problems, namely some deviation from IAS in the region are as follows :
- Information and data on buildings are often distorted, due to usually incomplete coverage of physical units of buildings, or for items which

by nature do not fall into this category. This happened when the cost of construction land ascribed value of the land, not the value of the construction of the facility, as required for example by IAS in rule 16. This was the case when to the value of buildings was added some costs of installations that are physically separate from the buildings and as such should be separately recorded within the equipment. This was not also in accordance with IAS 16. Also, sometimes buildings constructed by own means of the company were left out and were no

- Contrary to the IAS requirements, it was widespread practice of group writing off items of equipment, and this is the result of legal provisions which allowed it, and thus leads to underestimation or overestimation of the property and the capital, with the inevitable impact on expenditure. Apart from that, the liberty given to the accountant of whether he would or he would not calculate and record the depreciation in the financial statements, leaves the possibility of presenting false profit as well as other items misrecorded.
- it was made for wrong classification of small inventory or there was no act which prescribes rules for recording materials and inventory tools.
- Wrong presentation of items of work in progress, because in their value were included costs that do not belong to this item, such as: waste of materials, under-utilization of capacity, the cost of financing.
- When recording receivables was not enough attention paid to determining the reality of these claims, as prescribed by IAS. Not performed impairment for doubtful receivables.
- In many cases it happened that the amount of long-term provisions is inadequate

All these and many other discrepancies in the financial statements led to a distorted, unrealistic displaying the values of assets, capital and results of operations, and therefore the indicators of profitability, liquidity, and the as well as on multiplier of values used in estimating the value of capital by using the method of comparable companies.

The problem was also a frequent and significant changes in legislation in relation to balancing, and the financial statements in successive busi-

ness years were hardly comparable. In addition, the comparability influenced by other factors: monetary fluctuations and inadequate elimination of their influence on financial statements, balance sheet policy inconsistency and other issues. This problem was significant, because if the financial statements are not comparable, it cannot be seen whether the financial situation of the company is improving or getting worse, whether sales revenue increase or decrease, i.e. can not be seen certain trends, it is impossible to do feasible business projections, and it was necessary to assess the value according to the income approach method. The quality of financial reports is very important, because the data and relationships of certain categories from the balance sheet and income statement are used as the basis for predicting future cash flows. So if they are shown incorrectly, if item does not correspond to the real situation, this fact will be reflected in the projected cash flow, and thus the value of the company (Curic 2014, 181).

Although since 2001 the countries in the region apply international accounting standards, financial reporting quality is not high. Still in preparing the financial statements, there are deviations from the IAS, and in some cases has hampered implementation of some requirements of these standards. One of the major problems is the fulfillment of the most important requirements in terms of valuation of assets arising from IAS. In accordance with the requirements of IAS 16, which deals with the recognition and determining the carrying amount of property, plant and equipment, it is necessary to periodically carry out their revaluation, and bring down their recorded value to fair value. The fair value is determined by a professional valuer, based on data on the market value of the property. This procedure requires that the valuation of property, plant and equipment is made by applying the appropriate methodology for estimating the value, which is in line with international standards assessment (Poznanić 2011, 5). However, the practical application of these requirements in the region, as well as in other countries where the market economy is not sufficiently developed, faces a number of problems. Some of these problems are: lack of qualified appraisers, unsettled records of assets and difficulties in applying the methodology for evaluation. In the countries of the region there are a small number of competent, cer-

tified appraiser, who possess all the necessary skills, and the assessment of certain parts of the property in large numbers is still carried out by engineers. The causes and consequences of disordered records on assets were many papers published. The fact that certain parts of the property does not belong to the company and can still be found in its records, or vice versa, as well as the lack of documentation concerning the characteristics of the asset and its utilization, definitely complicate the valuation of property in the companies in accordance with the aforementioned IAS. The third problem is the application of assessment methodologies and standards used in the world today, can not be fully applied in our country. When evaluating individual parts of the property, it has been used the same methods of assessment, as it is for the evaluation of the company as a whole, namely: market, cost and yield method. And all the problems that arise in the application of these methods in the valuation of companies, are also noticed in their use in the evaluation of individual assets.

The problem is that until now have not been published Interpretations that are part of the standard, and recently has been published a Code of Ethics for Professional Accountants and International Standards on Auditing. This situation has led to the problem of IAS and IFRS, since no interpretation is provided for applying these standards so far. One of the factors that directly contributes to increasing the quality of financial statements, and directly contributes to increasing confidence in the financial statements, is an independent audit of the financial statements. Independent auditing is a specialized body whose function is testing and giving opinions on the objectivity and truthfulness of accounting statements, and its compliance with the standards under which they are composed and presented to the public (Milojevic 1999, 602). Therefore, the audit has a great significance for the assessment of the value of the company also. It increases the credibility of the real picture of the financial position, earning capacity and size of the substance of net capital, and provides more reliable information on the company's overall position.

In the countries of the region, the audit obligations was introduced by laws and regulations starting from 1996 with the exception of the Republic of

Croatian, which is mandatory revision introduced in 1992 by the Law on Audit and Accounting Act. Taxpayers audit in Croatia are determined by the Accounting Act and that are all companies which generate profit from entrepreneurial activities. Once a year it is obligatory to be a subject to revision all enterprises organized as joint stock companies. Small businesses that are organized as joint stock companies, obliged shortened subject to revision every three years. Shortened revision is considered the business insight.

Law on Audit accounting statements from 1996, adopted at the level of the federal government in the Republic of Serbia introduced a mandatory audit. That same year, companies in the Republic of Montenegro became obliged for auditing and this was prescribed by the Regulation on the revision of accounting statements.

In the Republic of Serbia, the Accounting Act of 1999 raised the question of revision but not its mandatory application. Only the entry into force of the Law on Accounting and Auditing of the Republic of Serbia in 2005, introduced mandatory audits of all legal entities that have public accountability. Similar to the Republic, the introduction of mandatory audit of the Federation of Bosnia and Herzegovina is defined by the Law on Accounting and Auditing in the Federation of Bosnia and Herzegovina in 2005. It is no coincidence, as both entity laws adopted on the basis of the Framework Law on Accounting and Auditing of Bosnia and Herzegovina and the structure of a particular essence are very similar. It should be noted that in the Federation of BH, before the entry into force of the Law on Accounting and Auditing in the Federation of Bosnia and Herzegovina in 2005, the issue of audit and its mandatory application is regulated by the Law on Accounting and Audit Act admittedly in part because it is the obligation of the audit there was only for large legal entities and joint stock companies. When it comes to the application of International Standards on Auditing (hereinafter ISA) in the process of the audit, the region's countries, same as the issue of statutory audits, regulate by accounting by the Audit Act regulations. Same as with the introduction of mandatory audits, the Republic of Croatia first introduced in 1992, application of ISA. The first major step forward in relation to the application of international auditing standards in Bosnia and Herzegovina has been made by adopting the entity Law of 2005 on the basis of the Law on Accounting and Auditing. Thus, in

the Republic of Srpska and the Federation of Bosnia and Herzegovina, accounting regulations introduced mandatory use of ISAs. The Republic of Montenegro is the Law on Accounting and Auditing from 2002 introduced the mandatory application of ISA, and the Republic of Serbia, the same obligation to the Law on Accounting and Auditing from 2002.

In some countries of the region, such as the Republic of Serbia, the audit of the financial statements was imposed prematurely, when there was no interest by the business owners, who should be the first to be interested in its implementation. This has led to a distortion of its real purpose and the decline of its quality (Petrović, 2009, 7). The mere connection between private property, economic entities and the role of external audit has been taken on a completely wrong way. Unlike developed countries, where the need to impose its own audit practice and the needs of economic entities, potential investors and others, it is only then that area is regulated by specific regulations and standards, and so it was with the assessment of the value of . In the region it was reversed case. In addition, insufficient quality of accounting information and financial reporting practices in the region, the lack of effective review, requires a change in habits and beliefs of management and institutional and other enterprise environments.

As stated above, the audit is imposed without the interest of those that revision should be useful. In this initial period, there was not enough professional staff to carry out these tasks, they were burdened with delusions, went the path of least resistance and seek to achieve the highest possible profits. They were not adopted neither International Accounting Standards, nor specific standards for auditors. Of course, the situation has improved in the area of audit with the entry of large audit firms on the market of the region. But today, there are certain factors that diminish the quality of the audit. The regulation revisions in laws, in the manner regulated without adequate quality control, further contributing to the reduction in the reliability of financial statements. A small number of audit firms performing the audit of a large number of financial reports, without liability, so the audit has no special significance to the public, but a good deal for auditing firms and a significant cost to the audited clients.

It is particularly problematic the issue of the number of authorized auditors, their professional and age structure, education programs and ways of



validation and gaining qualifications to perform the job. It is certainly a bit of Chartered Accountants with respect to the number of legal entities that have the duty to audit in the region. According to the registers of Professional Association of Chartered Certified Accountants and Auditors in the region there is a 1,379 certified auditors. According to the Institute of Chartered Accountants of Montenegro there are only 64 certified auditors. Chamber of Certified Auditors of the Republic of Serbia has 275 certified auditors, while in the Republic of Serbian according to the register of the Association of Accountants and Auditors of the Republic of Serbska operates 205 certified auditors. According to data from the Chamber of Auditors of the Federation of BiH, register of certified auditors makes the 321 auditor. The largest number of certified auditors, the Republic of Croatia, according to data from the Croatian Audit Chamber registrar makes 514 certified auditors.

## **CONCLUSION**

Finally it should be noted that the quality of financial reports, their objectivity, reality and reliability are of great importance for the implementation of the valuation of companies, because the data therein contained baseline for assessment. If this is not a valid basis, if it is not realistic, it can lead to problems in the further procedures in assessing the value of capital and give erroneous results. Data from the financial statements are used to determine the relative proportions of certain specific categories from the balance sheet, income statement and statement of cash flows, which are used in estimating the value of the company, such as, for example, the calculation of the value of the multiplier, when used which belong market approach. The individual data from financial reports are necessary for the calculation of cost of capital, or discount rate, when applying the discounted cash flow. Therefore, the financial statements are extremely important for the implementation of the evaluation process, the source of numerous information, which must be reliable, realistic and objective, therefore assessors, prior to the application of assessment method, must ensure that the financial statements comply with IAS and that are eliminated effects of certain extraordinary events, which did not affect the comparable companies.

Because of the importance of quality of the information contained in the financial statements to assess the value of capital and to eliminate certain problems which for that reason may occur in the evaluation, it is essential to the financial statements of companies fully assembled in accordance with IAS and increase quality control audits and auditor

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## UTICAJ STRANE POMOĆI NA PRIVREDNI RAST I KONKURENTNOST ZEMLJE

**Rezime:** *Zdrava ekonomska logika nalaže da bi zemlje primaoci strane pomoći što ranije trebalo da stvore uslove u kojima bi se oslobodile ovog tipa spoljnog uticaja i uslovljenih izvora finansiranja u pravcu neuslovljenih izvora finansiranja. To podrazumijeva mogućnost finansiranja na međunarodnom tržištu kapitala, ali i postojanje odgovarajućeg kreditnog rejtinga. Jasno je da su ovakva kretanja uslovljena kroz jačanje konkurentne pozicije privrede, kao i postavljanje njene proizvodne baze na zdrave osnove. Empirijski podaci ukazuju na primjeru Bosne i Hercegovine, koja je kao zemlja primila više pomoći posmatrano per capita nego bilo koja evropska zemlja pod Maršalovim planom, a što nije donijelo očekivane rezultate u pravcu ubrzanog ekonomskog rasta. Zavisnost od priliva pomoći podrazumijeva gubljenje političkog i ekonomskog suvereniteta zemlje primaoca i presudno utiče na pravac njenog daljeg privrednog razvoja. S druge strane, značajnije učešće ovih komponenti finansijskih tokova ukazuje na postojanje određenih poremećaja u privredi zemalja primalaca pomoći, ali istovremeno omogućava ovim privredama da se izoluju od kretanja na svjetskom tržištu. Sam proces kreiranja rezervi odvija se nezavisno od konkurentnosti, tj. performansi privrede zemlje primaoca, što posljednično vodi rastu cijena rada na tržištu radne snage i time apresijaciji realnog deviznog kursa, te apresijaciji nominalnog deviznog kursa na deviznom tržištu. Posebnu oblast u okviru strane pomoći predstavljaju efekti pomoći za*

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*obrazovanje i zdravstvo na stopu rasta GDP-a, koja je različita po zemljama u zavisnosti od stepena njihovog razvoja.*

**Ključne riječi:** *pomoć, privredni rast, konkurentnost, zavisnost, devizni priliv.*

**JEL klasifikacija:** *H62, H63, H69*

## UVOD

Poseban segment finansijskih tokova, a naročito malih, tranzitornih i nerazvijenih privreda, čini kretanje strane pomoći kao veoma bitnog segmenta njihovog kapitalnog računa. Rastuća pažnja koja se odnosi na tokove pomoći ističe njihov kompleksni karakter i nedovoljno aktiviranje potencijala za ekonomski razvoj, koje one imaju. Posebno je to značajno za javne politike u zemljama koje imaju izrazito visok priliv pomoći, a kakve po pravilu jesu zemlje čijoj grupi po nivou razvijenosti pripada i naša ekonomija. Ono što se ističe kao problem, uprkos obimnom i konstantnom prilivu ovih sredstava u pomenutu grupu zemalja, jeste to da se veoma malo primljenog novca investira u razvoj, odnosno osnovni oblici upotrebe su tekuća potrošnja, neproaktivno investiranje i imobilizovanje u gotovinskom obliku („ispod slamarica“). Ulaganja su uglavnom usmjerena na izgradnju kuća i razvoj poljoprivredne proizvodnje, dok s druge strane pomoći utiču na poboljšanje, odnosno smanjenje siromaštva i podizanje raspoloživog dohotka stanovništva koje ih je primilo.

Zemlje donatori su poslije sloma komunizma, početkom devedesetih, promijenile način pružanja pomoći, stavljajući naglasak na programe stabilizacije i strukturnog prilagođavanja uz pomoć MMF-a i Svjetske banke. Time je pomoć postala uslovljena ostvarivanjem postavljenih makroekonomskih ciljeva, s tim što su neke zemlje donatori stavile naglasak na cjelokupne programe, odnosno podršku budžetima ili pojedinim sektorima. Korisnicima je na taj način ostavljena mogućnost korišćenja pomoći za razne namjene, uključujući i one koje se tiču periodičnih rashoda ili razvoja institucija. S druge strane, imamo i pristup koji je podrazumijevao stvaranje fondova na globalnom nivou koji bi doprinijeli rješavanju određenih problema koji imaju globalni karakter.

Zavisnost od priliva pomoći podrazumijeva gubljenje političkog i ekonomskog suvereniteta zemlje primaoca, tako da bi svaka zemlja što prije trebalo da se oslobodi vanjskih uticaja ove vrste i okrene se „uobičajenim“ izvorima finansiranja. Za ovu grupu zemalja postavlja se pitanje procjene neto dobitka u smislu kako međunarodnog kreditnog rejtinga, tako i neposrednih finansijskih uslova, kada se porede međunarodne finansijske institucije i međunarodno finansijsko tržište kao potencijalni izvori finansiranja.

S druge strane, značajnije učešće ovih komponenti finansijskih tokova ukazuje na postojanje određenih poremećaja u privredi zemalja primalaca pomoći, ali istovremeno omogućava ovim privredama da se izoluju od kretanja na svjetskom tržištu. Suštinski, u procesu kreiranja deviznih rezervi zemlje postoji značajno procentualno učešće ovih sredstava, tako da se sam proces kreiranja rezervi odvija nezavisno od konkurentnosti, tj. performansi privrede zemlje primaoca. Prevažodni uticaj ogleđa se kroz rast cijene rada na tržištu radne snage i time apresijaciju realnog deviznog kursa, te apresijaciju nominalnog deviznog kursa na deviznom tržištu. Kad je riječ o ukupnim efektima strane pomoći na stopu privrednog rasta zemalja u razvoju, veći broj studija ukazuje na izostanak pozitivnog, odnosno na negativno dejstvo. To ukazuje na potrebu daljeg proučavanja faktora koji ograničavaju korišćenje ovog oblika transfera za finansiranje ekonomskog razvoja.

Istraživanje tokova i strukture upotrebe strane pomoći treba da formuliše preporuke za jačanje tržišnih mehanizama alokacije, doprinese jasnijem definisanju javnih politika u ovoj oblasti i pruži osnov za analizu mogućih scenarija ovih tokova u budućnosti. Ova sredstva moraju biti jedan od osnovnih faktora jačanja institucija, preduzetništva i ubrzavanja procesa tranzicije u zemljama na nižem nivou razvoja.

## 1. UTICAJ STRANE POMOĆI NA PRIVREDU ZEMLJE

Dok, sa jedne strane, sve više zemalja u razvoju postaje sposobno da se zadužuje na međunarodnom finansijskom tržištu, uključujući i tržište obveznica, pod sve povoljnijim uslovima, istovremeno se na ovom tržištu javljaju i vladine, odnosno nevladine organizacije za pružanje pomoći u okviru manje ili više precizno definisanih programa za određene nam-

jene (Harford, Klein, Tilmes 2005, 284). Zapaža se tendencija smanjenja pomoći iz javnih izvora u odnosu na porast pomoći iz privatnih izvora i doznaka, imajući u vidu da čak i pokloni od strane nevladinih organizacija prevazilaze nekoncesionirane zajmove od strane vlada već od 2002. godine (Nikolić 2006).

Sam proces donacija odvijao se u dva pravca, gdje oba kanala kretanja pomoći podrazumijevaju postojanje određenih uslova i standarda koji se moraju poštovati i koje definišu donatori. Prvi način distribucije pomoći podrazumijeva pružanje pomoći, stavljajući naglasak na programe stabilizacije i strukturnog prilagođavanja uz pomoć MMF-a i Svjetske banke. Time je pomoć postala uslovljena ostvarivanjem postavljenih makroekonomskih ciljeva, s tim što su neke zemlje donatori stavile naglasak na cjelokupne programe, odnosno podršku budžetima ili pojedinim sektorima. Korisnicima je na taj način ostavljena mogućnost korišćenja pomoći za razne namjene, uključujući i one koje se tiču periodičnih rashoda ili razvoja institucija. Drugi pristup se sastojao u stvaranju fondova za specifične pojedine namjene na globalnom nivou, kao što je, na primjer, suzbijanje pojedinih bolesti (Jameson, Radelet 2005, 2).

Problem kod pružanja pomoći je što se ona sve više javlja kao instrument spoljne politike, umjesto da bude usmjerena na najsiromašnije zemlje i slojeve stanovništva, odnosno na ostvarivanje određenih ekonomskih ciljeva, što se odražava na smanjivanje multilateralnih u korist bilateralnih oblika pomoći, budući da je kroz njih lakše kontrolisati i uslovljavati pomoć nego kroz međunarodne institucije. Pritom, vlade u ulozi bilateralnih davalaca mogu imati veću slobodu u pogledu izbora isporučilaca, što se nepovoljno odražava na konkurenciju među njima. Ovo je u izvjesnoj mjeri nadoknađeno pojavom novih zemalja davalaca pomoći (Kina, Indija, Rusija).

Kao što nalaže zdrava ekonomska logika, zemlje primaoci stranih pomoći trebalo bi što ranije da stvore uslove u kojima bi se oslobodile ovog tipa spoljnog uticaja i uslovljenih izvora finansiranja u pravcu neuslovljenih izvora finansiranja. To podrazumijeva mogućnost finansiranja na međunarodnom tržištu kapitala, ali i postojanje odgovarajućeg kreditnog rejtinga. Jasno je da su ovakva kretanja uslovljena jačanjem konkurentske pozicije privrede, kao i postavljanjem njene proizvodne baze na zdrave osnove.



Uticaj pomoći na privredne tokove i kretanja u zemlji moramo posmatrati kroz prizmu globalnih procesa privatizacije, deregulacije, liberalizacije, konkurencije i inovacije, koji su deregulatori institucionalnih barijera ekonomskom razvoju i ljudskom blagostanju sa razvijanjem „tragedije zajedničke imovine” i „problematičnog državnog intervencionizma“. Državni suverenitet se svjesno predaje globalnom tržištu, koje poboljšava efikasnost i produktivnost, snižava cijene i kontroliše inflatorne tendencije. Neoliberalizam je sumnjičav prema demokratiji i zakonu većine (koji udara na prava pojedinaca) i favorizuje upravljanje preko eksperata i korporativne elite (da bi se izolovale suvišne institucije, kao što je centralna banka). Neoliberalna država, po pravilu, favorizuje integritet finansijskog sistema i solventnost finansijskih institucija. Neoliberalizam snižava zarade, povećava eksploataciju radnika, povećava nesigurnost na poslu i eliminiše zaštitu na radu. Država preuzima veći dio rizika, a privatni sistem veći dio profita. Neoliberalizam ne gleda blagonaklono na naciju, a liberalna država, kao faktor konkurentnosti na globalnom tržištu, mobilise nacionalizam u promociji poslovne klime preduzetničkog duha sa naglašenim individualnim slobodama (Ristić i Ristić 2015, 213–229).

Posebnu oblast u okviru strane pomoći predstavljaju efekti pomoći za obrazovanje i zdravstvo na stopu rasta GDP-a koja je različita po zemljama u zavisnosti od stepena njihovog razvoja (Baldacci et al. 2005, 42). Mnogostruko su veći u zemljama sa niskim GDP-om po stanovniku u odnosu na zemlje sa srednjim nivoom, pri čemu postoji snažna međusobna veza između kapitala uloženog u obrazovanje i onog koji je uložen u zdravstvo. Pomoć za potrebe obrazovanja znatno je povećana od strane vodećih zemalja donatora u okviru njihove zvanične pomoći za razvoj, naročito od devedesetih godina (Jamison, Radelet 2005). Prema stručnjacima MMF-a koji su se bavili načinima korišćenja pomoći (Baldacci et al. 2005), efekti pomoći za obrazovanje i zdravstvo na stopu rasta BDP-a veoma su različiti po zemljama, zavisno od stepena njihovog razvoja, tj. mnogostruko su veći u zemljama sa niskim BDP-om po stanovniku u odnosu na zemlje sa srednjim nivoom, pri čemu postoji snažna međusobna veza između kapitala uloženog u obrazovanje i onog koji je uložen u zdravstvo.

Međutim, uticaj ta dva vida pomoći kao načina za unapređenje ljudskog kapitala na privredni rast ne mora, po ovim autorima, biti uvijek poziti-

van, budući da bi se smanjivao u mjeri u kojoj ovi oblici javne potrošnje doprinose pretjeranoj javnoj potrošnji, a time i fiskalnom deficitu i obrnuto, ako se oni posmatraju kao oblik smanjivanja fiskalnog opterećenja i stimulacije domaće tražnje. Njihova istraživanja (Baldacci et al. 2005) u zemljama u razvoju pokazuju da se pozitivan uticaj kod obrazovanja zasniva kako na tekućim, tako i na ranijim ulaganjima, pošto se efekti realizuju u dužem periodu, dok se kod ulaganja u zdravstvo ovaj uticaj može dovesti u korelaciju samo sa tekućim ulaganjima, imajući u vidu da nema odloženih efekata. Povećanju izdataka za zdravstvenu zaštitu može se pripisati do jedne trećine porasta BDP-a, pri čemu se porast životnog vijeka od jedne godine dovodi u vezu sa povećanjem rasta BDP-a od četiri procentna poena kako u zemljama u razvoju, tako i u razvijenim zemljama (Bloom, Canning, Sevilla 2004, 1–13).

Pozitivni uticaj pomoći za obrazovanje na privredni rast potvrđen je na osnovu visokog stepena korelacije stope upisanih učenika, odnosno trajanja školovanja, izraženog brojem godina školovanja i rasta GDP-a, pri čemu se oko dvije trećine neposrednih efekata realizuje tokom prvih pet godina, a preostala trećina u narednih pet godina (Baldacci et al. 2005, 42). Istovremeno se simulacijom utvrdilo da porast ulaganja u obrazovanje u iznosu od jednog procentnog poena GDP-a povećava broj godina obrazovanja za tri godine i rast GDP-a od 1,5 procentnih poena tokom 15 godina, smanjujući na taj način stopu siromašnih za oko 17%. Pritom, odgovarajući porast izdataka za zdravstvo povećava stopu preživljavanja djece za 0,5 procentnih poena uz istu stopu porasta GDP-a po stanovniku, što bi dovelo do kumulativnog smanjivanja stope siromaštva za oko 12%.

## **2. EFIKASNOST I EFEKTIVNOST STRANE POMOĆI**

Pitanje efikasnosti strane pomoći zemljama u razvoju, sa stanovišta njenog doprinosa njihovom privrednom rastu, već je dugi niz godina kontroverzno, pri čemu su se iskristalisala tri osnovna stanovišta (Jameson, Radelet 2005, 2). Prema prvom, pomoć nema pozitivno dejstvo na privredni rast, a može imati i negativno dejstvo, budući da rasipa sredstva na loše projekte, potkopava privatno preduzetništvo i podstiče korupciju. Prema drugom, pomoć ima u prosjeku pozitivno dejstvo na privredni rast, ali uz opadajuće

prinose. Prema trećem i najzastupljenijem stanovištu, pomoć može imati pozitivno dejstvo na privredni rast samo u zemljama sa odgovarajućim politikama i institucijama.

S druge strane, polazeći od jedne razrađenije kategorizacije pomoći na tri sektora (socijalni, privredni i sektor hrane, pri čemu u prvi spadaju zdravstvo, obrazovanje i snabdijevanje vodom i sanitarnim uslugama, a u drugi energija, saobraćaj i komunikacije), a imajući u vidu vrijeme uticaja (kratkoročni i dugoročni, pri čemu se prvi vezuje za ekonomsku, a drugi za socijalnu pomoć) i vrstu donatora (multilateralni i bilateralni), izvode se sljedeći zaključci (Rajan, Subramanian 2005). Prvo, dugoročni uticaj je teže utvrditi nego kratkoročni. Drugo, dugoročni privredni rast reaguje na socijalnu i privrednu pomoć preko njihovog uticaja na fizički i ljudski kapital, ali ne i na pomoć u hrani, pri čemu multilateralna pomoć ima drugačiju uslovljenost u odnosu na bilateralnu i trebalo bi da je manje vezana za isporučiocce iz zemalja donatora, a više za ispunjavanje makroekonomskih uslova. Treće, nije utvrđena značajnija korelacija bilo koje vrste pomoći i privrednog rasta.

Pitanje da li pomoć podstiče privredni rast smatra se kontroverznom i otvorenim, imajući u vidu da, za razliku od regresione analize, koja nije uspostavila vezu između pomoći i privrednog rasta, novija teorija ocjenjuje da uticaj pomoći na privredni rast postoji, ali da je znatno manji nego što je proizlazilo na osnovu ranijih studija. Zapravo, veći broj studija ukazuje da, pored pogrešnog upravljanja i korupcije, moraju postojati dodatni razlozi zašto pomoć nema očekivanu efikasnost (ova neefikasnost je posebno izražena u zemljama tropskog područja) u podsticanju privrednog rasta.

U studiji koja je obuhvatala veći broj zemalja u razvoju, Rajan i Subramanian ukazali su na to da, na primjer, na obim pomoći ima uticaj trenutna situacija u datoj zemlji, kao kada na porast pomoći djeluje prirodna katastrofa, uslovljavajući negativnu korelaciju pomoći i privrednog rasta u istom periodu. Njihova studija je utvrdila da ne postoji dovoljno dokaza o snažnom pozitivnom djelovanju pomoći na privredni rast (takav odnos postoji samo za period od dvije decenije koji obuhvata osamdesete i devedesete godine prošlog vijeka, ali samo ako se uključe i ekstremni podaci (*outliers*)). Ona je na dugi rok od četrdeset godina ustanovila značajniju negativnu korelaciju između njih, dok je kod ostala tri od ukupno pet

posmatranih perioda takođe negativna, ali beznačajna, što ne daje povod za definitivne zaključke. Pritom čak nije utvrđen bilo kakav dokaz da pomoć efikasnije djeluje u uslovima bolje ekonomske politike, ili boljeg institucionalnog ili geografskog okvira, ili da su pojedine vrste pomoći djelotvornije od drugih. Otuda oni zaključuju da, radi povećanja djelotvornosti pomoći, treba utvrditi šta je to u ovom obliku transfera, odnosno subvencionisanih kredita, što onemogućava pozitivan uticaj na privredni rast, imajući, između ostalog, u vidu da razne vrste pomoći, posmatrano kako po izvorima tako i po namjenama, imaju slične efekte, budući da ih vlade zemalja korisnica smatraju dijelom jednog istog izvora sredstava i tome prilagođavaju svoju javnu potrošnju. To znači da se može govoriti o dugoročnim negativnim efektima pomoći kroz smanjivanje potreba za rastom fiskalnih prihoda, čime se potreba za rastom pomoći ugrađuje na duži rok u fiskalnu ravnotežu, stvarajući dugoročnu zavisnost od pomoći (Azam et al. 1999).

Regresione analize (Rajan, Subramanian 2005) koje polaze od prosječnog rasta BDP-a po stanovniku, kao zavisne promjenljive, i prosječnog učešća godišnje pomoći u BDP-u, kao osnovne nezavisne promenljive, sa podacima iz više zemalja, možda ne uzimaju dovoljno u obzir sve različitosti među zemljama. Pritom su od mnoštva mogućih regresora koristili početni nivo dohotka, prosječni životni vijek, mjeru kvaliteta institucija, mjeru kvaliteta politike, mjeru uticaja geografskog položaja, eksterne šokove izražene kroz prosječan rast i varijabilnost odnosa razmjene, javne rashode i revolucije. Rezultati su pokazali da je u četiri od pet slučajeva koeficijent koji se dobija za pomoć negativnog predznaka, kao i da je značajan samo u slučaju najdužeg perioda (1960–2000), kada ukazuje da bi porast pomoći u odnosu na BDP od jednog procentnog poena smanjio dugoročnu stopu privrednog rasta za oko 0,07 procentnih poena. Međutim, ovakav rezultat treba uzimati s rezervom zbog problema endogenosti, kao u slučaju kada porast pomoći reflektuje želju donatora da neutrališu siromaštvo uzrokovano niskim privrednim rastom, što implicira negativnu korelaciju ako se ne uzima u obzir vremensko zaostajanje efekata pomoći.

Za razliku od ove negativne korelacije, pozitivna se, po ovim autorima, može očekivati u mjeri u kojoj su donatori motivisani prevashodno efikasnošću korišćenja pomoći, nasuprot želji da smanje patnje stanovništva. Ipak, oni

zaključuju da je ovako mjeran uticaj pomoći na privredni rast zanemarljiv. Takođe, stavljajući stopu rasta proizvodnje po radniku u odnos sa učešćem pomoći u BDP-u, Rajan i Subramanian ukazuju da bi ovaj koeficijent trebalo da bude jednak proizvodu učešća kapitala u dohotku, učešća investirane pomoći u ukupnoj pomoći i koeficijenta proizvodnja kapital. Polazeći od pretpostavke da se cjelokupan iznos pomoći investira, da je udio kapitala u dohotku 0,35 (Bosworth, Collins 2003, 2) i uzimajući u obzir da je prosječan koeficijent proizvodnja kapital izračunat regresijom 0,45, dobili su koeficijent od 0,16, zaključivši da bi rast učešća pomoći u BDP-u od jednog procentnog poena dugoročnu stopu privrednog rasta povećao za 0,16 procenata, odnosno ako je dio pomoći utrošen ili izgubljen, umjesto da bude u cijelosti investiran, ovaj rast bi bio približno 0,1. U principu, ovaj koeficijent bi trebalo, prema njima, da bude sličan onome za učešće investicija u BDP-u, mada ima mišljenja (Barro, Martin 1995) da je kod investicija znatno manji i da iznosi 0,03.

Moguće negativno djelovanje strane pomoći se odvija u dva pravca, koji u krajnjoj liniji podrazumijevaju pad izvozne konkurentnosti i, samim tim, stope privrednog rasta. Prvo, po osnovu priliva deviznih sredstava koja nisu rezultat konkurentne pozicije države već se javljaju nezavisno od izvoznih karakteristika zemlje, dolazi do neopravdane apresijacije nominalnog deviznog kursa koji vodi apresijaciji realnog deviznog kursa i daljem padu konkurentne pozicije zemlje primaoca pomoći. Ovo, naravno, važi ukoliko polazimo od režima fleksibilnog deviznog kursa, dok u uslovima fiksnog deviznog kursa inicijalno nemamo apresijaciju nominalnog deviznog kursa radi obaveze monetarnih autoriteta na očuvanje stabilnosti deviznog kursa, ali se postavlja pitanje, u uslovima permanentnog gubitka deviznih rezervi i pada konkurentnosti uz definisan nivo pomoći, koliko je dugo režim fiksnog deviznog kursa održiv. Drugo, po osnovu strane pomoći dolazi do rasta tražnje na domaćem tržištu faktora proizvodnje, naročito radne snage, što vodi rastu cijene ovih faktora, apresijaciji realnog deviznog kursa i padu konkurentnosti na svjetskom tržištu. Ako tome dodamo i negativni Ballasa-Samuelsonov efekat, imamo dodatni pad konkurentnosti i profitabilnosti.

S druge strane, negativni uticaj na izvozni sektor izostaje u mjeri u kojoj se dobijena pomoć troši na uvoz kapitalnih dobara i konsultantskih usluga

ili domaću robu čija ponuda nije ograničena, tako da nemamo rast ovih cijena (npr. nekvalifikovana radna snaga). Što se veći dio pomoći utroši na uvoz, to će biti manji uticaj pomoći bilo na devizni kurs, odnosno porast vrijednosti domaće valute, bilo na porast vrijednosti domaće radne snage, dok što se veći dio pomoći utroši na radno intenzivne proizvode, odnosno usluge, to će biti veći efekat na porast vrijednosti radne snage. Ukratko, svi faktori koji vode stvaranju preduslova za stabilniji budući rast, a finansirani su iz sredstava strane pomoći, smatraju se faktorima koji doprinose rastu konkurentnosti i profitabilnosti.

Rajan i Subramanian ukazuju na dokaze o direktnoj povezanosti pomoći, precijenjenosti deviznog kursa<sup>4</sup> i smanjenja konkurentnosti na osnovu rastuće pozitivne korelacije pomoći i precijenjenosti kursa u većem broju zemalja u razvoju, ali upozoravaju na to da slabije makroekonomske performanse zemlje mogu biti rezultat precijenjenosti deviznog kursa same po sebi, a ne pomoći, što bi značilo da se pomoći neopravdano pripisuje ono što je, zapravo, krivica politike deviznog kursa. Ipak, oni zaključuju da je osnovni problem kako onemogućiti djelovanje pomoći na precijenjenost deviznog kursa, imajući u vidu da pozitivna korelacija između pomoći i precijenjenosti deviznog kursa postaje sve jača, budući da se efekti precijenjenosti kumuliraju na dugi rok. To predstavlja zajedničku karakteristiku pomoći i doznaka, ali se kod pomoći, za razliku od doznaka, javlja i dodatni efekat na fiskalnu ravnotežu.

### 3. KRETANJE STRANE POMOĆI BOSNI I HERCEGOVINI

Nakon potpisivanja Dejtonskog sporazuma, međunarodna zajednica je plasirala enormna finansijska sredstva i pružila značajnu logističku podršku Bosni i Hercegovini. Empirijski podaci ukazuju na činjenicu da je Bosna i Hercegovina primila više pomoći posmatrano *per capita* nego bilo koja

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<sup>4</sup> Autori za mjerenje uticaja precijenjenosti deviznog kursa koriste regresiranje realnog deviznog kursa sa nivoom dohotka po stanovniku po paritetu kupovne snage PPP (purchasing power parity), odražavajući odnos Balassa-Samuelson, po kome će realni devizni kurs valute jedne zemlje apresirati sa rastom produktivnosti njenog sektora koji proizvodi robu koja učestvuje u međunarodnoj razmjeni, odnosno rastom dohotka u skladu sa Frenkelovom (2004) metodom. Mjere precijenjenosti deviznog kursa bili bi reziduali ove regresije kao razlike između regresijom predviđenih ravnotežnih i stvarnih deviznih kurseva.

evropska zemlja pod Maršalovim planom.<sup>5</sup> Uprkos ovako značajnim iznosima spoljne pomoći u godinama neposredno nakon rata, Bosna i Hercegovina nije ostvarila značajniji privredni ili institucionalni pomak, dok je od 2000. godine evidentno postepeno smanjenje intenziteta ovih tokova.

U okviru politike regulisanja spoljne ravnoteže, pomoć i doznake su od velikog značaja za pokrivanje, prije svega, deficita u bilansu tekućih transakcija, koji, u cilju održavanja makroekonomske stabilnosti, po kriterijumu Evropske banke za obnovu i razvoj (EBRD), ne bi trebalo da prelazi 7% GDP-a. Postizanje spoljne ravnoteže se u slučaju Bosne i Hercegovine pokazalo teže ostvarivim od postizanja fiskalne ravnoteže, imajući u vidu da fiskalni deficit, po kriterijumu iste institucije, ne bi trebalo da prelazi 5% GDP-a.

Ako sada posmatramo tokove neto razvojne pomoći u regionu, treba znati da ona obuhvata grantove oficijelnih agencija članova Komiteta za razvojnu pomoć (Development Assistance Committee, DAC), multilateralnih institucija, nečlanica DAC-a, kao i zajmove isplaćene po značajno povoljnijim uslovima u pravcu promovisanja ekonomskog razvoja, rasta i realizacije ciljeva iz socijalne sfere u zemljama koje su na DAC-ovoj listi primalaca ove pomoći. U početku, pomoć je imala za cilj da neutrališe efekte ratova i podigne nivo domaće potrošnje kao vid podrške novoj vlasti. Tokom realizacije pomoći, do izražaja je došla tendencija promjene njene strukture, pri čemu se od kraja 2000. godine težište pomjeralo sa humanitarne, preko sredstava za obnovu porušene infrastrukture, da bi nakon tog perioda postala prevashodno razvojna, kao i od bespovratne pomoći prema kreditima pod povoljnim uslovima (da bi se kredit kvalifikovao kao pomoć, treba da ima odgovarajući nivo tzv. elementa poklona kao odnosa između razlike nominalne vrijednosti kredita i zbira sadašnjih vrijednosti budućih tokova otplata izračunatih primjenom reprezentativne kamatne stope i nominalne vrijednosti kredita). Pomenuti zajmovi podrazumijevaju postojanje grantovskog dijela u iznosu ne manjem od 25% (obračunati po stopi od 10 odsto popusta). Koncesionirani krediti koji zadovoljavaju ovaj kriterijum odnose se na razvojnu pomoć, prije svega u okviru strukturnog

<sup>5</sup> Maršalov plan, službeno nazvan Plan evropske obnove, bio je službeni plan SAD o obnovi poslijeratne Evrope i suzbijanju uticaja komunizma nakon Drugog svjetskog rata. Zadatak izrade plana dobio je Džordž Maršal i njegove kolege iz Stejt departmenta, a ponajviše su uz Maršala doprinijeli Vilijem Klejton i Džordž Kenan. Plan obnove je napravljen na sastanku između država učesnica Plana 12. jula 1947.

prilagođavanja i obnove infrastrukture, dok se bespovratna pomoć odnosi na tehničku pomoć i pomoć za humanitarne, odnosno socijalne namjene. Opadanje učešća bespovratne pomoći prati sve veći značaj njenih segmenata, tehničke, odnosno razvojne pomoći na štetu humanitarne.

Tabela 1. Apsolutni iznosi neto zvanične pomoći razvoju (\$) (The World Bank)

Godina	Zemlja primalac					
	Albanija	Bosna i Hercegovina	Hrvatska	Srbija	Makedonija	Crna Gora
1992.	409.640.000	15.690.000	10.000			
1993.	270.680.000	70.240.000			3.320.000	
1994.	163.100.000	408.570.000	109.660.000	49.220.000	104.260.000	
1995.	180.600.000	965.800.000	53.280.000	95.060.000	78.800.000	
1996.	226.550.000	851.810.000	133.310.000	69.510.000	105.390.000	
1997.	168.110.000	862.050.000	40.360.000	97.360.000	98.290.000	
1998.	268.620.000	914.970.000	39.380.000	108.230.000	104.910.000	
1999.	488.150.000	1.286.240.000	48.470.000	707.400.000	276.830.000	
2000.	317.850.000	737.930.000	65.510.000	1.134.270.000	250.190.000	
2001.	268.530.000	640.080.000	123.810.000	1.304.180.000	247.200.000	
2002.	307.420.000	555.780.000	142.720.000	2.084.640.000	273.530.000	
2003.	354.500.000	541.920.000	120.700.000	1.320.180.000	265.730.000	8.140.000
2004.	299.950.000	686.220.000	119.660.000	1.157.710.000	263.440.000	20.130.000
2005.	319.140.000	548.520.000	123.460.000	1.066.360.000	227.300.000	3.860.000
2006.	321.780.000	534.980.000	203.820.000	1.577.620.000	205.250.000	95.590.000
2007.	307.450.000	599.890.000	162.910.000	840.870.000	200.920.000	105.720.000
2008.	363.270.000	466.930.000	241.580.000	973.150.000	204.710.000	104.860.000
2009.	356.960.000	414.310.000	168.820.000	614.040.000	192.470.000	75.030.000
2010.	340.700.000	510.370.000	150.710.000	659.870.000	187.170.000	80.280.000
2011.	349.000.000	624.200.000	280..	1378.200.000	193.100.00	124.100.00
2012.	341.620.000	571.130.000	-	1.089.870.000	148.940.000	103.220.00

Ako posmatramo apsolutne vrijednosti koje se odnose na neto zvaničnu pomoć razvoju, možemo primijetiti da u ukupnoj vrijednosti u odnosu na zemlje regiona Bosna i Hercegovina ima najveće učešće, koje je još



značajnije ukoliko se posmatraju relativni odnosi. U radu ćemo posmatrati dvadesetogodišnji period od 1992. do 2012, jer je u tom periodu Bosna i Hercegovina ostvarila najveći priliv strane pomoći, kao i mogućnost da u tom periodu vršimo komparaciju sa zemljama regiona.

Tabela 2. Per capita iznosi neto zvanične pomoći razvoju (\$) (The World Bank)

Godina	Zemlja primalac					
	Albanija	Bosna i Hercegovina	Hrvatska	Srbija	Makedonija	Crna Gora
1992.	125	4				
1993.	84	19			2	
1994.	51	118	24	6	53	
1995.	57	290	11	12	40	
1996.	73	258	30	9	53	
1997.	54	256	9	13	60	
1998.	87	263	9	14	33	
1999.	159	357	11	94	24	
2000.	103	200	15	151	21	
2001.	87	171	28	174	23	
2002.	99	147	32	278	135	
2003.	114	143	27	176	131	13
2004.	96	181	27	155	130	32
2005.	102	145	28	143	112	6
2006.	102	141	46	213	100	152
2007.	97	159	37	114	98	168
2008.	114	124	54	132	100	167
2009.	112	110	38	84	94	119
2010.	106	136	34	90	91	127
2011.	111	162	0	190	92	200
2012.	122	149	0	151	71	166

Kako možemo primijetiti, maksimalan iznos *per capita* neto zvanične pomoći razvoju ostvaren je u Bosni i Hercegovini 1999. godine i veći je za čak 28,42% u odnosu na sljedeću najvišu vrijednost. Takođe, primjetno je da su rijetke godine u posmatranoj vremenskoj seriji kada je bilo koja od zemalja regiona imala veći priliv strane pomoći u odnosu na Bosnu i Hercegovinu. Jedino veće odstupanje imamo 2002. i 2003. godine, kada se kao najveći primalac strane pomoći izdvaja Srbija, a kao posljedica ratnih dešavanja u Srbiji. Godine 2011. i 2012, Srbija i Crna Gora primaju nešto veće iznose pomoći, što je zapravo posljedica nešto sporijeg povlačenja sredstava od strane Bosne i Hercegovine zbog političkih problema zbog kojih ni budžet BiH nije uopšte u toj godini usvojen, a formiranje Savjeta ministara je potrajalo 16 mjeseci. Ako bismo posmatrali cjelokupnu seriju, sa izuzetkom tako drastičnih okolnosti, evidentan je visok stepen zavisnosti Bosne i Hercegovine od ove vrste pomoći, dok se obim pomoći koji pristize ne smanjuje očekivanim tempom, što ukazuje na neefikasnost tranzitornih procesa u Bosni i Hercegovini i, generalno, privrede naše zemlje.

Posmatrajući Bosnu i Hercegovinu u mirnodopskim uslovima, sa njenom složenom unutrašnjom organizacionom strukturom i nastojanjima da postane dio Evropske unije, te ostvarenim prilivima strane pomoći, neophodno je izvršiti analizu efekata strane pomoći na privredni život naše zemlje. U nastavku posmatramo neke od segmenata socijalno-ekonomskog života našeg društva koji su trebali da budu unaprijeđeni, a na bazi primljene strane pomoći u proteklom periodu.

Prema nalazima Svjetske banke (World Bank 2010 World Development Indicators), Bosna i Hercegovina ima potencijal da ostvari rast GDP-a u iznosu od 6%, podstičući reformske procese u pravcu slobodnog tržišta i finansijske i ekonomske liberalizacije. Poslovna regulativa je promijenjena i unaprijeđena. Takođe, neophodno vrijeme za rješavanje birokratskih pitanja, kao što su dozvole i registracija, smanjeno je, iako ovaj proces i dalje ostaje relativno dugotrajan za „redovne građana“ i strane investitore i na taj način ne podstiče investicije. Ističemo da je ovaj problem rasprostranjen i prisutan u svim zemljama regiona. Nadalje, postoji značajan napredak u oblasti harmonizacije poreza i stabilan rast stranih direktnih investicija.

Ipak, s druge strane, strane i direktne investicije u Bosnu i Hercegovinu su na najnižem nivou, ne samo u regionu nego među svim zemljama koje se nalaze u procesu tranzicije. Dalje, postoji čitav niz socijalno-ekonomskih pitanja koja su ostala neriješena i čije unapređenje u načelu podrazumijeva složena i zahtjevna rješenja. Na primjer, postojanje visoke stope nezaposlenosti od 27,9% (ILO), sa značajnim odstupanjem mladih u odnosu na standarde, tačnije četiri puta je veće u odnosu na prosjek EU. Nadalje, u 2004. gotovo 20% populacije je živjelo ispod linije siromaštva, a 30% bilo je veoma blizu linije siromaštva (IMF), dok je prema podacima *UNDP's Human Development Report* od 2015. Bosna i Hercegovina rangirana kao 85. u svijetu.

Drugi indikator, jasno povezan sa ovim visokim stopama nezaposlenosti i značajnim nivoom siromaštva, odnosi se na broj građana koji iskazuju želju da napuste svoju zemlju. Ovaj iznos se permanentno povećava, tako da je u 2012. godini 81% lica koja pripadaju mlađoj populaciji željelo napustiti zemlju.

Još jedna briga svojstvena čitavoj regiji odnosi se na činjenicu da Bosna i Hercegovina još uvijek ima problema sa izrazito visokim nivoom korupcije. Prema podacima *Transparency International's Corruption Perceptions Index 2014*, Bosna i Hercegovina se nalazi na 80. mjestu od 174 zemlje, što je pogoršanje u odnosu na 2013. godinu, kada se nalazila na 72. mjestu. Za prosječnog građanina Bosne i Hercegovine, milijarde evra strane pomoći namijenjenih za procese rekonstrukcije i razvojne strategije u godinama nakon ratnih dešavanja nisu donijele mnogo napretka. Prosječan stanovnik Bosne i Hercegovine je nezaposlen, a ukoliko ima sreće da radi, onda je vjerovatno slabo plaćen i izdržava tri člana porodice. Dok god pitanja nezaposlenosti, socijalno-ekonomske nejednakosti i korupcije ne zauzmu odgovarajuće pozicije u našem društvu, Bosna i Hercegovina će zaostajati za susjednim zemljama. Zaključujemo da je potrebna bolja koordinacija međunarodne pomoći i veća komplementarnost i selektivnost pojedinih programa pomoći, imajući u vidu smanjivanje pomoći, uz prelazak sa tzv. postkonfliktne na onu koja je orijentisana na povećanje rasta i smanjivanje nejednakosti.

## ZAKLJUČAK

Posmatrano sa aspekta privrednih kretanja, možemo zaključiti da je pomoć određeni vid izolacije i pokazatelj strukturnih ekonomskih poremećaja, jer privreda zemlje koja se značajnije oslanja na prijem stranih pomoći pokazuje vlastitu nesposobnost za samostalno funkcionisanje i uključivanje u globalne privredne tokove. Priliv stranih pomoći vodi situaciji u kojoj zemlja primalac ostvaruje devizne prilive i rast deviznih rezervi zemlje nezavisno od konkurentnosti zemlje. Posljedično, to vodi apresijaciji nominalnog deviznog kursa i time se stvara pritisak na apresijaciju realnog deviznog kursa, te dolazi do pada globalne konkurentne pozicije i daje se pogrešna slika o nivou stvarne spoljne neravnoteže. Takođe, usljed rasta tražnje za dobrima i uslugama, imamo rast cijena dobara i usluga, čim je pritisak na apresijaciju realnog deviznog kursa dvolinijski.

U teoriji, ovi negativni efekti pomoći bi se mogli neutralisati kroz korigovanje politike deviznog kursa, kao i politike nadnice, što bi, u suštini, podrazumijevalo da se jedno netržišno djelovanje želi poništiti drugim netržišnim djelovanjem, a što je praktično veoma upitno. Postavlja se pitanje adekvatne politike i intenziteta ovih djelovanja, koji bi morali biti takvi da se prevaziđe spoznajni jaz, kao i jazovi ekonomskih politika u odlučivanju, implementaciji i realizaciji.

Suštinski efekti pomoći među državama odgovaraju efektima koje imaju državna pomoć ili subvencije. Državna pomoć ili subvencije su jedan od široko korištenih i legitimnih instrumenata jačanja privrede svake zemlje, jačanja konkurentnosti domaćih kompanija i podsticanja rasta i razvoja. Međutim, iskustvo mnogih zemalja pokazuje da je to i instrument koji mnoge vlade koriste radi podrške preduzećima i/ili sektorima koji dugoročno ne mogu imati pozitivne efekte na ekonomiju zemlje. Upravo je ova realnost razlog zbog kojeg je sistem državne pomoći u EU centralizovan i monitoring državne pomoći u svim zemljama članicama je delegiran supranacionalnoj instituciji. Akcioni plan državne pomoći EU je iz tih razloga i usmjeren na dugoročno smanjenje učešća subvencija u BDP-u svake zemlje i prelaz sa vertikalne pomoći koja cilja određene industrije na horizontalnu pomoć koja cilja male i srednje biznise, istraživanje i razvoj, investicije u inovativne tehnologije, kao i programe zaštite životne sredine.

Jasno je da literatura koja se bavi ovom problematikom nije dala jednoznačan odgovor koji su to faktori koji sprečavaju pozitivne učinke međunarodne pomoći na privredni rast i razvoj kako bi se prilagodili tokovi i karakter međunarodne pomoći. Programiranje međunarodne razvojne pomoći predstavlja složen proces identifikacije potreba, odnosno prioriteta ciljeva unutar pojedinačnih sektora, definisanje aktivnosti, procedura, kao i vremenskih rokova u postupku pripreme i selekcije prijedloga projekata koji treba da doprinesu realizaciji utvrđenih ciljeva. Otuda bi pomoć trebalo usmjeravati u investicije, odnosno humanitarne namjene kojima se, u ograničenom periodu, nadoknađuju ili neutrališu posljedice djelovanja određenih jednokratnih netržišnih faktora, kao što su prirodne katastrofe, ratovi, sankcije, veći politički i socijalni poremećaji i sl., odnosno smanjuju ljudske patnje tokom određenog perioda. Pomoć ne bi smjela imati trajni, pa čak ni dugoročni karakter kako bi se izbjeglo stvaranje zavisnosti, političke uslovljenosti ili vezanosti za isporuke iz određenih zemalja.

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Original scientific paper

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## THE IMPACT OF FOREIGN AID ON ECONOMIC GROWTH AND COMPETITIVENESS OF THE COUNTRY

**Summary:** *Healthy economic logic implies that countries recipients of foreign aid should, as early as possible, create conditions by means of which they would free themselves from this type of external influence and conditioned funding sources, which would in return result in unconditioned funding sources. This implies the possibility of funding at the international capital market, but also the existence of an appropriate credit rating. It is evident that such trends are conditioned by strengthening of the economy competitive position, as well as by setting up its production base as a sound one. Empirical data point out to the case of Bosnia and Herzegovina as a country which received more aid per capita than any other European country under the Marshall Plan, and which did not produce expected results in terms of accelerated economic growth. The very dependence on aid inflow signifies the loss of political and economic sovereignty of the recipient country and represents a crucial impact on the direction of its further economic development. On the other hand, a significant share of such financial flow components indicates the presence of certain disturbances in the economy of aid recipient countries, but at the same time enables such economy to be isolated from the trends at the global market. The process of creating re-*

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*serves takes place independently from the competition, i.e. performance of the recipient country economy, and which as a consequence leads to the increase of cost of labor at the labor market, and thus to the appreciation of real exchange rate and appreciation of nominal exchange rate at the foreign exchange market. The effects of aid intended for education and health care represent a special area within the foreign aid, where the above effects influence the GDP growth rate, which is different across countries depending on the level of their development.*

**Key words:** *aid, economic growth, competition, dependence, foreign exchange inflow*

**JEL classification codes:** *H62, H63, H69*

## INTRODUCTION

A special segment of financial flows of particularly small, transitional and underdeveloped countries makes the movement of foreign aid as a very important segment of their capital account. The growing attention concerning the aid flows emphasizes their complex nature and insufficient activation of the potential for economic development, which they have. This is particularly important for public policy in countries that have a particularly high influx of aid, which as a kind of a rule are countries to whose group in terms of the level of development belongs also our economy. What stands out as a problem, despite the extensive and constant inflow of these funds in the aforementioned group of countries, is that very little of money received is invested in the development, respectively basic forms of use are current consumption, unproductive investments and immobilization in form of cash (“under the pallet”). Investments are mainly focused on housing construction and development of agricultural production, while on the other hand, aid influence on improvement or reduction of poverty and raising household disposable income that they received. After the collapse of communism in early nineties, donor countries changed the way of assistance, with emphasis on stabilization programs and structural adjustment with the assistance of the IMF and the World Bank. This support became conditional on the achievement of the set of macroeco-



conomic targets; therewith some donor countries have placed emphasis on overall programs, respectively support to budgets or specific sectors. Users are thus given the option of using aid for various purposes, including those concerning the periodic expenditures or institutional development. On the other hand, we also have an approach that included creation of funds at the global level that could contribute to resolving certain issues having a global character.

The mere reliance on aid inflow means losing political and economic sovereignty of the recipient country, so that each country should get rid of external influences of this kind as soon as possible and turn to “conventional” sources of funding. For this group of countries raised is a question of estimates of net income in the sense of both the international credit rating, as well as direct financial conditions, when comparing the international financial institutions and international financial markets as potential sources of funding.

On the other hand, a significant share of these components of financial flows indicates the existence of a certain disturbance in the economy of the aid recipient countries, but at the same time allows these economies to be isolated from developments on the world market. Essentially the process of creating foreign exchange reserves of the country there is a significant percentage share of these funds, so that the very process of creating reserves takes place independently of the competition, i.e. the performance of the economy of the recipient country. The primary impact is reflected in the growth of labour costs in the labour market and thus the appreciation of the real exchange rate and the appreciation of the nominal exchange rate in the foreign exchange market. When it comes to the overall effects of foreign aid on the economic growth of developing countries, most of the studies indicate the absence of a positive or a negative effect. This indicates the need for studying further the factors that limit use of this form of transfers for financing economic development.

### **1. The impact of foreign aid on the economy of the country**

While, on the one hand, increasingly developing countries become able to borrow on international financial markets, including the bond market,

under favourable conditions, at the same time in this market appear also government respectively non-government organizations to provide assistance under more or less precisely defined programs for specific purposes (Harford and Klein and Tilmes 2005, 284). There is noted a tendency of reduced assistance from public sources in regard to the increased aid from private sources and remittances, given that even the gifts by the side of non-government organizations exceed the non-concession loans by the government already since 2002. (According to data from Development Assistance Committee (DAC) - OECD) ((Nikolić, 2006).

The very process of donation took place in two directions, where both channels of aid movement imply the existence of certain conditions and standards that must be respected and that are defined by the donors. The first way of aid distribution includes assistance with emphasis on stabilization programs and structural adjustment with the help of the IMF and the World Bank. By this aid became conditioned with the achievement of the set of macroeconomic targets; therewith some donor countries have placed emphasis on overall programs, respectively support to budgets or specific sectors. Users are thus given the possibility of using aid for various purposes, including those concerning the periodic expenditures or institutional development. The other approach comprise of creation of funds for specific purposes on a global level, such as, for example, the prevention of certain diseases (Jameson and Radelet 2005, 2).

The problem with providing aid is that it increasingly appears as an instrument of foreign policy, instead of being directed to the poorest countries and segments of population, or to achievement of certain economic objectives, as reflected in the reduction of multilateral in favour of bilateral forms of aid, since it is easier to control and condition the aid through them than through international institutions. Thereat, governments in the role of bilateral donors may have greater freedom in the choice of supplier, which has an unfavourable impact on competition between them. This is to some extent compensated by the appearance of new aid donor countries (China, India and Russia).

As required by sound economic logic, the recipient countries of foreign aid should as soon as possible create conditions in which they could get rid of this type of external influence and the conditioned funding sources

towards unconditional funding sources. This includes the possibility of funding in the international capital market, but also the existence of an appropriate credit rating. It is clear that such trends are conditioned by strengthening the competitive position of the economy, as well as setting up its production base on a stable basis (Ristić and Ristić 2015, 213-229). Special areas in the context of foreign aid are the effects of the aid for education and health care to the GDP growth rate, which varies by country depending on the level of their development (Baldacci et al. 2005, 42). In many ways are higher in countries with low GDP per capita compared to countries with medium level, where there is a strong correlation between capital invested in education and those invested in healthcare.

Aid for education has increased significantly by leading donor countries in the framework of their official development assistance, especially from the nineties (Jamison and Radelet, 2005). According to IMF experts who have studied ways of using aid (Baldacci et al, 2005), the effects of aid for education and health to the GDP growth rate are very different by country, depending on the level of their development, i.e. in many ways are higher in countries with low GDP per capita compared to countries with medium level, where there is a strong correlation between capital invested in education and those invested in healthcare.

However, the impact of these two types of aid as a way to improve human capital on economic growth does not have to, according to the authors, be always positive, since it would be reduced to the extent that these forms of public spending contribute to excessive public spending and thus the fiscal deficit and vice versa, if they are perceived as a form of reducing the fiscal burden and stimulation of domestic demand. Their research (Baldacci et al, 2005) in developing countries have shown that a positive impact with education is based on both the current as well as on earlier investments, since the effects are realized in the long term, while as for the investment in healthcare this impact can be set in correlation only with current investments, bearing in mind that there is no deferred effects. Increasing healthcare expenditures can be attributed to one-third of GDP growth, with the increase in life expectancy of one year is associated with an increase in GDP growth by four percentage points in both the developing countries and also developed countries (Bloom and Canning and Sevilla 2004, 1-13).

The positive impact of aid for education to economic growth was confirmed on the basis of the high degree of correlation rates of students enrolled, respectively duration of education, expressed as the number of years of schooling and GDP growth, with about two-thirds of the direct effects is realized during the first five years, and the remaining third in the next five years (Baldacci et al. 2005, 42). At the same time, the simulation found that the increased investment in education in the amount of one percentage point of GDP increases the number of years of education for three years and GDP growth of 1.5 percentage points over 15 years, thus reducing the rate of poor by about 17%. At the same time, a corresponding increase in expenditure on health care increases the survival rate of children by 0.5 percentage points with the same GDP growth rate per capita, which would result in a cumulative reduction of poverty rate by about 12%.

## **2. Efficiency and effectiveness of foreign aid**

The issue of efficiency of foreign aid to developing countries, in terms of its contribution to their economic growth is controversial for many years, with crystallized three basic standpoints (Jameson and Radelet 2005, 2). According to the first, aid has no positive effect on economic growth, and can have a negative effect, since it wastes resources on bad projects, undermines private entrepreneurship and encourages corruption. According to second, aid has a positive effect in average on economic growth, but with decreasing returns. According to the third and the most common view, the aid can have a positive impact on economic growth only in countries with appropriate policies and institutions.

On the other hand, starting with a more elaborate aid categorization to three sectors (social, economic and food, whereas healthcare, education and water supply and sanitation services belong to the first one, and energy, transport and communications to second), and taking into account the time of influence (short and long term, whereas the first is linked to the economic and the second to social aid) and type of donor (multilateral and bilateral), drawn are the following conclusions (Rajan and Subramanian 2005). Firstly, the long-term impact is more difficult to identify than the short term. Secondly, long-term economic growth responds to

the social and economic aid through their impact on the physical and human capital, but not on food aid, while multilateral aid has a different conditionality in relation to bilateral and should be less tied to suppliers from donor countries, and more to meeting the macroeconomic conditions. Thirdly, there were no significant correlation of any kind of aid and economic growth.

The question of whether aid actuates economic growth is considered to be controversial and open, bearing in mind that, in contrast to the regression analysis, which has not established a link between the aid and economic growth, recent theory holds that the impact of aid on economic growth exists, but it is significantly smaller than supervening on the basis of earlier studies. In fact, a number of studies indicate that, in addition to mismanagement and corruption, there must be additional reasons why aid doesn't have expected effectiveness (such inefficiency is specially expressed in the tropical area countries) in stimulating economic growth. Rajan and Subramanian showed in a study which included a larger number of developing countries that, for example, the current situation in the country has an impact on the volume of aid also when a natural disaster influence increase in aid, causing a negative correlation between the aid and economic growth in the same period. Their study found that there is insufficient evidence of a strong positive effect of aid on economic growth (such relationship exists only for a period of two decades covering the eighties and nineties of the last century, but only if extreme data is also included (outliers)). In the long run of forty years it established a significant negative correlation between them, while the other three out of five periods observed also negative, but insignificant, it does not give rise to definite conclusions. At the same time, there is not established even any evidence that aid works efficiently in terms of better economic policies and better institutional or geographical framework, or that some types of aid are more effective than others. Hence they conclude that in order to increase effectiveness of aid one should determine what is in the form of transfers, respectively subsidized loans which prevents a positive impact on economic growth, given, among other things, the fact that various types of assistance, speaking to the sources and the purposes, have similar effects, since the government of the beneficiary countries considered them

as part of the same funding sources and thereto adjust their public spending. This means that we can talk about long-term negative effects of aid by reducing the need to increase fiscal revenue, thus the need to increase aid is incorporated in the longer term in the fiscal balance, creating long-term dependency on aid (Azam et al. 1999).

Rajan and Subramanian's (Rajan and Subramanian 2005) regression analysis, which start from the average GDP growth per capita as a dependent variable, and the average share of the annual aid in GDP, as the primary independent variable, with data from several countries, may not take sufficiently into account all the differences between countries. In doing so, out of plenty of possible regressors they used the initial level of income, the average life expectancy, a measure of the quality of institutions, a measure of the quality of policy, measure of the impact of geographical location, external shocks expressed through average growth and variability of ratio of exchange, public expenditure and revolution. The results showed that in four of the five cases the coefficient got for aid is of a negative sign, and also that it is important only in the case of the longest period (1960-2000), indicating that an increase in aid to GDP by one percentage point reduces the long-term economic growth rate by about 0.07 percentage points. However, this result should be taken with caution due to endogenous issue, as in the case when increase in aid reflects the desire of donors to offset poverty caused by low economic growth, which implies a negative correlation if it does not take into account the time lag of the aid effects.

In contrast to this negative correlation, the positive, according to the authors, can be expected to the extent that donors are motivated primarily by the efficiency of the use of aid, as opposed to desire to curtail the suffering of the population. However, they conclude that impact of aid on economic growth measured like this is negligible. Also, putting the production growth rate per worker in the relationship with the participation of aid to GDP, Rajan and Subramanian suggest that this ratio should be equal to the product of capital share in income, the share of invested aid in total aid, and the coefficient of production to capital. Assuming that the entire amount of funding is invested, the share of capital in income is 0.35 (Bosworth and Collins 2003, 2) and taking that the average coefficient production to capital is calculated by 0.45 regression, they got the coefficient

of 0.16, concluding that increase of aid share in GDP by one percentage point would increase the long-term economic growth rate by 0.16 percent, or if the part of the aid was spent or lost, instead of being fully invested, this growth would be around 0.1. In principle, according to the authors, this ratio should be similar to the share of investment in GDP, although there are views (Barro and Martin 1995) that it is significantly lower for investment and amount 0,03, respectively that increase of the investment share in GDP by one percentage point should lead to an increase in the rate of economic growth per capita by 0.03 percentage points.

Importance of the export sector (that is, as a rule, the holder of productivity growth and technological innovation, and their lagging behind is reflected on overall economic growth) is pointed out by some authors indirectly, through the impact of overvaluation of the exchange rate on the long-term economic growth.

Possible negative effects of foreign aid takes place in two directions which ultimately means a drop in export competitiveness and therefore economic growth. First, the inflow of foreign assets that are not the result of the competitive position of the country but is occurring independently, creates an unjustified appreciation of the nominal exchange rate that leads to appreciation of the real exchange rate and further decline in the competitive position of beneficiary countries. This applies if we start from a flexible exchange rate regime, while in terms of a fixed exchange rate there is initially no appreciation of the nominal exchange rate due to responsibility of monetary authorities to preserve the stability of the exchange rate; but the question how long fixed exchange rate system viable is raised in terms of the permanent loss of foreign exchange reserves and falling competitiveness with a defined level of aid. Secondly, based on the foreign aid there is increase in demand in domestic market of production factors, especially labor, which leads to increases in the prices of these factors, the appreciation of the real exchange rate and declining competitiveness in the world market. If we add the negative Ballas-Samuelson's effect, we have an additional decline in the competitiveness and profitability.

On the other hand, the negative impact on the export sector is lacking to the extent that the aid received is spent on the import of capital goods and consulting

services or domestic goods whose offer is not limited so there is no increase in these prices (e.g. unskilled labour). The more the aid is spent on imports, there is less aid effect either the foreign exchange rate, respectively increase in the value of the local currency, or the increase in value of the local workforce, and as much of the aid is spent on labour-intensive products or services, it will be more effective to increase the value of the labour force. In short, all factors that lead to creating conditions for a more stable future growth, being financed from foreign aid funds, are considered to be factors that contribute to increased competitiveness and profitability.

Rajan and Subramanian suggest evidence of a direct link between aid, the exchange rate appreciation<sup>4</sup> and the reduction of competitiveness on the basis of the growing positive correlation between aid and the exchange rate appreciation in a number of developing countries, but warn that weaker macroeconomic performance of the country may be the result of exchange rate appreciation per se, rather than aid, which would mean that the aid unduly attributed to what is, in fact, the fault of exchange rate policy. However, they conclude that the main problem is how to disable aid effect to the exchange rate overestimation, given that a positive correlation between aid and the overvaluation of the exchange rate becomes stronger, as the effects of overvaluation is accumulated over the long term. It represents a common characteristic of aid and remittances, but as for aid, as opposed to remittances, there occurs also an additional effect to the fiscal balance.

### **3. Movement of the foreign aid in Bosnia and Herzegovina**

After the signing of the Dayton Agreement the international community has invested enormous financial resources and provided significant logistical support to Bosnia and Herzegovina. Empirical data indicate that Bosnia and Herzegovina has received more aid per capita than any European

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<sup>4</sup> For measuring the impact of overvaluation of the exchange rate authors use regression of the real exchange rate to the level of per capita income at purchasing power parity (PPP), reflecting the ratio of the Balass-Samuelson, according to which the real exchange rate of the currency of a country shall appreciate with productivity growth of its sector producing goods to participate in international trade, respectively income growth in accordance with Frenkel's method (2004). Measures of the exchange rate overvaluation would be residuals of this regression as a difference between the equilibrium predicted by regression and actual exchange rates.



country under the Marshall Plan.<sup>5</sup> Despite these significant amounts of foreign aid in the years immediately after the war, Bosnia and Herzegovina didn't make significant economic or institutional shift, while since 2000 evident is gradually reducing intensity of these flows.

Within the policy of regulating external balance, aid and remittances are of great importance to cover primarily the deficit in the balance of current transactions, that in order to maintain macroeconomic stability, according to the criteria of the European Bank for Reconstruction and Development (EBRD), should not exceed 7% of GDP. Achieving external balance in the case of Bosnia and Herzegovina proved to be more difficult to achieve than the fiscal balance, given that the fiscal deficit, according to the criterion of the same institution should not exceed 5% of GDP.

If we consider now the very net flows of development aid in the region, one should know that it includes grants of the official member agencies of the Development Assistance Committee (DAC), multilateral institutions, as well as a non-DAC institutions, and also loans disbursed by significantly more favorable terms for the promotion of economic development, growth and the realization of the objectives from the social field in the countries that are on the DAC's list of recipients of this aid. Initially, aid was intended to neutralize the effects of wars and raise the level of domestic consumption in support of the new government.

During the implementation of assistance expressed was a tendency to change its structure, where by the end of 2000, the focus has shifted from humanitarian, through the resources to rebuild destroyed infrastructure and after this period has become primarily a development aid, from grants to loans with favorable conditions (in order to qualify a loan as aid, it needs to have an appropriate level of so-called element of gift as relation between the differences of the nominal value of the loan and the sum of the current value of future repayment flows calculated using the representative interest rate and the nominal value of the loan). The aforementioned loans imply the existence of grant portion of not less than 25% (calculated at the rate of 10 per cent discount). Concessionary loans that meet this criterion relate to development aid, primar-

<sup>5</sup> The Marshall Plan, officially called the Plan of European reconstruction, was the official plan of the United States on the reconstruction of post-war Europe and combating the influence of communism after World War II. Task for drafting the plan was given to George C. Marshall and his colleagues from the State Department and along the Marshall particular contribution was made by William Clayton and George Kennan. The Reconstruction Plan was drafted at a meeting between the participating countries of the Plan on 12 July 1947.

ily in the context of structural adjustment and reconstruction of infrastructure, while grants relate to technical assistance and support for humanitarian or social purposes. The decline in the share of grants follows the growing importance of its segments, technical, and development assistance at the expense of charity, which in the future can be expected only for emergencies.

Table 1. Absolute amounts of official development aid net (\$) (The World Bank)

Year	Recipient country					
	Albania	Bosnia and Herzegovina	Croatia	Serbia	Macedonia	Monte Negro
1992	409,640,000	15,690,000	10,000			
1993	270,680,000	70,240,000			3,320,000	
1994	163,100,000	408,570,000	109,660,000	49,220,000	104,260,000	
1995	180,600,000	965,800,000	53,280,000	95,060,000	78,800,000	
1996	226,550,000	851,810,000	133,310,000	69,510,000	105,390,000	
1997	168,110,000	862,050,000	40,360,000	97,360,000	98,290,000	
1998	268,620,000	914,970,000	39,380,000	108,230,000	104,910,000	
1999	488,150,000	1,286,240,000	48,470,000	707,400,000	276,830,000	
2000	317,850,000	737,930,000	65,510,000	1,134,270,000	250,190,000	
2001	268,530,000	640,080,000	123,810,000	1,304,180,000	247,200,000	
2002	307,420,000	555,780,000	142,720,000	2,084,640,000	273,530,000	
2003	354,500,000	541,920,000	120,700,000	1,320,180,000	265,730,000	8,140,000
2004	299,950,000	686,220,000	119,660,000	1,157,710,000	263,440,000	20,130,000
2005	319,140,000	548,520,000	123,460,000	1,066,360,000	227,300,000	3,860,000
2006	321,780,000	534,980,000	203,820,000	1,577,620,000	205,250,000	95,590,000
2007	307,450,000	599,890,000	162,910,000	840,870,000	200,920,000	105,720,000
2008	363,270,000	466,930,000	241,580,000	973,150,000	204,710,000	104,860,000
2009	356,960,000	414,310,000	168,820,000	614,040,000	192,470,000	75,030,000
2010	340,700,000	510,370,000	150,710,000	659,870,000	187,170,000	80,280,000
2011	349,000,000	624,200,000	280..	1,378,200,000	193,100,00	124,100,00
2012	341,620,000	571,130,000	-	1,089,870,000	148,940,000	103,220,00

If we look at the absolute value relating to net official development assistance, we can notice that Bosnia and Herzegovina has the largest share in the total value compared with the region countries, which is even more

significant when relative relations are observed. In this paper we will look at a twenty year period from 1992 to 2012, because in that period Bosnia and Herzegovina has made the biggest foreign aid inflows and it was to make a comparison with region countries in this period.

Table 2. Per capita amounts of official development aid net (\$) (The World Bank)

Year	Recipient country					
	Albania	Bosnia and Herzegovina	Croatia	Serbia	Macedonia	Monte Negro
1992	125	4				
1993	84	19			2	
1994	51	118	24	6	53	
1995	57	290	11	12	40	
1996	73	258	30	9	53	
1997	54	256	9	13	60	
1998	87	263	9	14	33	
1999	159	357	11	94	24	
2000	103	200	15	151	21	
2001	87	171	28	174	23	
2002	99	147	32	278	135	
2003	114	143	27	176	131	13
2004	96	181	27	155	130	32
2005	102	145	28	143	112	6
2006	102	141	46	213	100	152
2007	97	159	37	114	98	168
2008	114	124	54	132	100	167
2009	112	110	38	84	94	119
2010	106	136	34	90	91	127
2011	111	162	0	190	92	200
2012	122	149	0	151	71	166

As we can notice, the maximum amounts of net official development aid per capita has been made in Bosnia and Herzegovina in 1999 and increased by as much as 28.42% compared to the next highest value. Also, it is no-

ticeable that there are rare years in the observed time series when any of the countries in the region had a greater influx of foreign aid in regard to Bosnia and Herzegovina. The only major deviation we have in 2002 and 2003, when Serbia stands as the largest recipient of foreign aid, as a result of the war in Serbia. In 2011 and 2012, Serbia and Montenegro receive slightly higher amounts of aid, which is the result of somewhat slower withdrawals by Bosnia and Herzegovina because of the political issues which is why the budget of Bosnia and Herzegovina was not passed in that year and the formation of the Council of Ministers took 16 months. If you would observe the entire series, with the exception of such drastic circumstances, evident is high dependence of Bosnia and Herzegovina from this type of aid, while the volume of aid that arrives does not reduce at expected pace, which indicates the inefficiency of the transitional process in Bosnia and Herzegovina and in general the economy of our country.

Looking at Bosnia and Herzegovina in peacetime, with its complex internal organizational structure and efforts to become part of the European Union, and a foreign aid inflow, it is necessary to analyze the effects of foreign aid on the economic life of our country. Below we look at some of the segments of the socio-economic life of our society which should have been improved, based on the received foreign aid in the past.

According to the findings of the World Bank (World Bank 2010 World Development Indicators) Bosnia and Herzegovina has the potential to achieve GDP growth in the amount of 6%, by encouraging the reform process towards a free market and the financial and economic liberalization. Business regulation has been changed and improved. Also, the time necessary to resolve bureaucratic issues, such as licensing and registrations has been reduced, although the process remains relatively lengthy for “ordinary citizens” and foreign investors and thus does not encourage investments. We point out that this problem is widespread and present in all the countries of the region. Furthermore, there is significant progress in the field of harmonization of taxation and stable growth of foreign direct investment.

However, on the other hand, foreign direct investments in Bosnia and Herzegovina are at the lowest level, not only in the region but among all the countries that are in transition. Furthermore, there are a number of socio-economic issues that remain unresolved and whose improvement in prin-

principle implies a complex and demanding solutions. For example, the existence of high unemployment of 27.9% (ILO), with significant deviation of youth in relation to standards, is specifically four times higher than the EU average. Furthermore, in 2004 almost 20% of the population lived below the poverty line, while another 30% was very close to the poverty line (IMF), and according to the UNDP's Human Development Report, Bosnia and Herzegovina is ranked on the 85<sup>th</sup> position in the world since 2015.

Another indicator is clearly linked to the high unemployment rates and significant levels of poverty which refers to the number of citizens who expressed a desire to leave their country. This figure is constantly increasing, so that in 2012 there were 81% of persons belonging to the younger population who wanted to leave the country.

Another concern common for entire region is related to the fact that Bosnia and Herzegovina still has problems with extremely high levels of corruption. According to Transparency International's Corruption Perceptions Index 2014, Bosnia and Herzegovina is on the 80 place out of 174 countries, which is a deterioration compared to 2013 when it stood at 72 place. For the average citizen of Bosnia and Herzegovina billions of Euro of foreign aid intended for the process of reconstruction and development strategy in the post-war years did not bring a lot of progress. The average citizen of Bosnia and Herzegovina is unemployed, and if he's lucky to work, then he's probably poorly paid and subsisting three family members. As long as the problem of unemployment, socio-economic inequality and corruption does not take appropriate positions in our society, Bosnia and Herzegovina will fall behind neighboring countries. We conclude that the need for better coordination of international assistance and greater complementarities and selectivity of individual aid programs, taking into account the reduction of aid with the transition from the so-called post-conflict to one that is focused on increasing growth and reducing inequality.

## CONCLUSION

From the aspect of economic developments, we can conclude that the aid is a certain form of isolation and indicator of structural economic disorder, because the country's economy, which significantly relies on foreign

aid receipt, is showing their own inability to function independently and undergo inclusion in the global economic flows. The influx of foreign aid leads to a situation where the recipient country generates foreign exchange inflows and the growth of foreign exchange reserves of the country irrespective of the country's competitiveness. Consequently, this leads to the appreciation of the nominal exchange rate and thereby creates a pressure on the appreciation of the real exchange rate, and a decline in global competitive position and gives a false picture of the actual level of external imbalances. Also, due to increased demand for goods and services, we have a rise in prices for goods and services, as soon as the pressure on the appreciation of the real exchange rate is a two-side.

In theory, these negative effects of the aid could be counteracted through the correction of exchange rate policy, as well as wage policy, which essentially meant to be a non-market activity wants to cancel other non-market action, which is practically very questionable. The question of adequate policy and intensity of these activities, which should be sufficient to overcome the cognitive gap, as well as economic policy gaps in decision-making, implementation and realization.

Essential aid effects among countries correspond to the effects of the state aid or subsidies. State aid or subsidies is one of the widely used and legitimate instruments of strengthening the economy of each country and strengthening the competitiveness of local companies and stimulating growth and development. But the experience of many countries shows that this is an instrument that many governments use to support companies and/or sectors which in the long run cannot have positive effects on the economy of the country. Exactly this reality is the reason why the system of state aid in the EU is centralized and state aid monitoring in all Member States is delegated to supranational institution. The Action plan of EU state aid is for these reasons also focused on long-term decrease in the share of subsidies in GDP of each country and the transition from vertical assistance which is targeting specific industries on a horizontal support that targets small and medium businesses, research and development, investments in innovative technologies, as well as environmental programs.

It is clear that the literature dealing with this issue did not give an unambiguous answer to what are the factors that suppress the positive effects of

international aid to the very economic growth and development in order to adjust the flows and character of international assistance. International development assistance programming is a complex process of identifying needs and priority objectives within the individual sectors, defining the activities, procedures and time horizons in the preparation and selection of project proposals which should contribute to the realization of set goals. Hence, the aid should be directed to investments or humanitarian purposes which, for a limited period of time, compensate or neutralize the consequences of certain one-time non-market factors such as natural disasters, wars, sanctions, greater political and social disorders etc., respectively reduce human suffering during the certain period. Aid should not have a permanent or even long-term character in order to avoid creating dependency, political conditionality or connection to the delivery of certain countries.

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## GLOBALNI OKVIR FISKALNOG BILANSA I POLITIKA U BOSNI I HERCEGOVINI

**Rezime:** *Primjenjujući fiskalnu politiku, država pomaže izvršavanju svojih ekonomskih ciljeva. Fiskalna politika predstavlja moćan instrument kojim se mogu usmjeravati privredni tokovi i privredne aktivnosti. Osnovna funkcija poreza je prikupljanje javnih prihoda. Međutim, porezi imaju i dodatne funkcije koje se ogledaju u alokaciji društvenih sredstava, preraspodjeli nacionalnog dohotka, stabilizaciji privrednih kretanja i slično. Kreiranjem odgovarajuće poreske strukture i izborom poreskih stopa, država može da utiče na uravnoteženje cijena, investicije, zaposlenost, štednju, trgovinske tokove, povećanje izvoza, smanjenje uvoza, socijalne probleme. Poreska struktura pojedinih država se može posmatrati putem uticaja pojedinih oblika poreza u ukupnim javnim prihodima. Fiskalni sistem modernih država čini kombinacija većeg broja poreza koji su koncipirani tako da pogoduju datim ekonomskim i socijalnim ciljevima, odnosno predstavljaju ostvarivanje ciljeva fiskalne politike zemlje. Poreski sistemi su drugačiji prvenstveno zbog toga što države imaju različitu potrebu za sredstvima kojima finansiraju javne rashode. Jedan od najznačajnijih pokazatelja koji se pripisuje javnom sektoru jeste visina poreskog opterećenja pojedinih poreskih prihoda u ukupnom bruto društvenom proizvodu.*

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**Ključne riječi:** *fiskalna politika, makroekonomija, industrija, BDP, izvoz.*

**JEL klasifikacija:** *H70, H71, H83.*

## UVOD

Postati država članica EU ne znači samo poštovati pravila i standarde EU. To takođe podrazumijeva da zemlja postane ekonomski pogodna za članstvo kako bi sigurno mogla da iskoristi sve pogodnosti pristupanja EU, a istovremeno da doprinese rastu i prosperitetu privrede EU. Ekonomija Bosne i Hercegovine spada u grupu malih otvorenih ekonomija, osjetljivih na globalna kretanja i eksterne šokove.

Konačno, u kontekstu fiskalne održivosti i približavanja Evropskoj uniji, neophodno je napraviti osvrt i na ocjenu prethodnog ekonomsko-fiskalnog programa od strane Evropske komisije.

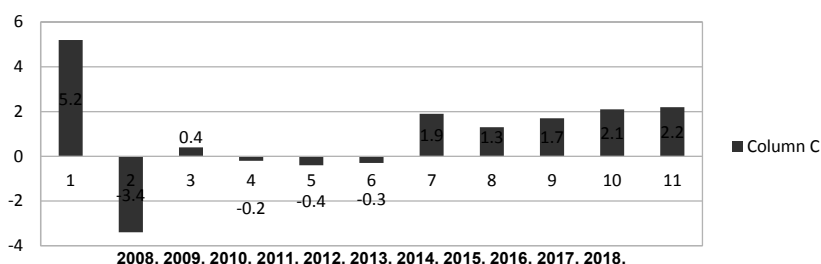
## 1. EKONOMSKI TREND OVI U BIH

Ekonomska integracija se ostvaruje na prostoru koji obuhvata teritorije više država, sa ciljem da se otklone prepreke kretanju robe, ali i usluga i faktora proizvodnje (Ristić 2015/2016, 326). BiH je predmet regionalnog pristupa Evropske unije zemljama Zapadnog Balkana kroz proces stabilizacije i pridruživanja, kao i element strategije uslovljavanja iz 1997. godine. Politički dijalog, liberalizacija trgovine, saradnja u području pravosuđa i unutrašnjih poslova, te proces stabilizacije i pridruživanja vodilje su integrisanja BiH u političku i ekonomsku maticu Unije. Postati država članica EU ne znači samo poštovati pravila i standarde EU, to takođe podrazumijeva da zemlja postane ekonomski pogodna za članstvo kako bi sigurno mogla da iskoristi sve pogodnosti pristupanja EU, a istovremeno da doprinese rastu i prosperitetu privrede EU. Na osnovu iskustva država članica EU u evropskom semestru, Komisija jača svoju podršku poboljšanju ekonomskog upravljanja i konkurentnosti u zemljama obuhvaćenim procesom proširenja. Ovo bi trebalo da pomogne zemljama obuhvaćenim procesom proširenja da iskoriste potencijal za održivi rast i stvaranje novih radnih

mjesta, da bolje isplaniraju i rasporede strukturne reforme i na kraju da ispune ekonomske kriterijume. Bosna i Hercegovina je u ranoj fazi u pogledu približavanja evropskim standardima. Određeni nivo pripremljenosti je postignut u pogledu javnih nabavki i unutrašnjeg tržišta. Potrebni su dalji kontinuirani naponi, naročito u pogledu pitanja pravde, slobode i sigurnosti, u oblasti konkurencije, industrije i malih i srednjih preduzeća, poljoprivrede, politika životne sredine i klimatskih promjena, energetike i informacionog društva i medija.

### 1.1. Kretanje osnovnih ekonomskih indikatora u Bosni i Hercegovini

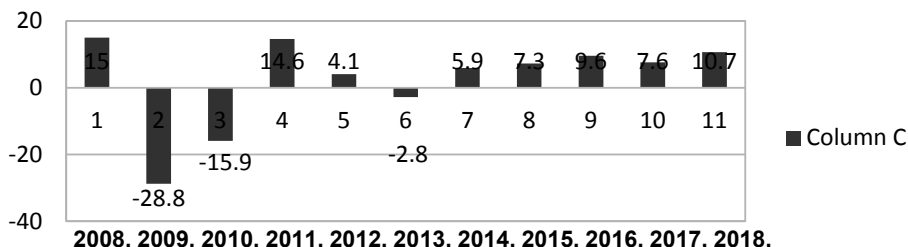
Iako je realni rast ekonomske aktivnosti BiH u odnosu na prethodni kvartal tokom prva dva tromjesečja 2015. iznosio svega 0,7%, rast aktivnosti na godišnjem nivou je bio znatno veći. Najveći dio godišnjeg povećanja je zapravo ostvaren u četvrtom tromjesečju 2014, kada je aktivnost povećana u odnosu na treći kvartal za značajnih 1,6%. Tako je, uprkos skromnom kvartalnom povećanju u naredna dva tromjesečja, ekonomska aktivnost u prvom kvartalu bila za 2,3%, a u drugom za značajnih 4,4% veća u odnosu na isti period 2014. godine. Intenziviranje godišnjeg rasta u drugom tromjesečju je u najvećoj mjeri bilo posljedica pada BDP-a u istom periodu prethodne godine usljed poplava koje su zadesile zemlju.



Grafikon 1. BDP – realni rast u % (Agencija za statistiku BiH)

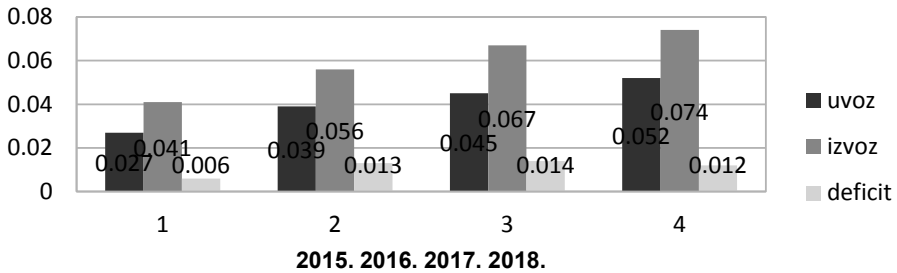
Ekonomski rast okruženja u prvom polugodištu bio je intenzivniji u odnosu na prvo polugodište 2014, uz blago intenziviranje stope u drugom u odnosu na prvo tromjesečje. Uticaj fiskalne politike na ekonomski rast u

2015. godini bio je prilično skroman kako u pitanju finalne potrošnje i transfera, tako i u pitanju javnih investicija. Projekcije ekonomskog rasta i zaposlenosti u okruženju za 2015. godinu znatno su povoljnije u odnosu na rast iz 2014. godine. Jačanje rasta trebalo bi da bude nastavljeno i u 2016, mada nešto skromnijim stopama. Tako je projicirani ekonomski rast evrozone od 1,5% za 2015. godinu znatno iznad stope od 0,9% u 2014. godini. Potom slijedi nešto skromnije poboljšanje – stopa od 1,9% u 2016. godini. Ovo, istina, nije praćeno značajnijim poboljšanjem projekcija stope nezaposlenosti, koja se tek neznatno popravlja u odnosu na 2014, te ostaje i dalje visoka (10,5%) u 2016. godini.



Grafikon 2. Finalna potrošnja – rast u % (Agencija za statistiku BiH)

Kad su u pitanju zemlje iz okruženja, najznačajniji napredak se očekuje u Italiji i Hrvatskoj, čiji je pad od 0,4% u 2014. zaustavljen 2015. godine. Tada se očekuju pozitivne stope od 0,6% u Italiji, te 0,3% u Hrvatskoj, a snažan napredak ovih zemalja trebalo bi da bude nastavljen i u 2016. godini. S druge strane, u Sloveniji bi moglo doći do postepenog usporavanja ekonomskog rasta tokom 2015–2016. godine. Pored spoljnih pretpostavki, pretpostavke bh. projekcija ne uključuju ponavljanje vremenskih nepogoda u narednom periodu koje bi mogle (privremeno ili trajno) onesposobiti postojeće proizvodne kapacitete, te bitno uticati na poljoprivredu, proizvodnju električne energije i sl. Bruto nacionalni proizvod i njegovo formiranje iz domaćih izvora (investicije, razvoj), kao i iz inostranih izvora, osnovni je makroekonomski agregat (Ristić i dr. 2015, 548).



Grafikon 3. Investicije – rast u % (Agencija za statistiku BiH)

S tim u vezi, očekivao se ekonomski rast od 2,5% 2015. godine, nakon čega bi slijedilo dalje ubrzanje u 2016, sa realnom stopom od 3,1%. Pretpostavlja se uobičajeno političko okruženje bez značajnijih kriza koje bi mogle dovesti u pitanje usvajanje budžeta i javne rashode. Sve ovo trebalo bi da rezultira bh. ekonomskim rastom od 2,5% u 2015, te 3,1% 2016. godine. Ovaj rast bi, prije svega, trebalo da bude nošen domaćom tražnjom, te u manjoj mjeri znatno sporijim rastom spoljnotrgovinskog deficita.

Bolje spoljno okruženje trebalo bi da dovede do jačanja izvozne tražnje i izvoza, ali i poboljšanja inostranih novčanih priliva kojima se finansira domaća tražnja. Ovo bi trebalo da dovede do realnog rasta finalne potrošnje od 1,3% u 2015, odnosno 1,7% 2016. godine. Pored toga, očekuje se značajan rast investicija u 2015. od 7,3%, uz dalje poboljšanje stope od 9,6% u 2016. godini. Tako je ukupan rast domaće tražnje iznosio 2,3% u 2015, odnosno 2,9% 2016. godine.

S druge strane, rast izvoza bi trebalo da bude viši u odnosu na uvoz, čime bi se negativan uticaj spoljnotrgovinskog deficita sveo na minimum tokom 2016. godine. Slične pretpostavke se očekuju i za period 2017–2018, uz nešto skromnije poboljšanje spoljnih pretpostavki u odnosu na prethodni period. S tim u vezi, očekuje se ekonomski rast u BiH od 3,2% u 2017, te 4,1% 2018. godine. Slično kao i ranije, ovaj rast bi trebalo da bude nošen domaćom tražnjom, uz skroman negativan doprinos spoljnog sektora. To podrazumijeva postepeno jačanje finalne potrošnje i investicija, praćeno blagim rastom spoljnotrgovinskog deficita.

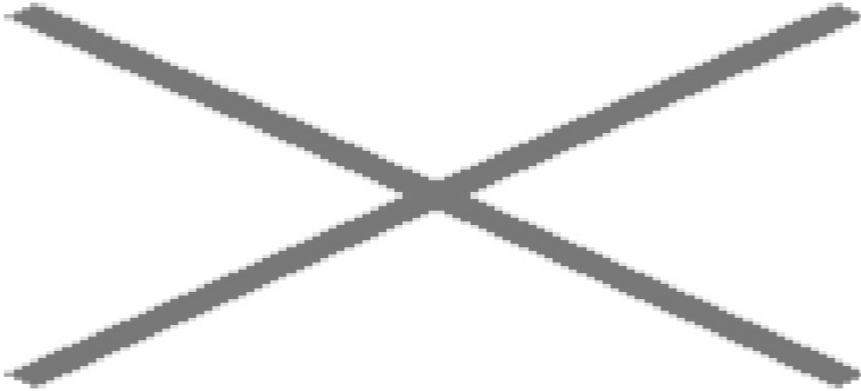
## 1.2. Rast izvoza u Bosni i Hercegovini

Preliminarni podaci ukazuju na stabilan trend rasta kada je u pitanju spoljnotrgovinska razmjena Bosne i Hercegovine sa svijetom. U periodu januar–juli 2015. godine, spoljnotrgovinsku razmjenu BiH karakterisali su povećanje ukupne robne razmjene, izvoza i u manjoj mjeri uvoza, smanjenje deficita i bolja pokrivenost uvoza izvozom u odnosu na isti period 2014. godine. Ovaj pozitivni trend nastavljen je zahvaljujući jačanju izvozne tražnje u glavnim bh. trgovinskim partnerima, što potvrđuje niz kratkoročnih indikatora, kao što je sezonični rast BDP-a u prva dva kvartala od oko 0,5%, povećanje proizvodnje u prerađivačkoj industriji zemalja EU od 1,6%, te višemjesečni rast kompozitnog indeksa ekonomskih očekivanja – ESI (Economic Sentiment Indicator), koji je u julu 2015. godine dostigao vrijednost od 106,6. Poboljšanje izvozne tražnje za posljedicu je imalo povećanje ekonomske aktivnosti u BiH, a posebno se to odnosi na rast proizvodnje u bh. prerađivačkoj industriji od 3,3%, što je predstavljalo ključnu determinantu kretanja bh. spoljnotrgovinske razmjene.

Tokom 2016. godine, očekuje se nominalni rast ukupnog bh. izvoza od 5,6% u odnosu na prethodnu godinu, pri čemu je očekivan nominalni rast izvoza roba od 6%, a izvoza usluga 4,4%. S druge strane, imajući u vidu strukturu bh. ekonomije i izraženu visoku sklonost uvozu, povećanje finalne potrošnje i viši nivo poslovne aktivnosti, realno je očekivati i povećanje bh. uvoza. Tako se tokom 2016. godine očekuje nominalno povećanje ukupnog bh. uvoza od 3,9%, pri čemu bi očekivani uvoz roba porastao za 4%, a uvoz usluga za 1,8%. Ovo bi rezultiralo umjerenim povećanjem spoljnotrgovinskog deficita od 1,3%.

Za period 2017–2018. predviđa se potpuna normalizacija ekonomskih prilika i nešto sigurniji ekonomski rast, praćen rastom kako domaće tako i inostrane tražnje za robama. Navedeni rast trebalo bi da rezultira povećanjem spoljnotrgovinske razmjene (Blanchard 2011, 342), te nešto višim stopama rasta izvoza roba u odnosu na uvoz. Nosilac bh. izvoza u ovom periodu trebalo bi da bude prerađivačka industrija u okviru koje bi, uz tradicionalne izvozne grane, dodatni doprinos trebalo da budu i ostale djelatnosti koje mogu realizovati svoj izvozni potencijal. Osim toga,

reformski procesi i unapređenje poslovnog okruženja, standardizacija, te veća diverzifikacija izvoznih tržišta trebalo bi u značajnoj mjeri da osnaže bh. izvoz. Imajući u vidu i značaj sektora za proizvodnju električne energije u strukturi bh. izvoza, očekuje se kontinuirani pozitivan doprinos i sa strane ovog sektora.

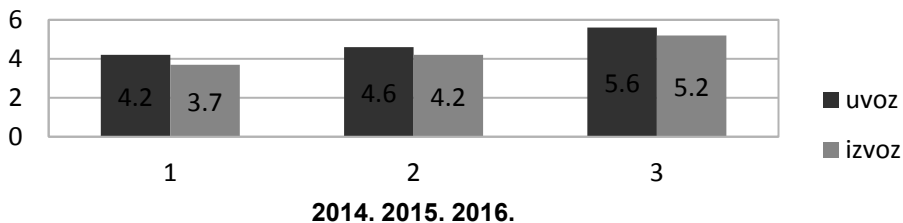


Grafikon 4. Kretanje uvoza, izvoza i trgovinski bilans u BiH (DEP projekcije)

Posmatrano po zemljama, najznačajniji dio bh. izvoza (72%) plasiran je na tržište zemalja EU, a u 2015. godini povećan je za 1,6% u odnosu na prethodnu godinu. U okviru EU, najznačajnija izvozna tržišta su Njemačka (1,3 milijarde KM), Italija (1,2 milijarde KM), Hrvatska (955 miliona KM), Austrija (755 miliona KM) i Slovenija (697 miliona KM). Najznačajnija povećanja izvoza registrovana su u Italiju (19,4%) i Austriju (10%), dok je izvoz u Njemačku stagnirao (0,5%). Izvoz u Hrvatsku je značajno smanjen za oko 20%, usljed promjene spoljnotrgovinskog režima prilikom ulaska Hrvatske u EU. Zemlje CEFTA čine 16% bh. izvoza, a tokom 2015. godine izvoz na ova tržišta povećan je za 1,7% u odnosu na prethodnu godinu. Najznačajniji udio odnosi se na Srbiju, u vrijednosti od 800 miliona KM, i u 2015. godini povećan je za 4,5%, dok je izvoz na tržište Crne Gore iznosio 293 miliona KM i povećan je za 8,5% u odnosu na 2014. godinu.

Bosanskohercegovački uvoz iz zemalja EU povećan je za 4,8%, a posmatrano po zemljama, najviše stope rasta ostvarene su u okviru uvoza iz Italije (11,6%) i Njemačke (7,8%), dok je uvoz iz Hrvatske smanjen za 5,4% u odnosu na 2014. godinu. Uvoz iz zemalja CEFTA čini 11% ukupnog bh. uvoza, pri čemu se većinski dio odnosi na uvoz iz Srbije (1,63 milijarde KM), koji je povećan za 10% u odnosu na 2014. godinu. Što si tiče ostalog dijela bh. uvoza, značajno mjesto u strukturi zauzimaju: Rusija (1,3 milijarde KM), Kina (1,35 milijardi KM) i Turska (580 miliona KM). Tokom 2014. godine, s obzirom na pad cijena nafte u odnosu na 2013. godinu, uvoz roba iz Rusije smanjen je za 15%, dok je došlo do povećanja uvoza iz Kine, od 48%, i Turske, od 18%.

Prema raspoloživim projekcijama DGEFCFIN (proljetno izdanje), u zemljama EU očekuje se intenzivniji ekonomski oporavak, sa očekivanom stopom rasta od 1,5%. Osim toga, prema izvještaju DGEFCFIN, nizak nivo cijena nafte, depresijacija evra i kvantitativne olakšice – Extended Asset Purchase Programme od strane ECB, te Evropski investicijski plan – EU Investment Plan, predstavljaju glavne mehanizme za povećanje ekonomske aktivnosti i intenzivnije spoljnotrgovinske razmjene kako unutar EU tako i sa trećim zemljama. Sve ove mjere u eksternom okruženju, uz očekivani ekonomski rast, viši nivo investicija i povećanje industrijske proizvodnje, trebalo bi da rezultiraju povećanjem spoljnotrgovinske razmjene u Bosni i Hercegovini. Iako projekcije svjetskih cijena od strane međunarodnih institucija ne idu u korist bh. izvoznika, ipak se očekuje da bi povećanje proizvodnje tradicionalno izvozno orjentisanih grana bh. prerađivačke industrije, uz značajan doprinos sektora za proizvodnju električne energije, mogao rezultirati značajnim rastom bh. izvoza.



Grafikon 5. Projekcije za EU (DGEFCFIN Spring Forecast 2015)



### 1.3. Industrijska proizvodnja u Bosni i Hercegovini

U prethodnih nekoliko godina, glavnu determinantu kretanja industrijske proizvodnje u Bosni i Hercegovini predstavljalo je međunarodno ekonomsko okruženje, odnosno kretanje izvozne tražnje u glavnim trgovinskim partnerima. Ovo se ponajviše odnosi na prerađivačku industriju, koja je u velikoj mjeri izvozno orijentisana, dok su kretanja u sektorima proizvodnje električne energije i rudarstva određena internim dinamikama u BiH.

Tabela 1. Indeksi industrijske proizvodnje u BiH za period 2010–2013. godine (Direkcija za ekonomsko planiranje BiH)

Indeksi g/g		2010	2011	2012	2013
Industrijska proizvodnja fizički obim	FBiH	104,2	102,5	95,7	107,3
	RS	105	104,7	95,8	104,1
	BiH	101,6	105,6	94,8	106,7

Industrijska proizvodnja u BiH tokom 2010. godine zabilježila je povećanje fizičkog obima proizvodnje od 1,6%. Posmatrano po entitetima, rast industrijske proizvodnje bio je dosta izraženiji i iznosio je 4,2% u FBiH, odnosno 5% u RS u odnosu na 2009. godinu. Tako je bh. industrijska proizvodnja u decembru 2010. povećana za 8,7% u odnosu na decembar 2009. godine. Rast industrijske proizvodnje u decembru 2010. godine u FBiH iznosio je 12,7%, dok je stopa rasta u RS iznosila 14,1% u odnosu na isti mjesec 2009. godine.

U decembru 2011. godine evidentna je stagnacija (rast od 0,4%) fizičkog obima industrijske proizvodnje BiH u odnosu na isti mjesec 2010. godine. Tokom decembra 2011. došlo je do poboljšanja proizvodnje u prerađivačkoj industriji i u sektoru rudarstva od 6,5%, odnosno 5%, dok je sektor proizvodnje električne energije zabilježio pad proizvodnje oko 16% u odnosu na decembar 2010. godine, što je glavni razlog stagnacije ukupnog indeksa industrijske proizvodnje u BiH.

Međutim, ako se posmatraju rezultati na godišnjem nivou, može se konstatovati da je došlo do djelimičnog oporavka BiH industrijske proizvodnje u 2011. godini u odnosu na prethodne godine. Rast izvozne tražnje u prvoj

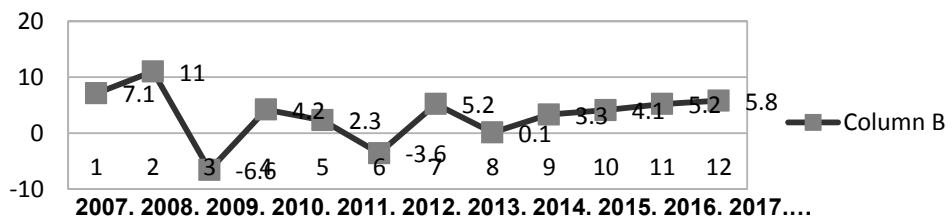
polovini 2011. godine rezultirao je povećanjem proizvodnje u izvozno orijentisanoj prerađivačkoj industriji od 5% i porastom proizvodnje u sektoru rudarstva od preko 15% na godišnjem nivou, dok rast proizvodnje u sektoru proizvodnje električne energije, usljed nepovoljne hidrološke situacije, nije bio na nivou iz prethodnih godina i iznosio je svega 2% u odnosu na 2010. godinu. Tako je BiH tokom 2011. godine ostvarila godišnji rast fizičkog obima industrijske proizvodnje od 5,6% u odnosu na 2010. godinu.

Zatim je tokom 2012. godine u BiH registrovan pad fizičkog obima industrijske proizvodnje od 5,2% u odnosu na 2011. godinu. Glavni uzrok smanjenja industrijske proizvodnje bilo je slabljenje inostrane tražnje, što je rezultiralo godišnjim padom proizvodnje u izvozno orijentisanoj prerađivačkoj industriji od 4,7%. Posmatrajući performanse industrijske proizvodnje tokom 2012. godine, može se konstatovati da su negativna ekonomska dešavanja u užem i širem okruženju, te izrazito nepovoljne vremenske prilike tokom prvog kvartala odredile ukupni rezultat BiH industrijske proizvodnje na kraju 2012. godine.

U 2013. godini, kalendarski prilagođen rast fizičkog obima industrijske proizvodnje u BiH iznosio je 6,7% u odnosu na 2012. godinu. Međutim, potrebno je istaći da je ovaj rast ostvaren ponajviše zahvaljujući izrazito niskoj osnovici iz 2012. godine, te povoljnim vremenskim prilikama i blagom poboljšanju izvoza tokom 2013. godine. Ova relativno visoka stopa rasta djeluje prilično iznenađujuće ako se ima na umu da na nivou BiH nije došlo do povećanja broja zaposlenih, te da je većina glavnih trgovinskih partnera (izuzev Srbije) u 2013. godini zabilježila pad industrijske proizvodnje.

U 2014. godini, BiH je zabilježila stagnaciju fizičkog obima industrijske proizvodnje. Nakon ohrabrujućeg rasta industrijske proizvodnje koji je u prvom kvartalu 2014. godine iznosio 4,5%, već tokom drugog kvartala, usljed majskih poplava, došlo je do naglog pada proizvodnje, koja se uprkos određenim pozitivnim pomacima u drugom polugodištu nije uspjela značajnije oporaviti do kraja 2014. godine. Posmatrano po sektorima, pozitivan doprinos industrijskoj proizvodnji ostvaren je samo u domenu prerađivačke industrije (3,8%).

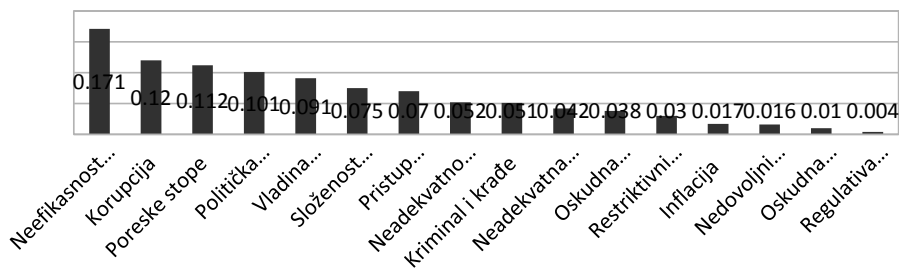
U 2015. godini u BiH je nastavljen trend jačanja ekonomske aktivnosti. Tako je, zahvaljujući pozitivnim dešavanjima u međunarodnom ekonomskom okruženju, u 2015. godini u BiH registrovan rast industrijske proizvodnje od 2,7% u odnosu na 2014. godinu. Ako se bh. industrijska proizvodnja u 2015. godini posmatra po sektorima, evidentno je da je glavni generator rasta bila prerađivačka industrija, koja je ostvarila povećanje proizvodnje od 4,8%.



Grafikon 6. Industrijska proizvodnja u BiH za period 2014–2015. godine po klasifikaciji glavnih industrijskih grupa proizvoda – GIG (Direkcija za ekonomsko planiranje BiH)

S obzirom na to da se potpuni oporavak većine industrija u EU očekuje u periodu 2017–2018. godine, izvjesno je da se može očekivati da će ova dešavanja omogućiti i potpuni oporavak industrijske proizvodnje u BiH. U ovom periodu očekuje se potpuna konsolidacija EU tržišta, oporavak privatne potrošnje, prevazilaženje problema oko finansiranja preduzeća i intenziviranje spoljnotrgovinske razmjene između zemalja EU. Pozitivan doprinos industrijskoj proizvodnji u EU treba očekivati i od mjera koje se tiču jačanja industrijske baze i konkurentnosti u zemljama EU. Ova pozitivna dešavanja u neposrednom okruženju trebalo bi da rezultiraju povećanjem iskorištenosti industrijskih kapaciteta u BiH koje se ogleđa kroz povećani obim proizvodnje, viši nivo investicija kako kroz strana, tako i kroz domaća ulaganja, što bi trebalo da rezultira osjetnijim povećanjem zaposlenosti u BiH. Planirana investiciona ulaganja u infrastrukturu i energetiku takođe bi trebalo značajno da doprinesu jačanju kako građevinskog sektora u BiH tako i onih grana prerađivačke industrije koje su usko vezane uz građevinarstvo.

Takođe, očekuje se da energetski sektor, koji je u prethodnom periodu bio jedan od nosilaca industrijske proizvodnje, nastavi pozitivan trend rasta proizvodnje i dodatno osnaži industrijsku proizvodnju u BiH u navedenom periodu. Sve ovo bi trebalo da rezultira godišnjim povećanjem bh. industrijske proizvodnje od preko 5% u odnosu na prethodnu godinu.



Grafikon 7. Rast industrijske proizvodnje u BiH za period 2007–2018. godine (Direkcija za ekonomsko planiranje BiH)

Iako je određeni napredak ostvaren u poslijeratnom period, kada je prerađivačka industrija BiH rasla i stopama od 10%, ovo je zaustavljeno u periodu tokom i nakon velike ekonomske krize u svijetu (uključujući i BiH) 2009. godine. Napredak, ali i još uvijek niska konkurentnost možda su najbolje ilustrovani tzv. „indeksom industrijske konkurentnosti“ (CIP), koji objavljuje UNIDO, prema kome BiH zauzima veoma nisku 83. poziciju (na listi od 133 zemlje), i to uprkos napretku od 13 mjesta u periodu 2000–2012. Struktura CIP indeksa jasno pokazuje zašto Bosna i Hercegovina ima slabiju konkurentnu poziciju u odnosu na konkurentne zemlje. Naime, BiH ima znatno niži nivo učešća prerađivačke industrije u BDP-u (10,2% u 2014. godini) u poređenju sa zemljama Centralne i Istočne Evrope, a dodatna vrijednost po glavi stanovnika u ovom sektoru niža je jedino u Srbiji. Pored toga, udio srednje i visokotehnoških proizvoda u okviru prerađivačke industrije u BiH od 29,2% je, prema posljednjem izvještaju, dosta niži u odnosu na Centralnu i Istočnu Evropu (CIE), čiji prosjek iznosi 44,5%.

Investicije u nove kapacitete su prijeko potrebne da bi se povećala niska kapitalna opremljenost rada i podigla produktivnost, pa samim tim i konkurentnost bh. privrede. Pitanje konkurentnosti je izuzetno važno za BiH s obzirom na veoma nizak životni standard i visok spoljnotrgovinski deficit. Nepovoljno poslovno okruženje u poređenju sa drugim zemljama je među glavnim razlozima za nedovoljno investiranje u BiH. Isti uzroci vjerovatno odbijaju i strane investitore, pa otuda i nizak nivo direktnih stranih ulaganja (SDU).

Pritom su ocjene pojedinačnih parametara koji ulaze u zajedničku ocjenu „Doing Business“ – „lakoća poslovanja“ u nivou posljednjeg do pretposljednog mjesta u poređenju sa izabranim zemljama. U nedostatku mogućnosti uticaja na neke spoljne faktore i događaje, BiH bi trebalo da obrati pažnju na ono što se može relativno jednostavno i brzo promijeniti, kao što su eliminacija nepotrebnih administrativnih prepreka i smanjenje broja potrebnih dozvola za početak poslovanja i gradnje. Poseban naglasak treba dati na oblast „ekonomskog prava“, koje se odnosi na provođenje ugovora i zaštitu prava investitora (Blanchard 2011).

Pored uobičajenih rizika za privlačenje stranog kapitala, treba posebno napomenuti i rizike po osnovu budućih stranih ulaganja u energetske sektor. Naime, značajan dio SDU do sada i u narednom periodu odnosi se na ulaganje u velike projekte u oblasti rudarstva i dobijanje električne energije iz uglja (termoelektrane). Kao problem u budućnosti koji bi mogao da smanji konkurentnost BiH u privlačenju SDU pojavljuje se ograničenje dozvoljene emisije CO<sub>2</sub> u Evropskoj uniji. Ulaskom BiH u EU, cijena koju bi BiH plaćala u vidu kazne (plaća se po toni emisije CO<sub>2</sub>) mogla bi znatno da poveća cijenu proizvodnje električne energije koja se proizvodi u termoelektranama. Time bi se svakako smanjila i konkurentnost u ovoj oblasti u privlačenju SDU, što će imati uticaja i na buduća domaća ulaganja u projekte dobijanja električne energije iz uglja.

Drugi značajan rizik za konkurentnost u daljem privlačenju SDU predstavlja uvođenje sankcija prema BiH od strane Sekretarijata energetske zajednice, koja okuplja zemlje Evropske unije i zemlje Balkana zbog neusvajanja energetske strategije, ali i usvajanja Zakona o gasu na državnom nivou. Sve ovo ukazuje na to da, iako je Bosna i Hercegovina, kao i ostale zemlje Zapadnog Balkana, u procesu ekonomske tranzicije ostvarila određene

pomake u pitanju ukupne makroekonomske stabilnosti, monetarne stabilnosti i inflacije, strukturalne reforme usmjerene ka podsticanju investicija radi jačanja konkurentnosti industrije i izvoza ostaju ključni izazovi kako bi se uhvatio priključak u procesu ekonomske konvergencije sa zemljama EU28.

## **2. FISKALNI CILJEVI I FISKALNE POLITIKE U BIH**

Monetarna politika BiH je u isključivoj nadležnosti Centralne banke, a njena nezavisnost, kao i zabrana finansiranja vladinog deficita utvrđeni su zakonom. BiH je u režimu valutnog odbora, s fiksnim deviznim kursom u odnosu na evro. Uslov za pristupanje Ekonomsko-monetarnoj uniji svodi se na sposobnost da se, na održiv način, zadovolje osnovni kriterijumi (Maastricht criteria) koji se odnose na: stabilnost cijena, godišnji državni deficit i ukupni javni dug, stabilnost valute, te godišnje kamatne stope na dugoročne kredite (Klinčov Vujaković 2015, 514).

Primarni fiskalni bilans, definisan u skladu sa članom 1. stav 2. Zakona o Fiskalnom savjetu u Bosni i Hercegovini, planira se u 2015. godini u vidu deficita, u iznosu od 324,8 mil. KM ili 1,1% projektovanog BDP-a za 2015. godinu, od čega:

- institucije BiH planiraju deficit od 49,0 mil. KM,
- Republika Srpska planira deficit od 292,1 mil. KM,
- Federacija BiH planira suficit od 4,5 mil. KM i
- Brčko Distrikt planira suficit od 11,8 mil. KM.

Nivo javnih rashoda, kao udio u BDP-u, u periodu 2015–2017. treba smanjivati sa ciljem da nivo javnih rashoda već od 2016. godine, konsolidovano na nivou BiH, bude ispod 40% BDP-a.

Tabela 2. Ukupni javni rashodi u BiH u periodu 2014–2017. (u mil. KM) (Direkcija za ekonomsko planiranje BiH)

<b>Rashodi</b>	2014.	2015.	2016.	2017.
Zajedničke institucije BiH	950	950	950	950
Federacija BiH	7.018	6.753	6.736	6.714
Republika Srpska	3.761	3.870	3.801	3.683
Brčko Distrikt	196	197	210	210
<b>Ukupno rashodi (konsolidovano)</b>	<b>11.925</b>	<b>11.771</b>	<b>11.697</b>	<b>11.558</b>
<b>BDP</b>	<b>29.289</b>	<b>30.889</b>	<b>32.664</b>	<b>34.798</b>
Zajedničke institucije BiH	3,2%	3,1%	2,9%	2,7%
Federacija BiH	24,0%	21,9%	20,6%	19,3%
Republika Srpska	12,8%	12,5%	11,6%	10,6%
Brčko Distrikt	0,7%	0,6%	0,6%	0,6%
<b>Ukupno u BDP-u</b>	<b>40,7%</b>	<b>38,1%</b>	<b>35,8%</b>	<b>33,2</b>

Tabela 3. Okvir budžeta institucija BiH (u mil. KM) (Direkcija za ekonomsko planiranje BiH)

Institucije BiH	2014.	2015.	2016.	2017.
<b>Prihodi</b>	<b>914,0</b>	<b>901,0</b>	<b>879,0</b>	<b>876,0</b>
Poreski prihodi	750,0	750,0	750,0	750,0
Indirektni porezi	750,0	750,0	750,0	750,0
Direktni porezi	0,0	0,0	0,0	0,0
Ostali poreski prihodi	0,0	0,0	0,0	0,0
Doprinosi	0,0	0,0	0,0	0,0
Grantovi i transferi	4,0	3,0	1,0	1,0
Ostali prihodi	160,0	148,0	128,0	125,0
<b>Rashodi</b>	<b>950,0</b>	<b>950,0</b>	<b>950,0</b>	<b>950,0</b>
Bruto plate i naknade	646,0	652,0	660,0	670,0
Izdaci za materijal i usluge	217,0	183,0	178,0	176,0
Kamate	1,0	1,0	1,0	1,0
Subvencije, socijalna davanja i transferi	12,0	10,0	10,0	10,0

Ostali rashodi	24,0	30,0	30,0	30,0
Neto izdaci za nefinansijsku imovinu	50,0	74,0	71,0	63,0
<b>Bilans</b>	-36,0	-49,0	-71,0	-74,0
<b>Finansiranje</b>	36,0	49,0	71,0	74,0
Domaće	6,0	49,0	16,0	10,0
Otplata unutrašnjeg duga	0,0	0,0	0,0	0,0
Ostalo (+/-)	6,0	49,0	16,0	10,0
Spoljno	30,0	0,0	25,0	22,0
Povlačenje inokredita	30,0	0,0	25,0	22,0
Otplata glavnice inokredita	0,0	0,0	0,0	0,0
Statistička razlika i nepokriveni višak rashoda	0,0	0,0	30,0	42,0

Ograničenja iznosa duga na svim nivoima vlasti u Bosni i Hercegovini utvrđena su zakonima, i to:

- Zakonom o zaduživanju, dugu i garancijama Bosne i Hercegovine („Službeni glasnik Bosne i Hercegovine“ br. 52/05);
- Zakonom o zaduživanju, dugu i garancijama Republike Srpske („Službeni glasnik Republike Srpske“ br. 71/12. i 52/14); i
- Zakonom o dugu, zaduživanju i garancijama u Federaciji Bosne i Hercegovine („Službene novine Federacije BiH“ br. 86/07).

Pomenutim zakonima na nivou BiH i u Federaciji BiH, uz neznatne razlike kad su u pitanju garancije, regulisano je da u periodu stvaranja duga iznos za servisiranje dugoročnog duga (unutrašnjeg i spoljnog), po predloženom dugu i cjelokupnom dospjelom neizmirenom postojećem dugu, u bilo kojoj narednoj godini ne prelazi 18% iznosa redovnih prihoda ostvarenih u prethodnoj fiskalnoj godini.

Uzevši u obzir zakonska ograničenja iznosa državnog duga i duga entiteta, te činjenicu da bi prekomjernim zaduživanjem institucija BiH ili bilo kog entiteta došlo do ugrožavanja fiskalne stabilnosti i kreditnog rejtinga Bosne i Hercegovine, neophodno je definisati iznose gornjih granica zaduženja u



2016. godini, u skladu sa zakonskim odredbama svakog od entiteta. Shodno navedenom, konsolidovani iznos zaduženja za Federaciju BiH (za nivo Federacije, kantona i opština) u 2016. godini ne smije biti iznad nivoa na kome će godišnja otplata iznositi najviše 666,0 miliona KM.

Zakonom o zaduživanju, dugu i garancijama Republike Srpske („Službeni glasnik Republike Srpske“ br. 71/12) utvrđeno je da javni dug Republike Srpske (dug Republike Srpske, dug jedinica lokalne samouprave i dug fondova socijalne sigurnosti) na kraju fiskalne godine ne može biti veći od 55% BDP-a ostvarenog u toj godini (u 2015. godini: 4.945,6 mil. KM<sup>57</sup>), dok ukupan dug Republike Srpske (javni dug Republike Srpske, dug javnih preduzeća, Investiciono-razvojne banke Republike Srpske i institucija javnog sektora) na kraju fiskalne godine ne može biti veći od 60% BDP-a ostvarenog u toj godini (u 2015. godini: 5.395,2 mil. KM). Zakonom o dopunama Zakona o zaduživanju, dugu i garancijama Republike Srpske („Službeni glasnik Republike Srpske“ br. 52/14) definisano je da se dug nastao po osnovu zaduženja za finansiranje sanacije štete iz Jedinstvenog registra, propisanog u Zakonu o fondu solidarnosti za obnovu Republike Srpske, izuzima iz ograničenja koja su propisana za ukupan i javni dug Republike Srpske.

## ZAKLJUČAK

Ekonomija Bosne i Hercegovine spada u grupu malih otvorenih ekonomija, osjetljivih na globalna kretanja i eksterne šokove. Stoga je i pretpostavljeni postepeni oporavak i oživljavanje BiH ekonomije u direktnoj zavisnosti od ekonomskog oporavka njenih trgovinskih partnera u EU i regionu, pa bi se svako usporavanje oporavka ekonomije EU i regiona negativno odrazilo na BiH ekonomiju. Iz prethodne konstatacije se može zaključiti i to da su projekcije kretanja u fiskalnom sektoru ograničene usljed ekonomskih kriza i posljedica koje krize ostavljaju na ekonomiju u cjelini. To dodatno usložnjava proces monitoringa i ocjene fiskalne održivosti.

Pored toga, Bosnu i Hercegovinu karakteriše kompleksno državno uređenje, koje ima direktne refleksije na veličinu i strukturu javnih rashoda. Poput mnogih drugih zemalja, i Bosna i Hercegovina ima problema sa određivanjem i definisanjem optimalnog stepena fiskalne decentralizacije.

Postojeći okvir fiskalne politike u BiH je ograničen državnim uređenjem, koje entitetima daje visok stepen suvereniteta i dovodi do fragmentacije fiskalne strukture. Takvo uređenje najvećim dijelom dovodi do nedostatka snažnije koordinacije u kreiranju fiskalne politike na državnom nivou, što je od izuzetnog značaja za jednu malu zemlju, kakva je BiH. Konačni rezultat takvog stanja je nezadovoljavajući nivo realnog ekonomskog rasta. Nekonzistentnost fiskalne politike do koje dolazi usljed odsustva fiskalne koordinacije nastoji se ublažiti uspostavljanjem Fiskalnog vijeća BiH, koje je počelo sa radom krajem 2008. godine.

Reforma javnih finansija, koja za cilj ima harmonizaciju budžetskih kalendara, uvođenje srednjoročnog budžetskog planiranja i bolja povezanost alokacije budžetskih sredstava sa prioritetnim politikama vlada provodi se od 2005. godine na svim nivoima vlasti u Bosni i Hercegovini. Rezultati pomenute reforme ogledaju se u postignutoj harmonizaciji kalendara i procedura budžetskog planiranja te uvođenju srednjoročnog budžetskog planiranja, što se postiže kroz izradu dokumenata okvirnog budžeta za srednjoročni period. BiH se suočava i sa brojnim nedostacima u domenu statistike javnih finansija i ekonomije u cjelini, što značajno otežava analizu javnih finansija. Kao primjer može se navesti činjenica da se veličina javnih rashoda iskazana u BDP-u značajno razlikuje u zavisnosti od toga da li je BDP obračunat prema proizvodnom ili rashodnom pristupu. Osim toga, na nivou Bosne i Hercegovine ne postoje konsolidovani i koherentni podaci o rashodima vlasti po funkcijama zasnovani na COFOG klasifikaciji. Ipak, evidentno je da javni rashodi u BiH prelaze 40% BDP-a, što je znatno više i u poređenju sa zemljama koje generišu znatno veći iznos BDP-a *per capita* u odnosu na Bosnu i Hercegovinu. Osim neadekvatne veličine javnih rashoda, BiH ima problema koji se odnose i na strukturu javnih rashoda. Posmatra li se ekonomska struktura javnih rashoda zasnovana na GFS-u, može se zaključiti da BiH u odnosu na zemlje iz regije znatno više izdvaja za plate i međufaznu potrošnju. To neminovno dovodi do zaključka da Bosna i Hercegovina usljed kompleksnog državnog uređenja i dupliranja vladinih aktivnosti na različitim nivoima generiše previsoke javne rashode, koji u konačnici dovode i do neefikasnog javnog sektora.

Konačno, u kontekstu fiskalne održivosti i približavanja Evropskoj uniji, neophodno je napraviti osvrt i na ocjenu prethodnog ekonomsko-fis-

kalnog programa od strane Evropske komisije. U istom je izneseno da srednjoročna fiskalna strategija Bosne i Hercegovine nije jasno i dovoljno elaborirana, te da ne postoje konkretne mjere politike kojima bi ekonomski i fiskalni uticaji bili adekvatno kvalifikovani. Uz to, veza fiskalne strategije sa pretpostavljenim srednjoročnim ekonomskim okvirom i opštim ciljevima, te planom pristupanja Evropskoj uniji nije adekvatno predstavljena. Bosanskohercegovački ekonomsko-fiskalni program takođe se referiše na prioritete iz Evropskog partnerstva, ali ih uglavnom ne realizuje kroz konkretne politike i prateće aktivnosti.

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## GLOBAL FRAMEWORK FOR FISCAL BALANCE AND POLICIES IN BOSNIA AND HERZEGOVINA

**Summary:** *Applying the fiscal policy, the state helps carrying out their economic goals. Fiscal policy is a powerful instrument that can direct economic flows and economic activity. The main function of the tax is collection of public revenues. However, taxes have additional features reflected in the allocation of social resources, the redistribution of national income, the stabilization of economic trends and the like. Creating an appropriate tax structure and choosing tax rates, the state may affect the balance of prices, investment, employment, savings, trade flows, exports increase, imports reduction, social problems. The tax structure of certain countries can be seen by the impact of certain forms of tax in the total public revenues. The fiscal system of modern states is a combination of a large number of taxes designed to favour a given economic and social goals, i.e. to represent the achievement of the objectives of the fiscal policy of the country. Tax systems are different primarily because states have different requirements for funds which finance public expenditures. One of the most important indicators attributed to the public sector is the level of tax burden of individual tax revenues in the total gross domestic product.*

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**Key words:** *fiscal policy, macroeconomics, industry, GDP and exports*

**JEL Classification:** *H70, H71, H83*

## INTRODUCTION

Being a member state of the EU means not only respecting the rules and standards of the EU, but also that the country is economically suitable for membership. As such, it can certainly take advantage of all the benefits of EU accession, while also contributing to the growth and prosperity of the EU economy.

The economy of Bosnia and Herzegovina belongs to the group of small open economies, vulnerable to global developments and external shocks.

In the context of fiscal sustainability and the European Union, it is necessary to do a review and assessment of the previous economic and fiscal programs of the European Commission. Bosnian economic and fiscal program also refers to the priorities of the European partnership. However, they are not generally implemented through concrete policies and supporting activities.

### 1. ECONOMIC TRENDS IN BIH

Economic integration is achieved in the area which includes the territories of several countries, with the aim to remove barriers to the movement of goods, but also services and factors of production (Ristić 2015/2016, 326). BiH is the subject of a regional approach of the European Union to the countries of the Western Balkans through the Stabilisation and Association Process, as well as the element of strategy of conditionality from 1997. Political dialogue, trade liberalization, cooperation in the field of justice and internal affairs, and the stabilization and association process are guidelines of integrating BiH into the political and economic mainstream of the Union. Becoming a Member State of the EU means not only to respect the rules and standards of the EU, it also means that the country becomes economically suitable for membership so it would be able to take advantage of all the benefits of EU accession, while also contributing to the growth and

prosperity of the EU economy. Based on the experience of EU member states in the European Semester, the Commission strengthens its support to improving the economic management and competitiveness in the enlargement countries. This should help the countries included in enlargement to exploit the potential for sustainable growth and job creation, to better plan and deploy structural reforms and ultimately to meet the economic criteria. Bosnia and Herzegovina is at an early stage in approaching European standards. Some level of preparedness has been made in terms of public procurement and the internal market. Further sustained efforts are required, and in particular with regard to issues of justice, freedom and security in the area of competition, industry and small and medium enterprises, agriculture, environmental policy and climate change, energy, information society and media.

### **1.1 Movement of the main economic indicators in Bosnia and Herzegovina**

Although the real growth of economic activity in BiH compared to the previous quarter during the first two quarters of 2015 amounted to only 0.7%, activity growth per annum was much higher. The largest part of the annual increase was actually realized in the fourth quarter of 2014, when the activity was increased compared to the third quarter by a significant 1.6%. Thus, despite the modest quarterly increase in the next two quarters, economic activity in the first quarter was higher by 2.3%, whereas in the second by a significant 4.4% higher compared to the same period in 2014. The intensification of the annual growth in the second quarter was largely a consequence of the fall in GDP in the same period of the previous year due to heavy floods in the country.

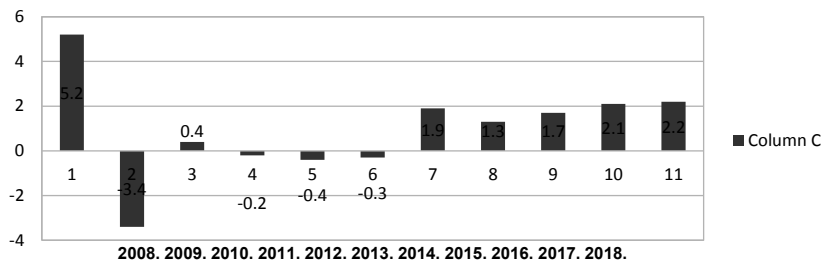


Figure 1. GDP – real growth in %  
 Source: Agency for Statistics of Bosnia and Herzegovina

Economic growth in the region in the first half was more intense than in the first half of 2014 with a slight intensification rate in the second compared to the first quarter. The impact of fiscal policy on economic growth in 2015 was quite modest both in terms of final consumption and transfers, and in terms of public investment. The projections for economic growth and employment in the region for 2015 were much more favourable than the growth from 2014. Strengthening the growth should be continued also in 2016, although in somewhat more modest rates. Thus, the projected economic growth of the Euro zone of 1.5% for 2015 is well above the rate of 0.9% in 2014. Furthermore, there is more modest improvement in the rate of 1.9% in 2016. Truly, this is not accompanied by a significant improvement in the unemployment rate projection which is only slightly improved compared to 2014, and remains high (10.5%) in 2016.

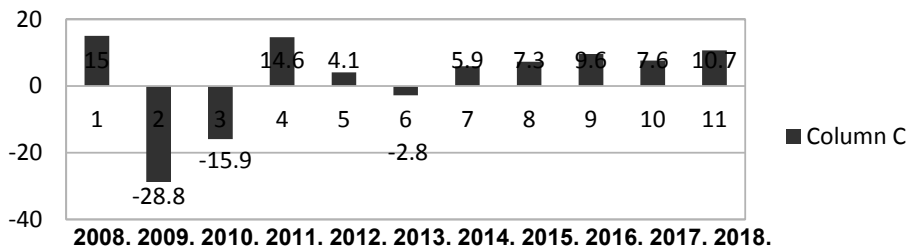


Figure 2. Final consumption – growth in %  
 Source: Agency for Statistics of Bosnia and Herzegovina



Among the major countries in the region, the most significant progress is expected in Italy and Croatia, which decline by 0.4% in 2014 was stopped in 2015. Positive rates are expected in Italy of 0.6% and in Croatia 0.3%, and strong progress in these countries should be continued in 2016. On the other hand, in Slovenia there could be a gradual slowdown in economic growth during 2015 and 2016. In addition to external assumptions, presumptions of BH projections do not include the repetition of bad weather in the coming period that could (temporarily or permanently) disable the existing production capacities, and significantly impact on agriculture, power generation, etc. Gross national product and its formation from domestic sources (investment, development), as well as from foreign sources, is the basic macroeconomic aggregate (Ristić et al 2015, 548).

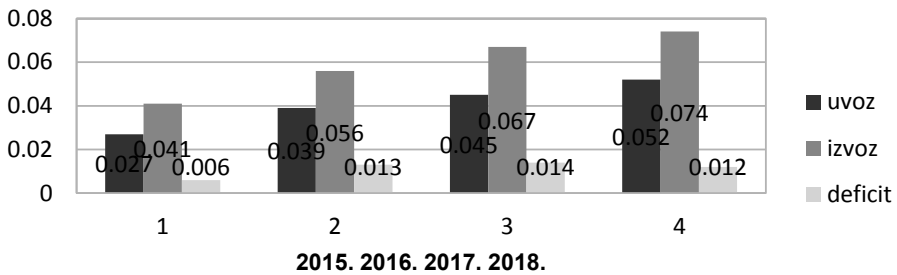


Figure 3. Investment – growth in %  
 Source: Agency for Statistics of Bosnia and Herzegovina

In this regard, in 2015 economic growth of 2.5% was expected, after which would follow further acceleration in 2016 with a real growth rate of 3.1%. The normal political environment without major crises that could jeopardize the adoption of the budget and public expenditure is assumed. All this should result in economic growth of 2.5% in 2015 and 3.1% in 2016 in BiH. This growth should primarily be carried by domestic demand and to a lesser extent by a significantly slower growth of foreign trade deficit. Better external environment should lead to the strengthening of export demand and exports, but also to improvement of foreign cash inflows used to finance domestic demand. This should lead to real growth of final consumption by 1.3% in 2015 and 1.7% in 2016. In addition, a significant investment growth in 2015 of 7.3% is expected, with a further growth rate

of 9.6% in 2016. Thus, the total domestic demand growth amounted 2.3% in 2015 and 2.9% in 2016.

On the other hand, export growth should be higher than imports, which would take the negative impact of the foreign trade deficit to a minimum during 2016. Similar assumptions are expected for the period 2017-2018 with some modest improvement of external assumptions in relation to the previous period. Related to this, in BiH the economic growth by 3.2% in 2017 and 4.1% in 2018 is expected. Similar to the above, this growth should be borne by domestic demand, with a modest negative contribution of the external sector. This implies a gradual strengthening of final consumption and investment accompanied by a slight increase in foreign trade deficit.

## **1.2 Exports growth in Bosnia and Herzegovina**

Preliminary data indicate a stable growth trend when it comes to foreign trade of Bosnia and Herzegovina with the world. In the period January – July 2015 foreign trade in BiH has been characterized by an increase in total trade, exports and to a lesser extent imports, reduction of the deficit and better coverage of imports by exports compared to the same period in 2014. This positive trend has continued thanks to the strengthening of export demand in major BH trading partners, as evidenced by numerous short-term indicators such as the seasonally adjusted GDP growth in the first two quarters of about 0.5%, increase in production in the manufacturing industry of the EU countries of 1.6%, and months of growth in the index of composite index of economic expectations ESI (Economic sentiment Indicator), which in July 2015 reached a value of 106,6. Improving export demand resulted in an increase in economic activity in BiH, and in particular it relates to the production growth in BiH processing industry by 3.3%, which was a key determinant of BH foreign trade movements.

During 2016 the nominal growth of total BH exports of 5.6% is expected compared to the previous year, with an expected nominal growth of exports of goods of 6% and exports of services by 4.4%. On the other hand, given the structure of BiH economy and expressed high propensity to import, an increase of final consumption and a higher level of business activity, it is realistic to expect an increase in BH imports. Thus, in 2016, a nominal

increase in total BH imports by 3.9% is expected, while the expected imports of goods would increase by 4% and imports of services by 1.8%. This would result in a moderate increase in the foreign trade deficit of 1.3%. For the period 2017 – 2018, a complete normalization of economic opportunities and somewhat more secure economic growth is foreseen, accompanied by growth in both domestic and foreign demand for goods. The stated growth should result in an increase of foreign trade (Blanchard 2011, 342), and somewhat higher growth rate of exports of goods in comparison to imports. The holder of BH exports in this period should be within the manufacturing industry within which in addition to the traditional exports sectors an additional contribution should be given by other activities that can realize its export potential. Moreover, reform processes and improvement of all – the business environment, standardization, and greater diversification of export markets should significantly strengthen the BH exports. Bearing in mind the importance of the sector for the production of electricity in the structure of BiH exports, a continual positive contribution from this sector is also expected.

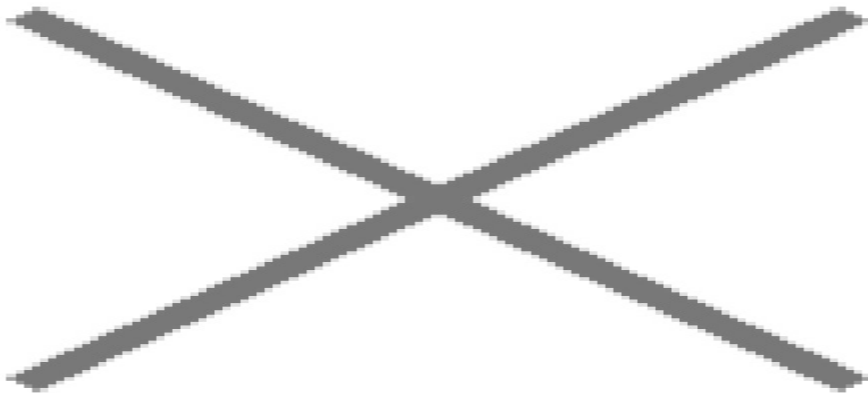


Figure 4. Movement of imports, exports and trade balance in BiH (DEP projections)

Observed by countries, the most important part of BH exports amounting 72% was placed on the EU market, and in 2015 it increased by 1.6% compared to the previous year. Within the EU, the main export markets

are Germany (1.3 billion KM), Italy (1.2 billion KM), Croatia (955 million KM), Austria (755 million KM) and Slovenia (697 million KM). The most significant increase in exports was registered to Italy amounting 19,4% and Austria 10%, while exports to Germany stagnated 0.5%. Exports to Croatia have been significantly reduced by about 20% due to changes in the foreign trade regime because of Croatian accession to the EU. CEFTA countries make up 16% of BiH exports, and in 2015 exports to these markets increased by 1.7% compared to the previous year. The most significant share refers to Serbia in the amount of 800 million KM, and in 2015 it increased by 4.5%, while exports to the market of Montenegro amounted to 293 million KM and it increased for 8.5% compared to 2014.

BiH imports from the EU countries increased by 4.8%, and seen by countries, the highest growth rates were achieved in the context of imports from Italy (11.6%) and Germany (7.8%), while imports from Croatia fell by 5, 4% compared to the 2014. Imports from CEFTA countries makes 11% of total BiH imports, while the major part relates to imports from Serbia (1.63 billion KM), which increased by 10% compared to 2014. In regards to other parts of BiH imports, a significant place in the structure is occupied by Russia (1.3 billion KM), China (1.35 billion KM) and Turkey (580 million KM). In 2014, due to the drop in oil prices compared to 2013, imports of goods from Russia decreased by 15%, while there was an increase in imports from China for 48% and from Turkey for 18%.

According to available projections DG ECFIN-a (spring edition) in EU countries is expected a more intensive economic recovery, with an expected growth rate of 1.5%. Besides, according to the DGEFIN report, a low level of oil prices, the depreciation of the euro and quantitative eases - Extended Asset Purchase Programme by the ECB, and European investment plan - EU Investment Plan will constitute the main mechanisms for increase of economic activity and more intense foreign trade both within EU and with third countries. All of these measures in the external environment, with the expected economic growth, a higher level of investment and an increase in industrial production, should result in an increase of foreign trade in Bosnia and Herzegovina. Although, projections of world prices by international institutions are not in favour of BiH exporters, it is yet expected that an increase of production of traditionally export-oriented

branches of BiH manufacturing industry, with a significant contribution of the sector for electricity generation could result in a significant increase in BiH exports.

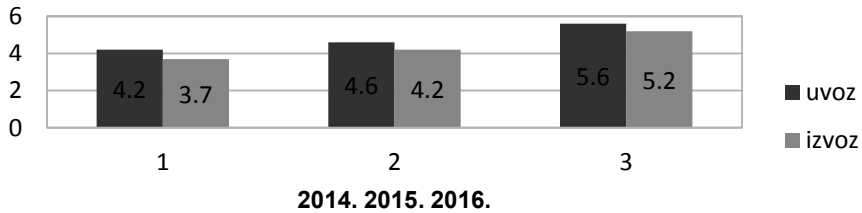


Figure 5. Projections for EU (DG ECFIN Spring Forecast 2015)

### 1.3 Industrial production in Bosnia and Herzegovina

In the past few years, the main determinant of industrial production in Bosnia and Herzegovina was the international economic environment, i.e. the movement of export demand in major trading partners. This primarily refers to the processing industry, which is largely export-oriented, while developments in the sectors of electricity and mining were defined by internal dynamics in BiH.

Table 1 Indices of industrial production in BiH for the period 2010 – 2013 (Directorate for Economic Planning of Bosnia and Herzegovina)

Indeksi g/g		2010	2011	2012	2013
Industrijska proizvodnja fizički obim	FBiH	104,2	102,5	95,7	107,3
	RS	105	104,7	95,8	104,1
	BiH	101,6	105,6	94,8	106,7

Industrial production in BiH during 2010 recorded an increase in production volume of 1.6%. Observed by the Entities, growth in industrial production was a lot stronger and amounted to 4.2% in FBiH and 5% in the RS compared to 2009. Thus, the BiH industrial production in December 2010 was increased by 8.7% compared to December 2009. The growth

in industrial production in December 2010 in FBiH amounted to 12.7%, while the growth rate in RS was 14.1% compared to the same month of 2009.

In December 2011, there was an evident stagnation (up 0.4%) of the physical volume of industrial production in BiH compared to the same month of 2010. In December 2011 there was an improvement in production in the manufacturing industry and the mining sector by 6.5% and 5%, while the sector of electricity generation recorded a decline in production of about 16% compared to December 2010, which is the main cause of the stagnation of the total index of industrial production in BiH.

However, if we look at the results on an annual basis, it can be concluded that there has been a partial recovery of BiH industrial production in 2011 compared to the previous years. The growth in export demand in the first half of 2011 resulted in an increase of production in export-oriented processing industry of 5% and an increase in production in the sector of mining of over 15% on annual level, while production growth in the sector of electricity generation due to unfavourable hydrological situation was not even at the level of the previous years and amounted to only 2% compared to 2010. Thus, BiH during 2011 recorded an annual growth of physical volume of industrial production of 5.6% compared to 2010.

Then in 2012, BiH registered a drop in the physical volume of industrial production of 5.2% compared to 2011. The main reason for the decline in industrial production was the weakening of foreign demand that resulted in annual decline in production in export-oriented manufacturing industry of 4.7%. Looking at the performance of industrial production in 2012, it can be concluded that the negative economic developments in the narrow and wider environment and extremely unfavourable weather conditions during the first quarter determined the overall score of BiH industrial production at the end of 2012.

In 2013, the calendar adjusted growth of physical volume of industrial production in BiH amounted to 6.7% compared to 2012. However, it should be noted that this growth was achieved mainly thanks to an extremely low base in 2012, favourable weather conditions and a slight improvement in exports in 2013. This relatively high rate of growth seems quite surprising if one bears in mind that at the BiH level there has not been an increase in the number of employees, and that the most of the main trading partners

(except Serbia) in 2013 recorded a decline in industrial production.

In 2014, BiH recorded a stagnation of physical volume of industrial production. After an encouraging growth of industrial production of 4.5% achieved in the first quarter of 2014, during the second quarter due to the floods in May there was a sharp decline in production which, despite some positive developments in the second half of the year, failed to recover significantly by the end of 2014. Observed by sectors, the positive contribution of industrial production was recorded only in the field of manufacturing industry of 3.8%. In 2015 the trend of strengthening economic activity was continued in BiH. Thus, thanks to positive developments in the international economic environment in 2015 in BiH there was an increase of industrial production by 2.7% compared to 2014. If BiH industrial production in 2015 is observed by sectors, it is evident that the main generator of growth was manufacturing industry which achieved an increase in production of 4.8%.

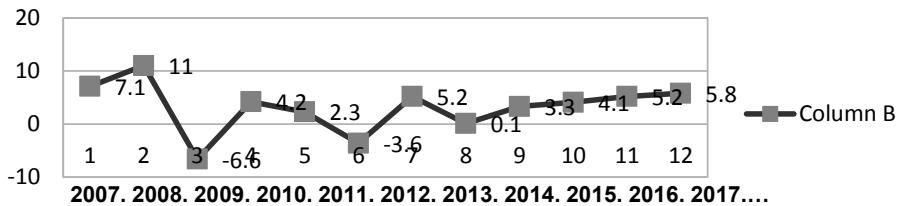


Figure 6. Industrial production in BiH for the period 2014 – 2015 by classification of mayor industrial production groups – GIG (Directorate for Economic Planning of Bosnia and Herzegovina)

Since the full recovery of most industries in the EU is expected in the period 2017-2018, it is likely to expect that these developments would also enable full recovery of industrial production in BiH. In this period, the full consolidation of the EU market is expected, also the recovery of private consumption, overcoming of problems in financing companies and the intensification of foreign trade between the EU countries. A positive contribution to industrial production in the EU should be expected from the measures relating to strengthening of the industrial base and competitiveness

in the EU countries. The positive developments in the immediate environment should result in increased utilization of industrial capacity in BiH, which is reflected in the increased volume of production, higher levels of investment both foreign and domestic investment, which should result in a more considerable increase in employment in BiH. Planned investments in infrastructure and energy, also should significantly contribute to the strengthening of both the construction sector in BiH and those branches of the processing industry closely related to the construction industry. Also, it is expected that the energy sector, which in the past period was one of the pillars of industrial production, continues the positive trend of production growth and further strengthens the industrial production in BiH in the mentioned period. All this should result in an annual increase of BiH industrial production of over 5% compared to the previous year.

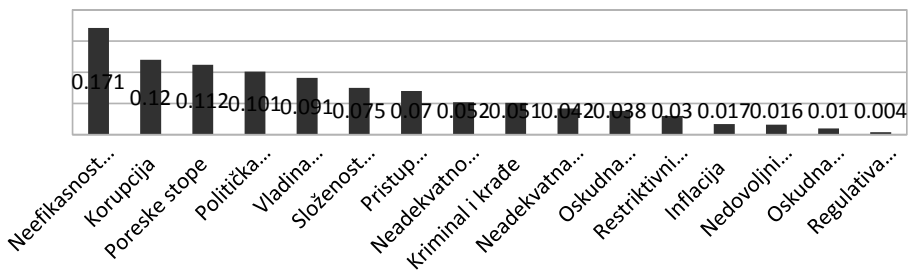


Figure 7. Growth of Industrial Production in BiH in the period 2007 – 2018 (Directorate for Economic Planning of Bosnia and Herzegovina)

Although some progress has been made in the post-war period when the manufacturing industry of BiH grew in rates of even 10%, this was stopped in the period during and after the Great Depression in the world (including BiH) in 2009. Progress and still low competitiveness are perhaps the best illustrated by the so-called “Competitiveness Industrial Performance” (CIP) published by UNIDO, according to which BiH has a very low 83<sup>rd</sup> position (on the list of 133 countries), and this despite the progress of the 13 places in the period 2000-2012. The structure of the CIP index shows quite



clearly why Bosnia and Herzegovina has a weaker competitive position in relation to other competitive countries. Namely, BiH has a considerably lower level of participation of manufacturing industry in GDP (10.2% in 2014) compared with the countries of Central and Eastern Europe, and the value added per capita in this sector is lower only in Serbia. In addition, the share of medium and high technology products in the processing industry in BiH of 29.2% according to the last report is much lower compared to Central and Eastern Europe (CEE), whose average is 44.5%.

Investments in new capacities are essential to maximize the low capital equipment of labour and increase productivity, and hence the competitiveness of BiH economy. The question of competitiveness is extremely important for BiH given the very low standard of living and a high foreign trade deficit. Unfavourable business environment in comparison with other countries is among the main reasons of insufficient investment in BiH. The same causes probably refuse foreign investors, hence the low level of foreign direct investment (FDI). In doing so, the assessment of individual parameters included in a collective assessment of the “Doing Business” - “Ease of doing business” in the level of the last to the penultimate place in comparison with selected countries. In the absence of the possibility of impact on some external factors and events, BiH should pay attention to what can be relatively easily and quickly changed, such as the elimination of unnecessary administrative barriers and reducing the number of necessary permits to start a business and construction. Special emphasis should be given to the area of “economic rights” relating to the enforcement of contracts and protection of the rights of investors (Blanchard, 2011).

In addition to the usual risks of attracting foreign capital, risks arising from future foreign investment in the energy sector should be specially mentioned. In fact, a significant part of the FDI up to now and in the coming period relates to investment in major projects in the mining and electricity generation from coal (thermal power plants). As a problem in the future, which could reduce the competitiveness of BiH in attracting FDI appears the permissible limit of CO<sub>2</sub> emissions in the European Union. By BiH joining the EU, the price paid by Bosnia and Herzegovina in the form of fines (paid per tonne of CO<sub>2</sub> emissions) could significantly increase the cost of electricity generation that is produced in thermal power plants. This

would certainly reduce competitiveness in this area in attracting FDI and would have an impact on future domestic investment in projects of generating electricity from coal.

Other significant risk to competitiveness in further attracting of FDI is the introduction of sanctions against BiH by the Energy Community Secretariat, which brings together countries of the European Union and the countries of the Balkans due to the failure to adopt an energy strategy, and also the Law on Gas at the state level.

All this indicates that although Bosnia and Herzegovina and other Western Balkan countries in the process of economic transition made some progress in terms of overall macroeconomic stability, monetary stability and inflation, structural reforms aimed at encouraging investment in order to strengthen the competitiveness of industry and exports remain key challenges to catch a rope in the process of economic convergence with the EU28 countries.

## **2. FISCAL GOALS AND FISCAL POLICIES IN BIH**

Monetary policy in BiH is within the sole jurisdiction of the Central Bank, whose independence and the prohibition of financing government deficit are set by the law. BiH is in the currency board regime, with fixed exchange rate against the euro. The condition for joining the Economic and Monetary Union boils down to the ability to meet the basic criteria, in a sustainable way (Maastricht criteria) which is related to: price stability, the annual government deficit and public debt, the stability of the currency, annual interest rates on long-term loans (Klinčov Vujaković 2015, 514).

The primary fiscal balance, as defined in accordance with Article 1, Paragraph 2 of the Law on Fiscal Council in Bosnia and Herzegovina, is planned in 2015 as a deficit in the amount of 324.8 million KM or 1.1% of the projected GDP for 2015, out of which:

- BiH Institutions plan deficit of 49,0 million KM,
- Republic of Srpska plans deficit of 292,1 million KM,
- Federation of BiH plans surplus of 4,5 million KM and
- Brčko District plans surplus of 11,8 million KM.

The level of public expenditure as a share of GDP in the period 2015-2017 should be reduced in order to have the level of public expenditure from 2016 consolidated at the BiH level below 40% of GDP.

Table 2. Total Public Expenditures in BiH in the period 2014-2017 (in million KM) (Directorate for Economic Planning of Bosnia and Herzegovina)

<b>Expenditures</b>	2014	2015	2016	2017
BiH Common Institutions	950	950	950	950
Federation of BiH	7.018	6.753	6.736	6.714
Republic of Srpska	3.761	3.870	3.801	3.683
Brčko District	196	197	210	210
Total Expenditures (Consolidated)	11.925	11.771	11.697	11.558
<b>GDP</b>	29.289	30.889	32.664	34.798
BiH Common Institutions	3,2%	3,1%	2,9%	2,7%
Federation of BiH	24,0%	21,9%	20,6%	19,3%
Republic of Srpska	12,8%	12,5%	11,6%	10,6%
Brčko District	0,7%	0,6%	0,6%	0,6%
<b>Total in GDP</b>	40,7%	38,1%	35,8%	33,2

Table 3. Framework of the Budget of BiH Institutions (in million KM) (Directorate for Economic Planning of Bosnia and Herzegovina)

BiH INSTITUTIONS	2014	2015	2016	2017
<b>Revenues</b>	914,0	901,0	879,0	876,0
Tax Revenues	750,0	750,0	750,0	750,0
Indirect Taxes	750,0	750,0	750,0	750,0
Direct Taxes	0,0	0,0	0,0	0,0
Other Tax Revenues	0,0	0,0	0,0	0,0
Contributions	0,0	0,0	0,0	0,0
Grants and transfers	4,0	3,0	1,0	1,0
Other incomes	160,0	148,0	128,0	125,0
<b>Expenditures</b>	950,0	950,0	950,0	950,0

Gross Salaries and Wages	646,0	652,0	660,0	670,0
Expenses for material and services	217,0	183,0	178,0	176,0
Interests	1,0	1,0	1,0	1,0
Subsidies, social benefits and transfers	12,0	10,0	10,0	10,0
Other expenses	24,0	30,0	30,0	30,0
Net expenditures for non-financial assets	50,0	74,0	71,0	63,0
<b>Balance</b>	-36,0	-49,0	-71,0	-74,0
<b>Funding</b>	36,0	49,0	71,0	74,0
Domestic	6,0	49,0	16,0	10,0
Repayment of domestic debt	0,0	0,0	0,0	0,0
Other (+/-)	6,0	49,0	16,0	10,0
External	30,0	0,0	25,0	22,0
Withdrawal of foreign loans	30,0	0,0	25,0	22,0
Principal repayments of foreign loans	0,0	0,0	0,0	0,0
Statistical differences and uncovered expenditures	0,0	0,0	30,0	42,0

Restrictions on the amount of debt at all levels of government in Bosnia and Herzegovina are established by the following laws:

- Law on Borrowing, Debt and Guarantees of Bosnia and Herzegovina (“Official Gazette of Bosnia and Herzegovina”, 52/05)
- Law on Borrowing, Debt and Guarantees of Republic of Srpska (“Official Gazette of Republic of Srpska” No. 71/12 and 52/14), and
- Law on Debt, Borrowing and Guarantees of Federation of Bosnia and Herzegovina (“Official Gazette of Federation of BiH”, No. 86/07).

These laws at BiH level and in the Federation of BiH, with slight differences when it comes to guarantees, stipulate that in the period of debt creation the amount for servicing a long-term debt (internal and external), according to the proposed debt and the overall matured outstanding existing debt, in any of the following years does not exceed 18% of regular incomes realized in the previous fiscal year.

Taking into account the statutory limitations on the amount of government debt and the debt of the entities, and the fact that the excessive borrowing of BiH institutions or any entity would endanger the fiscal stability and credit rating of Bosnia and Herzegovina, it is necessary to define the upper limits of the amounts of indebtedness in 2016, in line with legal regulations of each entity. Accordingly, the consolidated amount of debt for the Federation of BiH (the level of the Federation, cantons and municipalities) in 2016 should not be above the level at which the annual repayment would amount 666.0 million KM maximally.

Law on Borrowing, Debt and Guarantees of Republic of Srpska ("Official Gazette of Republic of Srpska" No. 71/12) stipulates that the public debt of Republic of Srpska (Republic of Srpska debt, the debt of local governments and social security funds debt) at the end of the fiscal year cannot be greater than 55% of GDP for the current year (in 2015: 4.945,6 million KM), while the total debt of Republic of Srpska (public debt of Republic of Srpska, debt of public enterprises, the Investment and development Bank of Republic of Srpska and public sector institutions) at the end of the fiscal year may not exceed 60% of GDP for the current year (in 2015: 5.395,2 million KM). The Law on Amendments to the Law on Borrowing, Debt and Guarantees of Republic of Srpska ("Official Gazette of Republic of Srpska" No. 52/14) stipulates that the debt arising from borrowings to finance the rehabilitation of the damage from the Unified Register, stipulated in the Law on Solidarity Fund for the reconstruction of Republic of Srpska shall be exempt from restrictions prescribed for the total and public debt of Republic of Srpska.

## CONCLUSION

The economy of Bosnia and Herzegovina belongs to the group of small open economies, vulnerable to global developments and external shocks. Therefore, the assumed gradual recovery and revival of the BiH economy is in direct dependence of economic recovery of its trading partners in the EU and the region, so any slowdown in the economic recovery of the EU and the region would have a negative impact on BiH economy. From the preceding statements it can be concluded that the projections of the movement in the fiscal sector are limited due to the economic crisis and the consequences the

crisis leave to the economy in general. This further complicates the process of monitoring and assessing fiscal sustainability.

In addition, Bosnia and Herzegovina is characterized by a complex state structure that has a direct reflection on the size and structure of public expenditure. Like many other countries, Bosnia and Herzegovina has problems with determining and defining the optimum degree of fiscal decentralization. The existing framework of fiscal policy in BiH is limited by the state regulation, which gives entities a high degree of sovereignty and leads to fragmentation of the fiscal structure. Such a system mainly leads to a lack of stronger coordination in creating a fiscal policy at the state level, which is of great importance for a small country like BiH. The final result of such a situation is unsatisfactory level of real economic growth. The inconsistency of fiscal policy that occurs due to the lack of fiscal coordination tries to be alleviated by the establishment of the Fiscal Council of BiH, which began its work in late 2008.

The reform of public finances, which aims at harmonizing the budget calendar, the introduction of medium-term budget planning and better links between the allocations of budgetary resources to priority Government policies is implemented since 2005 at all levels of government in Bosnia and Herzegovina. The results of the above mentioned reform are reflected in the achievement of the harmonization of the calendar, procedures of budget planning and the introduction of medium-term budget planning, which is achieved through the preparation of documents of the budget framework over the medium term. BiH is also facing numerous shortcomings in the field of statistics of public finances and the economy as a whole, which significantly complicates the analysis of public finances. As an example is the fact that the size of public expenditures expressed in GDP differs significantly depending on whether the GDP is accounted according to the production or to the expenditure approach. In addition, at the level of Bosnia and Herzegovina there are no consolidated and coherent data on government expenditures by functions based on COFOG classification. However, it is evident that public expenditure in BiH exceeds 40% of GDP, which is significantly higher in comparison with countries that generate a much larger share of GDP per capita in relation to Bosnia and Herzegovina. In addition to the inadequate size of public expenditure, BiH has problems relating to the structure of public expenditure. If one observes whether the economic structure of public expenditures is based on

the GFS, it can be concluded that BiH compared to other countries of the region allocates considerably more for wages and intermediate consumption. This inevitably leads to the conclusion that Bosnia and Herzegovina due to its complex state structure and duplication of government activities at different levels generates too excessive public expenditure, which ultimately leads to inefficient public sector.

Finally, in the context of fiscal sustainability and approaching to the European Union, it is necessary to do a review and assessment of the previous Economic and fiscal programme of the European Commission. It stated that the medium-term fiscal strategy of Bosnia and Herzegovina was not enough clearly and sufficiently elaborated and that there are no concrete policy measures which would adequately qualify the economic and fiscal impacts. In addition, the connection of the fiscal strategy with the assumed medium-term economic framework, overall objectives and the plan of joining the European Union is not adequately represented. Bosnia and Herzegovina Economic and fiscal programme also refers to the priorities from the European Partnership, but generally does not implement them through specific policies and supporting activities.

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## STRANE DIREKTNE INVESTICIJE I NJIHOV ZNAČAJ U FINANSIRANJU GLOBALNE EKONOMIJE

**Rezime:** *Sa makrostanovišta, investicije su determinanta privrednog razvoja u cjelini, ali i razvoja privrednih subjekata sa mikrostanovišta. Investicije čine nezaobilazan element svake ekonomske politike, jer se njihovom realizacijom ostvaruju pretpostavke ne samo ekonomskog razvoja, već i stabilnosti privrednih i društvenih tokova. Strane direktne investicije predstavljaju veoma značajan oblik u finansiranju globalne ekonomije, i najzastupljenije su u finansiranju nacionalnih privreda zemalja u razvoju i zemalja u tranziciji. Potražnja za stranim ulaganjima na globalnom tržištu je velika, pa stoga države usmjeravaju značajne aktivnosti ka kreiranju što povoljnijeg ambijenta za privlačenje investitora. U radu se posebna pažnja posvećuje direktnim stranim ulaganjima u finansiranju globalne ekonomije i njihovom značaju za razvoj globalne ekonomije, kao i uticaju direktnih stranih ulaganja na ekonomski razvoj Bosne i Hercegovine, kao i na aktivnosti koje su neophodne kako bi se realizovala povećana ulaganja.*

**Ključne riječi:** *strane direktne investicije, globalna ekonomija, privredni razvoj, znanje i tehnologije.*

**JEL klasifikacija:** *F21.*

### UVOD

Prema definiciji Međunarodnog monetarnog fonda (MMF) strane direktne investicije definišu se kao kategorija međunarodnih investicija koja

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odražava pojavu kada rezident koji se nalazi u jednoj zemlji – strani direktni investitor ili matično preduzeće, ostvaruje trajne koristi nad preduzećem koje je rezident neke druge zemlje – FDI preduzeće ili preduzeće afilijacija ili inostrana afilijacija.

Strane direktne investicije (Foreign Direct Investment – FDI) jesu osnovni oblik međunarodnog kretanja kapitala, jedan od najatraktivnijih oblika međunarodne saradnje i ostvarivanja razvojnih ciljeva države primaoca. Kao što se vidi na slici 1, realizacija stranih direktnih investicija može se ostvariti osnivanjem sopstvenih preduzeća u inostranstvu u vidu filijala, predstavništava, samostalnih preduzeća, zajedničkih kompanija. Direktnim finansiranjem osiguravaju se veliki profiti i razne druge direktne koristi preko zaobilazanja carinskih barijera ili korišćenjem jeftine radne snage.

FDI se mogu ostvariti u različitim oblicima i na različite načine:

- Greenfield investicije: direktne investicije u potpuno novi proizvodni pogon na inostranom tržištu, u potpunom vlasništvu inostranog investitora;
- Prekogrančne akvizicije: preuzimanje ili pripajanje postojećih preduzeća u drugoj državi. Mogu da znače preuzimanje većinskog paketa akcija (majority acquisition) ili kupovinu manjinskog dijela kompanije (minority acquisition), putem direktne kupovine, dokapitalizacije ili konverzijom kredita u vlasništvo (swap aranžman);
- Prekogrančni merdžeri: spajanje dva jednaka partnera. Mogu biti horizontalni, kada se povezuju dvije kompanije iz istog sektora, i vertikalni, kada se povezuju kompanije iz različitih vertikalnih faza proizvodnog procesa;
- Brownfield investicije: hibridni model kombinacije akvizicije i greenfield investicije. Formalno se radi o akvizicijama, ali suštinski one više liče na greenfield investicije, jer investitor gotovo u potpunosti zamjenjuje proizvodne pogone, opremu i proizvodnu liniju;
- Joint venture: zajednička ulaganja, tj. sporazum dvije ili više strana da rade zajedno na projektu i stvaraju entitet koji zajednički kontrolišu:
  - zajedničkim ulaganjem bez prava vlasništva (ugovorna ulaganja),
  - investiranjem u obliku koncesija, B.O.T. sistema i time sharinga (Unković, Kordić 2012, 17; Žugić 2012, 43).

Strane direktne investicije najzastupljenije su u finansiranju nacionalnih privreda zemalja u razvoju i zemalja u tranziciji. U drugoj polovini osamdesetih godina dolazi do stagnacije kretanja zajmovnog kapitala. Poslije kulminacije dužničke krize, privatni kapital je prestao da odlazi u zemlje u razvoju u obliku zajmova, jer se privatni sektor uzdržao od svakog novog kreditiranja zemalja u razvoju, izuzev u obliku direktnih investicija (Kovač 1987, 275–276).

Uloga i značaj stranih direktnih ulaganja za ekonomski rast zemlje ne može biti prenaplašen i upitan. Čak i jake i stabilne ekonomije svijeta kreiraju politiku koja će im obezbijediti povoljnu investicionu klimu. Privlačenje stranih direktnih investicija predstavlja osnovni uslov za povećanje proizvodnje i izvoza zemlje domaćina do nivoa koji bi joj omogućio stabilan ekonomski rast, kao i uspješno servisiranje dugova, te je stoga jedan od osnovnih ciljeva kreatora ekonomske politike upravo stvaranje investicione klime koja pogoduje privlačenju stranih ulagača.

Danas se ne može zamisliti privredni i društveni razvoj bez investicionih ulaganja. Potrebe za investiranjem mogu se zadovoljiti i realizacijom različitih ideja, sa manje ili više investiranog kapitala, uz bolje korišćenje datih investicionih uslova, kao i uz različite ekonomske i druge investicione sadržaje. Znamo da je investicioni kapital ograničen resurs i nije moguće zadovoljiti sve investicione potrebe. Zato prava investiciona rješenja u investiranju razvoja preduzeća ne dolaze spontano, sama po sebi. Investicioni kapital se obezbjeđuje dugogodišnjom štednjom i racionalnim poslovanjem uz pomoć poslovnih banaka, stranih direktnih ulaganja i iz drugih izvora (Šušić 2010, 59).

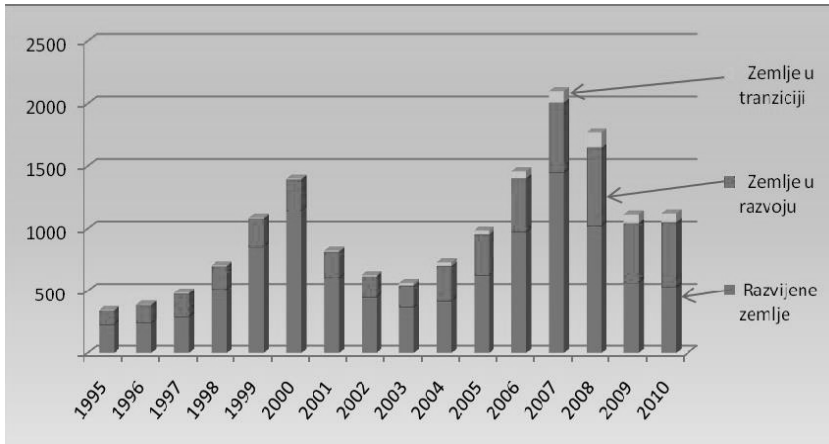
U eri globalizacije važno je razumjeti poslovnu logiku iza stranih ulaganja, kao i uticaj koji ta ulaganja imaju na rast bruto društvenog proizvoda, razvoj domaće ekonomije i društva u cjelini. Osim toga, važno je sagledati greške koje su činile zemlje u razvoju u privlačenju FDI i na osnovu toga izvući pouke o tome kako stvoriti što povoljniji investicioni ambijent u narednom periodu.

Priliv sredstava putem direktnih stranih investicija predstavlja ne samo priliv kapitala, već osnovu za povećanje trgovinskih tokova, ekonomskog rasta i razvoja i kreiranje novih radnih mjesta. Bosni i Hercegovini, kao zemlji u tranziciji, neophodne su strane direktne investicije koje bi bile

glavni pokretač ekonomskog rasta zemlje u narednom periodu. S obzirom na nizak nivo domaće štednje iz koje bi se samostalno finansirao razvoj, nedostatak savremene tehnologije, kao i odgovarajućeg upravljačkog znanja, pomenuti nedostaci mogu se nadoknaditi dolaskom stranih investitora, koji bi donijeli nova znanja, iskustva i tehnološki napredak. Upravo stoga, privlačenje stranih investitora i prilagođavanje njihovim zahtjevima kroz ubrzan proces reformi, jedan je od ključnih zadataka koji stoji pred BiH i njenim entitetima.

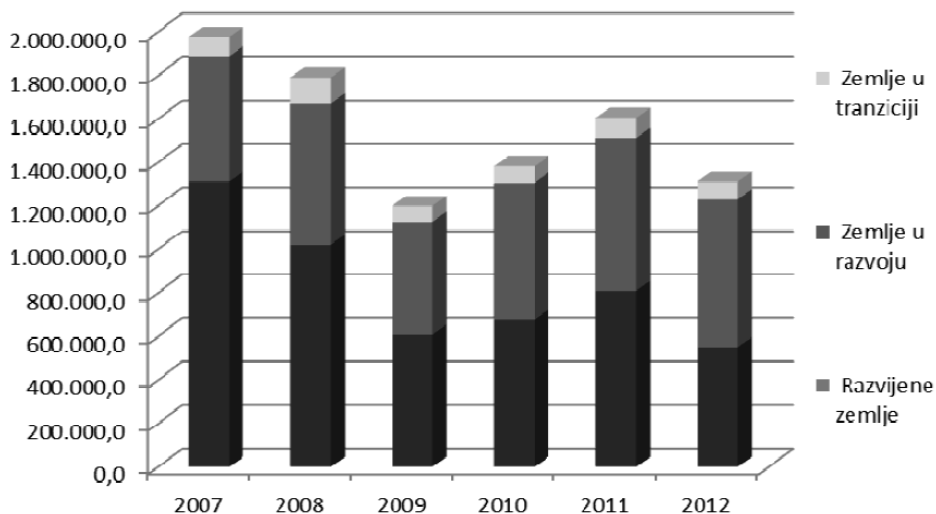
### **1. NEKE SPECIFIČNOSTI I PROCIJENJENE STRANE DIREKTNE INVESTICIJE PO SEKTORIMA I INDUSTRIJI NA GLOBALNOM TRŽIŠTU, OD 1990. DO 2012. GODINE**

Obim i intenzitet makroregionalne distribucije FDI na globalnom planu u dimenziji vremena zavise, prije svega, od stanja u svjetskoj privredi, ali i od mnogih drugih faktora. Dinamizam globalne scene FDI ukazuje, naročito posljednjih godina, na određene promjene na relaciji razvijene zemlje – zemlje u razvoju, što je veoma uočljivo na slici 1, a prema podacima UNCTAD, strane direktne investicije u svijetu u 2012. godini iznosile su 1.237,05 milijardi US\$ i ostvarile su smanjenje od 18% u odnosu na 2011. godinu, u kojoj su iznosile 1.508,6 milijardi US\$ (slika 2).



Slika 1. Globalna dinamika FDI za 1995 - 2010. god. (u milijardama US\$) (UNCTAD 2011)

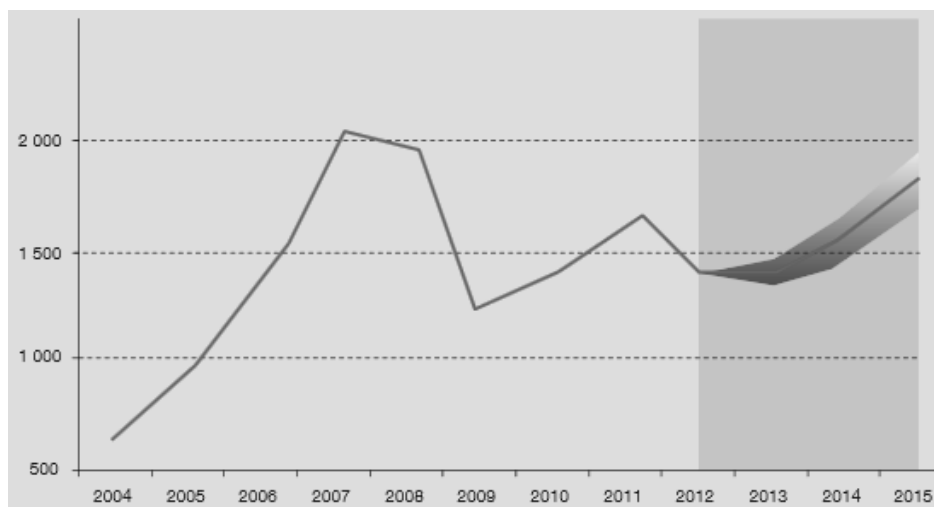
Ovo je posljedica nestabilnosti na globalnom tržištu i još uvijek neriješene dužničke krize u Evropskoj uniji, a prije svega u Grčkoj i Kipru. U 2011. godini, u poređenju sa ulaganjima u 2010. godini, FDI su ostvarile povećanje od 17%. Pritom su zemlje u razvoju i tranzicijske zemlje ostvarile veće učešće u svjetskim tokovima FDI i prilivima FDI u ove zemlje. Zajedno prelaze vrijednost od 50% ukupnih tokova FDI u svijetu. U 2010. godini zabilježen je porast FDI, dok je u preostalim godinama u posmatranom periodu zabilježen pad FDI u svijetu. Ovo je posljedica globalne recesije i nesigurnosti na tržištima koja je njome izazvana.



Slika 2. FDI u svijetu u milijardama US\$ (UNCTAD 2013)

Slika pokazuje pregled FDI u svijetu u periodu od 2007. do 2012. godine u milijardama US\$. Ono što je interesantno za istraživanje u ovom radu jeste činjenica da je veliki dio stranih direktnih ulaganja usmjeren u razvijene zemlje, čak preko 50% u posmatranom periodu. Manji dio priliva stranih direktnih investicija u svijetu imaju zemlje u razvoju, a najmanji udio tranzicijske zemlje. Interesantno je da se ovaj trend u posmatranom periodu promijenio u korist tranzicijskih zemalja i zemalja u razvoju. Ovakvo kretanje FDI potvrđuje činjenicu da kapital odlazi tamo gdje je najsigurniji, a da zaobilazi nesigurna područja. U tom smislu su tranzicijske zemlje nesigurna područja za strano investiranje iz razloga što su još uvijek neriješeni vlasnički odnosi. Zemlje u razvoju su u tom pogledu sigurnije i stoga ostvaruju veći obim priliva FDI. Bez obzira na sigurnost uloga u razvijenim zemljama, izuzetno je visok udio priliva FDI u ovim zemljama. Ipak, promjena ovog trenda u posmatranom periodu, odnosno povećanje udjela FDI u zemljama u razvoju i tranzicijskim zemljama ostavlja utisak pokušaja da se ujednače prilivi stranih direktnih investicija u svijetu. Međutim, sa druge strane, može se primijetiti da je veći udio FDI zemalja

u razvoju i tranzicijskih zemalja u svijetu ostvaren iz razloga što je manji obim FDI plasiran u razvijene zemlje u posmatranom periodu, dok je obim FDI u tranzicijskim zemljama i zemljama u razvoju gotovo nepromijenjen. Globalni tokovi FDI od 2004. do 2012. godine sa projekcijom od 2013. do 2015. godine u milijardama US\$ prikazani su na slici 3.



Slika 3. Globalni tokovi FDI od 2004. do 2012. godine sa projekcijom od 2013. do 2015. godine u milijardama US\$ (World Investment Report 2013)

Projekcija UNCTAD je da će globalni tokovi FDI u 2013. godini ostati gotovo nepromijenjeni, da će u 2014. godini blago porasti, a da će tek u 2015. godini globalni tokovi FDI bilježiti značajniji rast. Predviđa se da će u 2015. godini globalni tokovi FDI skoro dostići nivo iz 2007. godine. Prema ovoj projekciji, globalni tokovi FDI će u narednom periodu rasti, a sudeći prema predviđenom rastu u 2015. godini, potpun oporavak od globalne finansijske krize će se ostvariti krajem 2015. godine.

U tabeli 1. date su procijenjene strane direktne investicije po sektorima i industriji, za 1990. i 2012. godinu za svijet, a na osnovu izvora UNCTAD (United Nations Conference on Trade and Development).

UNCTAD je glavni organ Generalne skupštine Ujedinjenih nacija koji se bavi trgovinom, investicijama i razvojnim pitanjima. Ciljevi organizacije su: „maksimizirana trgovina, investicije i razvoj mogućnosti zemalja u razvoju, kao i pomoći istim u njihovim naporima da se integrišu u svjetsku ekonomiju na ravnopravnoj osnovi“.

Primarni cilj UNCTAD je da formuliše politiku koja se odnosi na sve aspekte razvoja, uključujući trgovinu, pomoć, transport, finansije i tehnologiju. Konferencija se obično održava jednom u četiri godine, a stalni sekretarijat je u Ženevi.

Tabela 1. Procijenjene strane direktne investicije po sektorima i industriji, 1990 i 2012. godine,

u milionima dolara (UNCTAD)

Sektor/industrija	Godina						
	1990.			2012.			
	Razvijene zemlje	Zemlje u razvoju	Svijet	Razvijene zemlje	Zemlje u razvoju	Zemlje u tranziciji	Svijet
<b>Ukupno:</b>	<b>1 633 004</b>	<b>445 263</b>	<b>2 078 267</b>	<b>15 905 431</b>	<b>7 030 622</b>	<b>368 376</b>	<b>23 304 429</b>
<b>Primarni</b>	156 750	24 099	180 849	1 082 493	593 272	63 251	1 739 016
Poljoprivreda, lov, šumarstvo i ribolov	3 600	4 207	7 806	19 915	58 803	2 976	81 694
Rudarstvo, kamenolom, petrolej	153 150	17 795	170 945	1 052 836	534 460	60 275	1 647 571
Nespecificirano (primarni)	-	2 097	2 097	9 742	10	-	9 752
<b>Proizvodnja</b>	<b>659 895</b>	<b>153 422</b>	<b>813 317</b>	<b>3 831 896</b>	<b>1 997 986</b>	<b>84 747</b>	<b>5 914 629</b>
Hrana, piće i duvan	72 446	9 711	82 158	467 586	202 237	13 092	682 914
Tekstil, odjeća i koža	24 001	5 078	29 079	39 142	39 187	869	79 198
Drvo i proizvodi od drveta	36 489	5 289	41 778	87 750	33 165	5 152	126 067
Koks, proizvodi od nafte i nuklearno gorivo	54 450	3 038	57 488	233 212	57 393	7 199	297 803
Hemikalije i hemijski proizvodi	130 178	46 716	176 894	755 232	237 893	4 335	997 461
Gumeni i plastični proizvodi	13 448	1 979	15 427	58 091	33 617	1 464	93 172
Nemetalni mineralni proizvodi	17 424	2 955	20 378	108 416	32 095	7 232	147 744



Metal i metalni proizvodi	53 016	15 375	68 391	325 428	93 198	35 044	453 670
Električna i elektronska oprema	85 566	17 502	103 067	337 973	189 699	1 535	529 206
Mašinerija i oprema	55 558	9 689	65 247	195 669	83 706	2 031	281 406
Motorna vozila i druga transportna oprema	50 029	8 303	58 332	315 718	116 950	3 207	435 874
Ostala proizvodnja	13 011	2 607	15 618	150 113	25 409	677	176 199
Nespecifikovano (sekundarni)	54 280	25 180	79 460	757 566	853 437	2 912	1 613 914
<b>Usluge</b>	<b>807 117</b>	<b>166 973</b>	<b>974 090</b>	<b>10 379 165</b>	<b>4 358 311</b>	<b>216 624</b>	<b>14 954 101</b>
Struja, gas i voda	6 944	3 145	10 089	429 512	171 182	9 165	609 859
Izgradnja	17 354	4 452	21 806	160 001	125 586	7 691	293 278
Trgovina	209 931	24 453	234 384	1 564 423	522 249	29 439	2 116 111
Transport, skladištenje i komunikacije	17 305	13 288	30 593	1 013 660	425 013	15 980	1 454 652
Hoteli i restorani	21 811	4 884	26 695	62 022	63 045	2 195	127 263
Finansije	295 663	96 120	391 783	4 132 329	1 243 782	40 018	5 416 129
Poslovne aktivnosti	131 519	16 211	147 730	2 732 040	1 681 636	107 838	4 521 515
Javna uprava i odbrana	-	61	61	17	15 851	0	15 868
Obrazovanje	97	-	97	5 690	2 173	48	7 911
Zdravstvo i socijalne usluge	1 025	0	1 026	15 981	6 105	545	22 631
Zajednica, društvene i lične usluge	13 799	18	13 818	16 311	43 587	3 591	63 489
Druge usluge	51 644	3 004	54 648	36 329	37 233	114	73 677
Nespecifikovano (tercijarni)	40 023	1 337	41 360	210 848	20 869	-	231 717
<b>Nespecifikovano</b>	<b>9 242</b>	<b>100 769</b>	<b>110 011</b>	<b>611 877</b>	<b>81 052</b>	<b>3 754</b>	<b>696 683</b>

Ukupne investicije su ekstrapolirane na osnovu podataka koji pokrivaju 51 zemlju 1990. godine i 103 zemlje 2012. godine, ili posljednje godine. Oni čine više od četiri petine FDI u svijetu 1990. i 2012. godine. Uključene su samo zemlje za koje su podaci za tri glavna sektora bili dostupni.

Distribucija udjela svake industrije ovih zemalja primijenjena je za procjenu u svakom sektoru i svakoj industriji na svjetskom nivou. U slučaju nekih zemalja za koje su bili dostupni samo odobreni podaci, stvarni podaci su procijenjeni primjenom odnosa implementacije ostvarenog FDI i

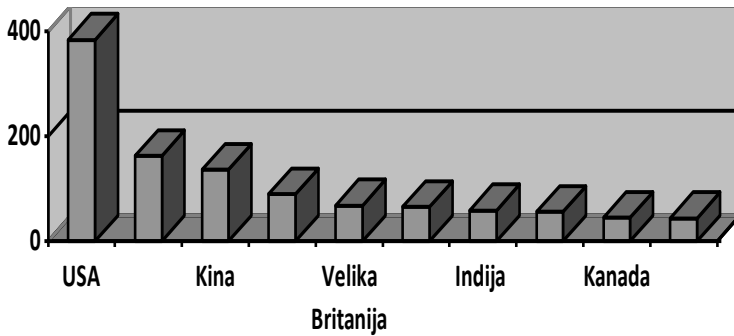
odobrenog FDI (15% 1997. za Indoneziju, 56% 1994. za Japan, 10% 1990. i 8% 1999. za Laos, 39% 1990. i 34% 2005. godine za Mjanmar, 41% 1990. i 35% 1999. za Nepal, 62% 1995. za Šri Lanku, 73% 1990. i 49% 2012. godine za Tajvan). Ukupne investicije 1990. uključuju države u tranziciji, iako podaci po sektoru i industriji nisu dostupni za taj region. Drvo i proizvodi od drveta uključuju izdavanje, štampanje i reprodukciju medija. Električna i elektronska oprema uključuje optičke proizvode i precizne instrumente. Nespecificirano sekundarno obuhvata popravku i ugradnju mašina i opreme, kao i naftne derivate, hemikalije i lijekove. Električna energija, gas i voda uključuju upravljanje otpadom. Transport, skladištenje i komunikacije uključuju informacije.

Multinacionalne kompanije (MNEs) imaju vodeću ulogu u tehnološkim inovacijama, istraživanju i razvoju investicija, i patentiranju. Služeći različita tržišta i njihovu veličinu, one često koriste ekonomiju obima i imaju jači finansijski kapacitet da investiraju u inovacije, uključujući i rizične inovativne projekte. One su u boljoj poziciji od malih i lokalnih firmi i mogu da privuku talente, da steknu sofisticiranu opremu, usvoje sveobuhvatne alate za upravljanje tehnologijama, i izgrade inovacione mreže sa dobavljačima, kupcima, strateškim partnerima, univerzitetima i javnim istraživačkim institutima.

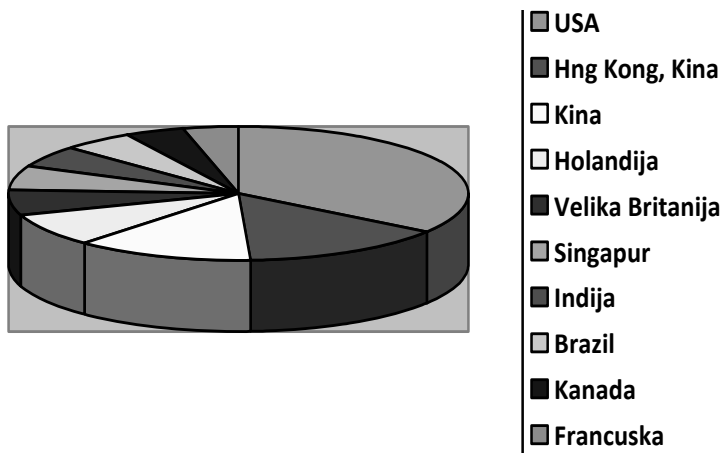
U tabeli 2. dat je pregled procjene priliva FDI u 10 razvijenih zemalja svijeta za 2015. godinu u milijardama dolara.

Tabela 2. Procjene priliva FDI u 10 razvijenih zemalja svijeta za 2015. godinu, u milijardama dolara (UNCTAD)

USA	Hong Kong, Kina	Kina	Holandija	Velika Britanija	Singapur	Indija	Brazil	Kanada	Francuska
384	163	136	90	68	65	59	56	45	44



Slika 4. Grafički predstavljeni podaci iz tabele 2. (autor)



Slika 5. Grafički predstavljeni podaci iz tabele 2. (autor)

Međutim, poboljšanje makroekonomskih uslova (sa globalnog rasta projektovanim da dostigne 2,9% u 2016. u odnosu na 2,4% u 2015. godini), zbog skromnog oporavka u razvijenim zemljama, može da ojača povjerenje investitora i izazove ih na produktivne investicije i da učvrste svoje poslovne planove. Pored toga, dalja depresijacija valute na tržištima u razvoju i mogućom prodajom imovine da restrukturira dug preduzeća mogu takođe uzrokovati dodatne SDI.

## 2. EFEKTI DIREKTNIH STRANIH ULAGANJA

### 2.1. Uloga i značaj direktnih stranih ulaganja

Uloga i značaj direktnih stranih investicija kao oblika finansiranja svjetske ekonomije kontinuirano rastu tokom druge polovine XX vijeka, a naročito u njegovoj posljednjoj deceniji.

Riječ je o periodu brojnih reformi u gotovo svim dijelovima svijeta – pad Berlinskog zida i ujedinjenje Njemačke, prestanak hladnog rata, reforme u Kini, raspad Istočnog bloka i pojedinih federalnih država (Sovjetskog Saveza, Čehoslovačke, SFR Jugoslavije), tranzicije ovih i ostalih država iz centralnoplanske u tržišnu privredu. Otvaranjem ovih zemalja i otklanjanjem prepreka u kretanju kapitala, otvorile su se mogućnosti za investiranje i intenzivno finansiranje prilivima stranog kapitala širom svijeta. Savremeni proces globalizacije ima tendenciju brisanja granica tokovima robe, ljudi, kapitala i znanja, čiji su glavni nosioci transnacionalne korporacije (Stakić 2007, 293). Direktno strane investicije predstavljaju dio međunarodnog toka kapitala, koji u posljednje dvije decenije ostvaruje izuzetan rast. Od početka 90-ih godina, trend rasta FDI bilježe i evropske tranzicione države, kada su krenule u proces transformacije svojih privreda. FDI su uticale na porast bruto društvenog proizvoda (BDP-a), generisanje rasta i stimulisanje izvoza ovih privreda. Iskustva tranzicionih zemalja govore da preduzeća koja su u vlasništvu stranog investitora ostvaruju bolje rezultate nego domaća, imaju dva puta veću produktivnost rada, za 20%–30% veće plate, upotrebljavaju savremeniju tehnologiju, zapošljavaju stručniju radnu snagu, više su izvozno orijentisana i ostvaruju veću dobit (Vujić 2013, 77).

Pored visoke tehnologije, direktno strane investicije donose komplementarne prednosti, kao što su znanje i iskustvo u menadžmentu i preduzetničkim sposobnostima. Svojim prisustvom multinacionalne kompanije forsiraju domaća preduzeća na inovacije sa ciljem očuvanja svog tržišnog učešća i profita. Osim toga, one nude poznate marke (*brand names*) i omogućavaju pristup regionalnom i svjetskom tržištu. Mnogobrojne studije u zemljama u razvoju i zemljama Istočne Evrope pokazale su da usvajanje novih znanja i tehnologija utiče i na postojeće domaće privredne subjekte, koji nova znanja usvajaju kroz saradnju i imitaciju, boreći se za tržište. Nadalje, strane

kompanije upućuju zaposlene na različite obuke izvan zemlje, koji usvojena znanja i vještine koriste u svojoj zemlji. Novi standardi poslovanja koji strane kompanije nameću dobavljačima, špediterima, propagandistima, pa i samim potrošačima, predstavljaju načine na koje nova znanja dolaze i do domaćih preduzeća. Direktna strana ulaganja u nova proizvodna preduzeća ili u proširenje postojećih najčešće podrazumijevaju otvaranje novih radnih mjesta, što predstavlja jedno od glavnih prioriteta svake države.

Na priliv direktnih stranih ulaganja gleda se kao na ključni izvor poželjnog priliva stranog kapitala, pa treba imati u vidu da ova ulaganja mogu odigrati odlučujuću ulogu u transformaciji proizvodne strukture privrede i transferu znanja. FDI mogu znatno poboljšati izvozne performanse privrede, posebno ako se radi o „vertikalnom“ tipu investicija. Dakle, FDI istovremeno teže da „osvoje“ domaće tržište, ali i da pojačaju izvozne potencijale domaće privrede.

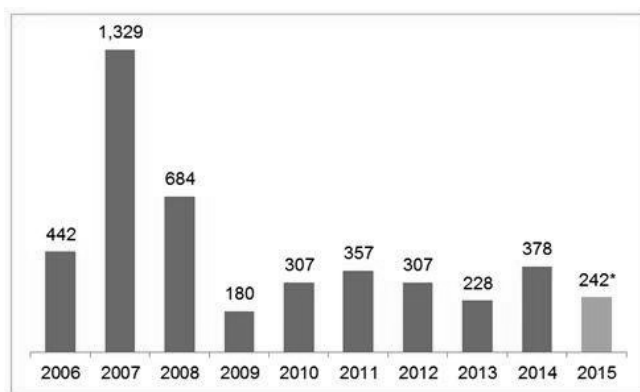
Zbog svih navedenih prednosti koje donose FDI (otvaranje novih radnih mjesta, rast plata, dolazak novog kapitala, porast izvoza, nove tehnologije, sveukupno povećanje produktivnosti), vlade zemalja širom svijeta osnivaju agencije za privlačenje investicija i stranih ulaganja. Kao najvažniji faktori kod odluka o investiranju ističu se: politička i makroekonomska stabilnost, veličina tržišta, ekonomska otvorenost, garancije vlasničkih prava, kvalifikovana radna snaga, infrastruktura, poreska i finansijska politika, te efikasnost javne administracije i pravna država.

### **3. STANJE DIREKTNIH STRANIH ULAGANJA U BOSNI I HERCEGOVINI**

Država Bosna i Hercegovina je 16. juna 2008. godine potpisala Sporazum o stabilizaciji i pridruživanju sa Evropskom unijom i time postala potencijalni kandidat za članstvo u ovoj ekonomskoj integraciji. Ovim sporazumom su Bosni i Hercegovini otvorena vrata kada su u pitanju i direktne strane investicije i saradnja sa regionom i šire.

Prema podacima Centralne banke BiH iz avgusta 2015. godine, ukupne direktne strane investicije (stanje) u BiH na dan 31.12.2014. godine iznosile su 11,643 miliona KM ili 11,6 milijardi KM (5,953 miliona evra ili ukupno 6 milijardi evra). Prema izvoru Centralne banke BiH, investicije u 2014.

godini iznosile su 378 miliona evra i zabilježile su rast od 65,8% u odnosu na 2013. godinu (slika 6). Prema strukturi direktnih stranih investicija u ovoj godini, na vlasnički kapital se odnosi 250,2 miliona KM (ili 127,9 miliona evra), zadržane zarade su iznosile 84 miliona KM (42,9 miliona evra), dok je ostali kapital bio 405,3 miliona KM (207,2 miliona evra). Zahvaljujući dobroj reputaciji i dugoj industrijskoj tradiciji u BiH, najznačajniji iznos direktnih stranih investicija je investiran u sektor proizvodnje (36%). Značajan udio u okviru ukupnog priliva direktnih stranih investicija imao je i bankarski sektor – 20% (slika 7).



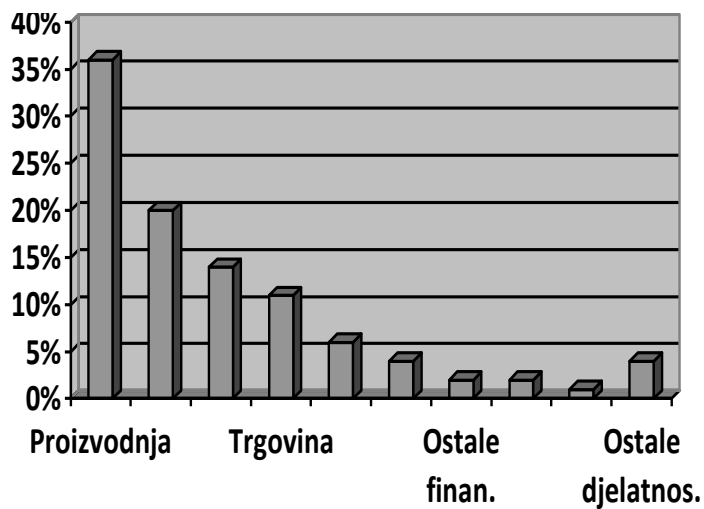
Slika 6. Tokovi FDI u Bosni i Hercegovini, po godinama, u milionima evra (Centralna banka BiH 2015)

\* 2015. – preliminarni podaci po platnom bilansu sa procijenjenim zadržanim zaradama

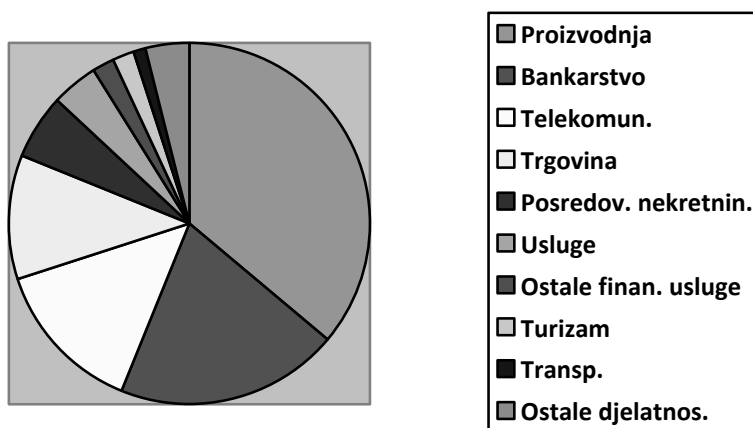
Učešće FDI po sektorima u BiH od maja do decembra 2014. godine prikazano je u tabeli 3, a dijagramski na slici 7. i slici 8.

Tabela 3. Procentualno učešće FDI po sektorima u BiH od maja do decembra 2014. god. (autor)

Proizvodnja	Bankarstvo	Telekomunikacije	Trgovina	Posredov. nekretnin.	Usluge	Ostale finans. usluge	Turizam	Transport	Ostale djelatnosti
36%	20%	14%	11%	6%	4%	2%	2%	1%	4%



Slika 7. Procenat FDI po sektorima u BiH od maja do decembra 2014. god. (autor)



Slika 8. Procenat FDI po sektorima u BiH od maja do decembra 2014. god. (autor)

### 1.1. Istraživanje primjenom modela jednostruke linearne regresije

Primjenom modela jednostruke linearne regresije, koji se koristi za opisivanje odnosa među dvjema pojavama gdje se jedna pojava mijenja u zavisnosti od druge pojave (Peck, Vining 2012, 25) i ima samo jednu nezavisnu varijablu koja utiče na samo jednu zavisnu varijablu istražena je zavisnost BDP-a ( $Y_i$ ) od FDI ( $X_i$ ) za period od 2009. do 2014. godine za Bosnu i Hercegovinu. Ovim modelom prikazuje se stepen povezanosti između varijabli. Model se koristi za utvrđivanje smjera, intenziteta, vrste i oblika veza među pojavama. Međutim, odnosi među pojavama u prirodi i društvu su dinamični i stalno se mijenjaju. Veza među tim pojavama obično nije funkcionalna, jer one zavise od zakona vjerovatnoće. Ova veza među pojavama se naziva stohastična veza. Statistički odnosi među pojavama razlikuju se od determinističkih ili funkcionalnih odnosa.

Stohastična veza znači da empirijskoj vrijednosti nezavisne slučajne promjenjive ( $X=x$ ), pri većem broju ponavljanja eksperimenta, odgovara veći broj realizovanih vrijednosti zavisne slučajne promjenjive ( $y = y_1, y_2, \dots y_n$ ), koje se mogu predvidjeti (Petrović 2006, 173). Oblik stohastične zavisnosti slučajnih promjenjivih ( $x, y$ ) uslovno se izražava matematičkim funkcijama, kojima se najbolje opisuju ostvareni ishodi zavisne slučajne promjenjive ( $y$ ).

Korelaciona analiza sastoji se od primjene postupaka kojima se utvrđuju pokazatelji jačine statističke veze među pojavama. Standardizovana mjera jačine statističke veze između pojava predstavljenih dvjema kvantitativnim varijablama jeste koeficijent korelacije (Šošić 1998, 269). Kako se radi o uređenim pojavama, dobijeni podaci se mogu prikazati u koordinatnom sistemu. Skup tih tačaka se zove dijagram raspršenja i iz njega se može vidjeti zavisnost između varijabli.

Korelacija među pojavama može biti pozitivna i negativna. Kod pozitivne korelacije linearnom porastu jedne varijable odgovara linearni porast druge varijable. Ako je ova korelacija potpuna, poprima vrijednost  $r = 1$ . Kada linearnom porastu jedne varijable odgovara linearno opadanje druge varijable, korelacija je negativna. Ako je negativna korelacija potpuna, ima vrijednost  $r = -1$ . Međutim, u praksi nije moguće dobiti potpunu korelaciju, a koeficijent korelacije ima vrijednost od  $-1$  do  $1$ , pa je na osnovu toga:



- od 0 do  $\pm 0,30$  slaba korelacija (slab uticaj nezavisne varijable na zavisnu),
- od  $\pm 0,30$  do  $\pm 0,70$  srednja korelacija (srednji uticaj nezavisne varijable na zavisnu),
- od  $\pm 0,70$  do  $\pm 1$  jaka korelacija (jak uticaj nezavisne varijable na zavisnu).

U modelu jednostruke regresije vrijedi sljedeće:

- koeficijent korelacije ( $r$ ) ne može biti veći od 1,
- parametri  $b$ ,  $b'$  i  $r$  uvijek su istog predznaka,
- regresijski pravci se sijeku u aritmetičkim sredinama,
- kada se varijabla  $x$  mijenja za 1, tada se  $Y_c$  mijenja za  $b$ ,
- kada se varijabla  $y$  mijenja za 1, tada se  $X_c$  mijenja za  $b$ .

Model se izražava na sljedeći način:

$$y = a + bx \quad (1)$$

- $y$  – zavisna varijabla,
- $x$  – nezavisna varijabla,
- $a$  i  $b$  – parametri.

Na osnovu prethodno navedenog, primjenom modela jednostruke linearne regresije u ovom istraživanju se može izraziti na sljedeći način:

$$BDP = f(FDI) \quad (2)$$

- BDP – zavisna promjenjiva,
- FDI – nezavisna promjenjiva.

Podaci koji se koriste u primjeni modela jednostruke linearne regresije dati su u tabeli 4, a uzeti su iz baze Centralne banke Bosne i Hercegovine.

Tabela 4. Podaci po godinama za FDI i BDP u BiH (Centralna banka Bosne i Hercegovine) u milionima EUR

GODINA	$X_i$ (FDI)	$Y_i$ (BDP)	$XY$	$X^2$	$Y^2$
2009.	180	12.700	2.286.000	32.400	161.290.000
2010.	307	13.000	3.991.000	94.249	169.000.000
2011.	357	13.400	4.783.800	127.449	179.560.000
2012.	307	13.400	4.113.800	94.249	179.560.000

2013.	228	13.700	3.123.600	51.984	187.690.000
2014.	378	13.900	5.254.200	142.884	193.210.000
2015.	375	14.400	5.400.000	140.625	207.360.000
$\Sigma$	<b>2.132</b>	<b>94.500</b>	<b>28.952.400</b>	<b>683.840</b>	<b>1.277.670.000</b>

Regresijski pravac za zavisnu varijablu (BDP) glasi:

$$y = a + bx \quad (3)$$

Iz toga slijedi  $a = \bar{y} - b\bar{x}$  (4)

Pri tome je:

$$\bar{x} = \frac{\Sigma x}{n} \quad (5)$$

$$\bar{y} = \frac{\Sigma y}{n} \quad (6)$$

Uvrštavanjem podataka u (5) i (6) dobija se:

$$\bar{x} = \frac{2.132}{7} = 304,60$$

$$\bar{y} = \frac{94.500}{7} = 13.500$$

Pomoću sljedeće formule se izračunava b:

$$b = \frac{\Sigma xy - \bar{x}\Sigma y}{\Sigma x^2 - \bar{x}\Sigma x} \quad (7)$$

Uvrštavanjem podataka u formulu (7) dobijamo sljedeći rezultat:

$$b = \frac{\Sigma xy - \bar{x}\Sigma y}{\Sigma x^2 - \bar{x}\Sigma x} = \frac{28952400 - 304,6 \times 94500}{683840 - 304,6 \times 2134} = \frac{167700}{35433}$$

Uvrštavanjem podataka u formulu (4) dobijamo sljedeći rezultat:

$$a = \bar{y} - b\bar{x} = 13500 - 4,73 \times 304,6 = 12059 \quad (8)$$

Na osnovu naprijed urađenog, linearna regresija za zavisnu promjenjivu je:

$$y = a + bx = 12059 + 4,73x$$

Iz navedenog istraživanja funkcija BDP-a je:

$$BDP = a + b \times (FDI) = 12059 + 4,73 \times (FDI) \quad (9)$$

Koeficijent determinacije se računa pomoću formule:

$$r^2 = \frac{a \sum y + b \sum xy - n\bar{y}^2}{\sum y^2 - n\bar{y}^2} \quad (10)$$

Uvrštavanjem podataka iz tabele 4. u obrazac (10) dobijamo sljedeći rezultat:

$$\begin{aligned} r^2 &= \frac{a \sum y + b \sum xy - n\bar{y}^2}{\sum y^2 - n\bar{y}^2} \\ &= \frac{12059 \times 94500 + 4,73 \times 28952400 - 7 \times 182250000}{1277670000 - 7 \times 182250000} \\ &= \frac{770352}{1920000} = 0,401225 \end{aligned}$$

$$r = \sqrt{0,401225} = 0,63$$

Na osnovu izračunatog koeficijenta korelacije 0,63 možemo zaključiti da postoji srednji uticaj nezavisne promjenjive na zavisnu. Korelacija je pozitivna, a linearna regresija pokazuje da povećanje direktnih stranih ulaganja u stalna sredstva od 1 milion EUR dovodi do povećanja BDP-a za 4,73 miliona EUR.

## ZAKLJUČAK

Uloga i značaj stranih ulaganja za ekonomski rast zemlje ne mogu biti prenaplašeni i upitni. Čak i jake i stabilne ekonomije svijeta kreiraju politiku koja će im obezbijediti povoljnu investicionu klimu. Privlačenje direktnih stranih investicija predstavlja osnovni uslov za povećanje proizvodnje i izvoza zemlje domaćina do nivoa koji bi joj omogućio stabilan ekonomski rast, kao i uspješno servisiranje dugova, te je stoga jedan od osnovnih ciljeva kreatora ekonomske politike upravo stvaranje investicione klime

koja pogoduje privlačenju stranih ulagača. Priliv sredstava putem direktnih stranih investicija predstavlja ne samo priliv kapitala, već osnovu za povećanje trgovinskih tokova, ekonomskog rasta i razvoja i kreiranja novih radnih mjesta. Bosni i Hercegovini, kao zemlji u tranziciji, neophodne su strane direktne investicije koje bi bile glavni pokretač ekonomskog rasta zemlje u narednom periodu. S obzirom na nizak nivo domaće štednje iz koje bi se samostalno finansirao razvoj, nedostatak savremene tehnologije, kao i odgovarajućeg upravljačkog znanja, pomenuti nedostaci mogu se nadoknaditi dolaskom stranih investitora, koji bi donijeli nova znanja, iskustva i tehnološki napredak. Upravo zato, privlačenje stranih investitora i prilagođavanje njihovim zahtjevima kroz ubrzan proces reformi, jedan je od ključnih zadataka koji stoji pred BiH i njenim entitetima. U posljednjih sedam godina, a na osnovu istraživanja, vidljivo je da FDI u Bosni i Hercegovini imaju srednji uticaj na rast BDP-a. Potrebno je stvoriti još povoljniju klimu za direktna strana ulaganja kako bi taj uticaj porastao i bio jak.

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## FOREIGN DIRECT INVESTMENT AND THEIR ROLE IN FINANCING GLOBAL ECONOMY

**Summary:** *From the macro point of view investment are seen as a determinant of overall economic development, but from the micro point of view also of the development of business subjects. Investments constitute an essential element of every economic policy, since their implementation provides a platform not only for economic development, but also for the stability of economic and social trends. Foreign direct investments are very important form of financing in the global economy, and are most frequent in financing the national economies of developing countries and countries in transition. Demand for foreign investments in the global market is large, thus states direct significant activities towards creating a more favourable environment for attracting investors. The paper pays special attention to foreign direct investment in the financing of the global economy, and their importance for the development of the global economy and the impact of foreign direct investments on economic development of Bosnia and Herzegovina, as well as on the activities necessary in order to achieve increased investments.*

**Key words:** *foreign direct investment, the global economy, economic development, knowledge and technology*

**JEL Classification:** *F21*

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## INTRODUCTION

As defined by the International Monetary Fund (IMF) Foreign direct investments are defined as a category of international investment that reflects the phenomenon when a resident located in one country - foreign direct investor or parent company achieves lasting benefits of the company which is a resident of another country – FDI enterprise or an affiliate company or a foreign affiliation.

Foreign direct investments (FDI) are the main form of international capital movement, one of the most attractive forms of international cooperation and realization of development goals of the recipient country. As seen in Figure 1, the realization of foreign direct investment can be achieved by establishing own companies abroad in the form of branches, representative offices, individual companies, joint companies. Direct funding provide large profits and various other direct benefits through circumvent of tariff barriers or the use of cheap labour force.

FDI can be achieved through various forms and in different ways:

*Greenfield investment*: direct investment in a brand new manufacturing facility in the international market, wholly owned by foreign investors;

*Cross-border acquisitions*: download or acquisition of existing companies in another country. It can include a takeover of the majority package of shares (majority acquisition) or purchase of the minority portion of the company (minority acquisition) through direct purchase, recapitalization or by conversion of loans into ownership (swop arrangement);

*Cross-border mergers*: a merger of two equal partners. They can be horizontal, when the two companies in the same sector are linked, and vertical, when companies from different vertical stages of the production process are connected.

*Brownfield investments*: a hybrid model of combining acquisitions and Greenfield investments. Formally it comes to acquisitions, but essentially they are more like Greenfield investments, since the investor almost completely replaces manufacturing facilities, equipment and production line.

*Joint Venture* – Joint investments, i.e. agreement of two or more parties to work together on a project and create an entity jointly controlled by:



- joint venture without property rights (contractual investment),
- investment in the form of concessions, B.O.T. systems and time-sharing (Unkovic, Kordic 2012, 17); (Zugic 2012, 43).

Foreign direct investments were the most common in the financing of the national economies of developing countries and countries in transition. In the second half of the eighties there was a stagnated movement of loan capital. After the culmination of the debt crisis, private capital has ceased to go to developing countries in the form of loans because the private sector has refrained from any new lending to developing countries, except in the form of direct investment (Kovac 1987, 275-276).

The role and importance of foreign direct investment on the economic growth of the country cannot be overemphasized and questionable. Even strong and stable economies of the world create a policy that will provide them with a favourable investment climate. Attracting foreign direct investments is a basic condition for increasing the production and exports of the host countries to a level that would allow a stable economic growth as well as successful servicing of the debts, therefore one of the main objectives of economic policy makers is to create an investment climate favourable for attracting foreign investors.

Today, we cannot imagine the economic and social development without investments. The need for investments can be achieved through implementation of various ideas, with more or less invested capital, with better use of the given investment conditions and with different economic and other investment activities. We know that investment capital is a limited resource and it is not possible to meet all investment needs. Therefore, the right investment solutions for investment in development companies do not come naturally, by itself. Investment capital is ensured by long-term savings and rational operations with the help of commercial banks, foreign direct investments and from other sources (Susic 2010, 59).

In the era of globalization, it is important to understand the business logic behind the investment, and the impact that these investments have on the growth of gross domestic product, the development of local economy and society as a whole. In addition, it is important to see the mistakes made by the developing countries in attracting FDI and based upon that to draw

lessons on how to create a more favourable investment environment in the future.

The inflow of funds through foreign direct investment is not only the inflow of capital, but the basis for increase in trade flows, economic growth and development and creating new jobs. Bosnia and Herzegovina, as a country in transition, needs foreign direct investments which would form the main driver of economic growth of the country in the coming period. Given the low level of domestic savings from which the development could be self-financed, lack of modern technology, as well as appropriate management skills, the aforementioned disadvantages can be offset by the arrival of foreign investors, who would bring new knowledge, experience and technological progress. Therefore, attracting foreign investors and their adaptation to the requirements through the accelerated process of reforms is one of the key tasks BiH and its entities are facing.

## **1. SOME SPECIFICS AND ESTIMATED FOREIGN DIRECT INVESTMENTS BY SECTIONS AND INDUSTRY IN THE GLOBAL MARKET, IN THE PERIOD FROM 1990 TO 2012**

The scope and intensity of macro-regional distribution of FDI at the global level in the dimension of time depend primarily on the state of the world economy, but also on many other factors. The dynamics of global FDI scene indicates, particularly in recent years, certain changes in the relation of developed countries – developing countries, which is very evident in Figure 1, and according to UNCTAD data, foreign direct investment in the world in 2012 amounted to 1.237,05 billion US \$ and are reduced for 18% compared to 2011, when they amounted to US \$ 1.508,6 billion (Figure 2).

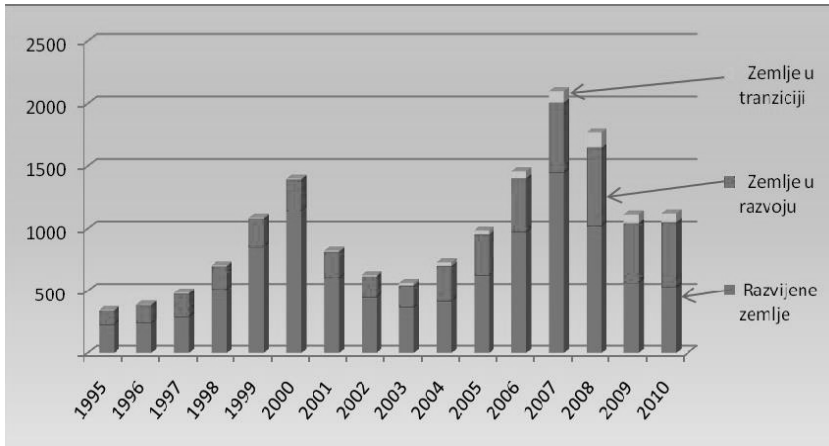


Figure 1. Global dynamics of FDI for 1995 – 2010 (in US\$ milliard) (UNCTAD 2011.)

This is a consequence of the instability in the global market and of a still unresolved debt crisis in the European Union, primarily in Greece and Cyprus. In 2011, compared to investments in 2010 FDI achieved an increase of 17%. In doing so, developing countries and transition countries have achieved greater participation in global FDI flows and FDI inflows to these countries. Together they exceed the value of 50% of total FDI flows in the world. In 2010 there was an increase in FDI, while in the remaining years of the observed period there was a decline of FDI in the world recorded. This is a consequence of the global recession and uncertainty in the markets caused by it.

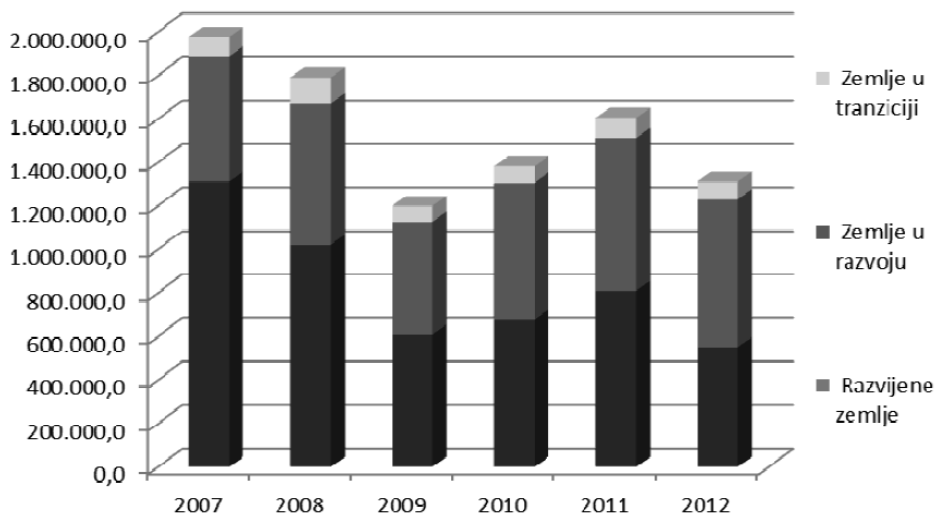


Figure 2. FDI in the world in milliard US\$ (UNCTAD 2013.)

The figure shows an overview of FDI in the world in the period from 2007 to 2012, in billions of US \$. What is interesting to explore in this paper is the fact that a large part of foreign direct investment is directed to the developed countries, more than 50% in the given period. A minor part of FDI inflow in the world goes to developing countries, and the lowest proportion to countries in transition. It is interesting that such a trend in the reporting period has changed in favor of countries in transition and developing countries. Such a trend is confirmed by the fact that FDI capital goes where it is safest, thus bypassing insecure areas. In this sense, transition countries are insecure areas for foreign investment due to the unresolved ownership relations. Developing countries are safer in this regard and therefore entitled to the higher volume of FDI inflows. Regardless of the security of investment in the developed countries, extremely high is share of FDI inflows into these countries. However, change of this trend in the reporting period, i.e. increase of the share of FDI in developing countries and countries in transition gives the impression of attempting to equalize the inflow of foreign di-

rect investment in the world. However, on the other hand, it can be seen that the larger share of FDI in developing countries and transition economies in the world is achieved because the smaller volume of FDI is disbursed in developed countries in the reporting period, while the volume of FDI in transition economies and developing countries is virtually unchanged. Global flows of FDI from 2004 to 2012 with projections for the period from 2013 to 2015, in milliards of US \$ are shown in Figure 3.

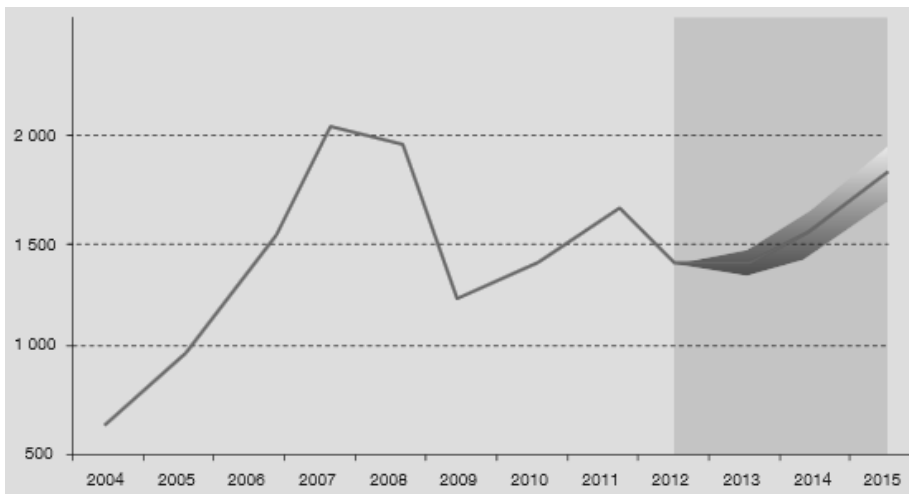


Figure 3. Global flows of FDI, since 2004 to 2012 with the projection for the period 2013 to 2015 in milliards US\$ (World Investment Report 2013.)

UNCTAD's projection is that the global FDI flows in 2013 will remain unchanged, and that in 2014 it will rise slightly, and that only in 2015 global FDI flows will record significant growth. It is anticipated that in 2015 global FDI flows will almost reach the level of 2007. According to this projection, global FDI flows will grow in future, and appreciating the projected growth in 2015, a full recovery from the global financial crisis will be achieved at the end of 2015. Table 1 shows estimations of foreign direct investment by sectors and industries, from 1990 to 2012 for the world, based on the UNCTAD source (United Nations Conference on Trade and Development).

UNCTAD is the principal body of the United Nations General Assembly dealing with trade, investment and development issues. The objectives of the organization are “maximized trade, investment and development opportunities of developing countries and assist them in their efforts to integrate into the world’s economy on an equal basis.”

The primary objective of UNCTAD is to formulate policy that relates to all aspects of development, including trade, aid, transport, finance and technology. The conference usually meets once in every four years, whereas the permanent secretariat is in Geneva.

Table 1. Estimated foreign direct investment by sectors and industry, 1990 i 2012  
in million dolar (UNCTAD)

Sector&Industry:	Years						
	1990			2012			
	Developed countries	Developing countries	World	Developed countries	Developing countries	Transition countries	World
<b>Total:</b>	<b>1 633 004</b>	<b>445 263</b>	<b>2 078 267</b>	<b>15 905 431</b>	<b>7 030 622</b>	<b>368 376</b>	<b>23 304 429</b>
<b>Primary</b>	156 750	24 099	180 849	1 082 493	593 272	63 251	1 739 016
Agriculture, hunting, forestry and fishing	3 600	4 207	7 806	19 915	58 803	2 976	81 694
Mining and quarrying, petroleum	153 150	17 795	170 945	1 052 836	534 460	60 275	1 647 571
Unspecified (primary)	-	2 097	2 097	9 742	10	-	9 752
<b>Manufacturing</b>	<b>659 895</b>	<b>153 422</b>	<b>813 317</b>	<b>3 831 896</b>	<b>1 997 986</b>	<b>84 747</b>	<b>5 914 629</b>
Food, drinks and tobacco	72 446	9 711	82 158	467 586	202 237	13 092	682 914
Textiles, clothing and leather	24 001	5 078	29 079	39 142	39 187	869	79 198
Wood and wood products	36 489	5 289	41 778	87 750	33 165	5 152	126 067
Coke, petroleum products and nuclear fuel	54 450	3 038	57 488	233 212	57 393	7 199	297 803
Chemicals and chemical products	130 178	46 716	176 894	755 232	237 893	4 335	997 461
Rubber and plastic products	13 448	1 979	15 427	58 091	33 617	1 464	93 172
Non-metallic mineral products	17 424	2 955	20 378	108 416	32 095	7 232	147 744
Metal and metal products	53 016	15 375	68 391	325 428	93 198	35 044	453 670

Electrical and Electronic Equipment	85 566	17 502	103 067	337 973	189 699	1 535	529 206
Machinery and equipment	55 558	9 689	65 247	195 669	83 706	2 031	281 406
Motor vehicles and other transport equipment	50 029	8 303	58 332	315 718	116 950	3 207	435 874
Other manufacturing	13 011	2 607	15 618	150 113	25 409	677	176 199
Unspecified (secondary)	54 280	25 180	79 460	757 566	853 437	2 912	1 613 914
<b>Services</b>	<b>807 117</b>	<b>166 973</b>	<b>974 090</b>	<b>10 379 165</b>	<b>4 358 311</b>	<b>216 624</b>	<b>14 954 101</b>
Electricity, gas and water	6 944	3 145	10 089	429 512	171 182	9 165	609 859
Construction	17 354	4 452	21 806	160 001	125 586	7 691	293 278
Trade	209 931	24 453	234 384	1 564 423	522 249	29 439	2 116 111
Transport, storage and communication	17 305	13 288	30 593	1 013 660	425 013	15 980	1 454 652
Hotels and restaurants	21 811	4 884	26 695	62 022	63 045	2 195	127 263
Finance	295 663	96 120	391 783	4 132 329	1 243 782	40 018	5 416 129
Business activities	131 519	16 211	147 730	2 732 040	1 681 636	107 838	4 521 515
Public administration and defence	-	61	61	17	15 851	0	15 868
Education	97	-	97	5 690	2 173	48	7 911
Health and social services	1 025	0	1 026	15 981	6 105	545	22 631
Community, social and personal services	13 799	18	13 818	16 311	43 587	3 591	63 489
Other services	51 644	3 004	54 648	36 329	37 233	114	73 677
Unspecified (tertiary)	40 023	1 337	41 360	210 848	20 869	-	231 717
<b>Unspecified</b>	<b>9 242</b>	<b>100 769</b>	<b>110 011</b>	<b>611 877</b>	<b>81 052</b>	<b>3 754</b>	<b>696 683</b>

Total investments were extrapolated based on data covering 51 countries in 1990 and 103 countries in 2012, or in the last year. These make up more than four-fifths of FDI in the world in 1990 and 2012. Only countries for which data for the three main sectors were available are included.

The distribution of the share of each industry in these countries was applied to evaluate in every sector and every industry on world level. In the case of some countries for which only approved data were available, the actual data are estimated using the relationship of the implementation of realized FDI and approved FDI (15% in 1997 for Indonesia, 56% in 1994 for Japan, 10% in 1990 and 8% in 1999 for Laos, 39% in 1990 and 34%

in 2005 for Myanmar, 41% in 1990 and 35% in 1999 for Nepal, 62% in 1995 for Sri Lanka, 73% in 1990 and 49% in 2012 for Taiwan). Total investments in 1990 include the countries in transition, although the data by sector and industry are not available for this region.

Wood and wood products include publishing, printing and media playback. Electrical and electronic equipment include optical products and precision instruments. Unspecified secondary involves the repair and installation of machinery and equipment as well as petroleum products, chemicals and medicines. Electricity, gas and water include waste management. Transport, storage and communication include information.

Multinational enterprises (MNEs) play a leading role in technological innovation, research and development of investment and patenting. Using different markets and their size, they often use the economy of scale and have greater financial capacity to invest in innovation, including risky innovative projects. They are in a better position than small and local companies and can attract talents to acquire sophisticated equipment, adopt comprehensive technology management tools, and build scientific networks with suppliers, customers, strategic partners, universities and public research institutes.

Table 2. provides an overview of assessments of FDI inflows in 10 developed countries for 2015 in billions of dollars.

Table 2. Estimates of FDI inflows in 10 developed countries for 2015 in billions of dollars. (UNCTAD)

USA	Hong Kong, China	China	Netherlands	Great Britain	Singapore	India	Brazil	Canada	France
384	163	136	90	68	65	59	56	45	44



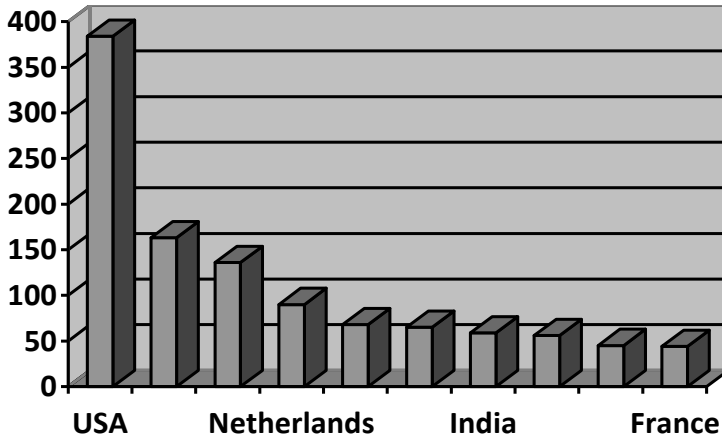


Figure 4. Data from Table 2. presented graphically (author)

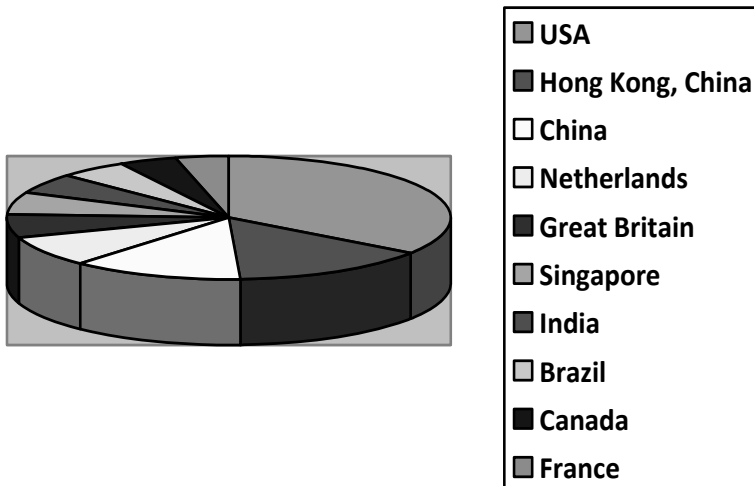


Figure 5. Data from Table 2. presented graphically (author)

However, improving macroeconomic conditions (related to global growth projected to reach 2.9% in 2016 compared to 2.4% in 2015) due to a modest recovery in developed countries, could strengthen investor confidence

and cause their productive investments and to strengthen their business plans. In addition, further depreciation of currencies in emerging markets and possible sale of assets to restructure debt of the company may also incur additional FDI.

## **2. EFFECTS OF FOREIGN DIRECT INVESTMENT**

### **2.1. Role and importance of foreign direct investment**

The growing role and importance of foreign direct investment as a form of financing the world economy has been continuously increasing during the second half of the twentieth century, and especially in his last decade. It is a period of numerous reforms in almost all parts of the world, the fall of the Berlin Wall and the unification of Germany, the cessation of the cold war, the reforms in China, the collapse of the Eastern Block and individual federal states (Soviet Union, Czechoslovakia, Yugoslavia), the transition of these and other countries from centrally-planned to a market economy. The opening of these countries and removing obstacles to the movement of capital, opened up opportunities for investment and intensive funding by inflow of foreign capital around the world. The modern process of globalization tends to erase the borders for flows of goods, people, capital and knowledge, while their main carriers are transnational corporations (Stakic 2007, 293). Foreign direct investment is a part of the international flow of capital, which in the past two decades achieved remarkable growth. Since the beginning of the 90s, the growth trend of FDI was recorded also in European transition countries, when they began the process of transforming their economies. FDI affected the growth of gross domestic product (GDP), generating of growth and stimulating exports of these economies. The experience of transition countries show that companies that are owned by foreign investors, achieve better results than the domestic, have two times higher labour productivity, salaries higher by 20-30%, using modern technology, employing a professional workforce, are more export-oriented and achieve greater profits (Vujic 2013, 77).

In addition to high technology, foreign direct investments bring complementary strengths, such as knowledge and experience in management

and entrepreneurial skills. By its presence, multinational enterprises are forcing local companies to innovate so as to preserve its market share and profit. In addition, they offer well-known brands (*brand names*) and enable access to regional and world market. Numerous studies in developing countries and countries in Eastern Europe have shown that the adoption of new knowledge and technologies affect the existing domestic business entities who acquire new knowledge through cooperation and imitation, fighting for the market. Furthermore, foreign companies send their employees to different trainings outside the country, while they use the acquired knowledge and skills in their country. New standards of business imposed by foreign companies on suppliers, shippers, propagandists, and even consumers themselves, are the ways in which new knowledge reach the domestic companies. Foreign direct investment in new production companies or expansion of existing ones, usually involve the creation of new jobs, which is one of the main priorities of each country.

The inflow of foreign direct investment is clearly seen as a key source of desirable inflow of foreign capital, but it should be noted that this investment can play a decisive role in the transformation of the production structure of the economy and the transfer of knowledge. FDI can significantly improve the export performance of the economy, especially in the case of “vertical“ type of investment. So, FDI simultaneously try to “win“ the domestic market but also to strengthen the export potential of the domestic economy.

Due to all these advantages brought by FDI (job creation, wage growth, the arrival of new capital, export growth, new technologies, and overall productivity increase) governments around the world establish agencies to attract investment and foreign investment. As the most important factors for investment decisions are the following: political and macroeconomic stability, market size, economic openness, the guarantee of property rights, a qualified workforce, infrastructure, tax and financial policies, the efficiency of public administration and the rule of law.

### 3. FOREIGN DIRECT INVESTMENT IN BOSNIA AND HERZEGOVINA

The state of Bosnia and Herzegovina on June 16<sup>th</sup> 2008 signed a Stabilisation and Association Agreement with the European Union and thus became a potential candidate for membership in this economic integration. This Agreement opens the door for Bosnia and Herzegovina when it comes to foreign direct investment and cooperation with the region and beyond.

According to data of the BH Central Bank from August 2015, the total foreign direct investment (state) in Bosnia and Herzegovina, as of December 31<sup>st</sup> 2014 amounted to 11.643 million or 11.6 milliard (5.953 million or a total of 6 milliard Euros). According to the BH Central Bank, investments in 2014 amounted to 378 million Euros and recorded an increase of 65.8% compared to 2013 (Figure 6). According to the structure of foreign direct investment in this year, the equity relates to 250.2 million KM (or 127.9 million Euro), retained earnings amounted to 84 million KM (42.9 million Euro), while the other capital amounted to 405.3 million KM (207.2 million Euro).

Thanks to the good reputation and the long industrial tradition in BiH, the most significant amount of foreign direct investment has been invested in the manufacturing sector 36%. A significant share in the overall inflow of foreign direct investment had a banking sector 20% (Figure 7).

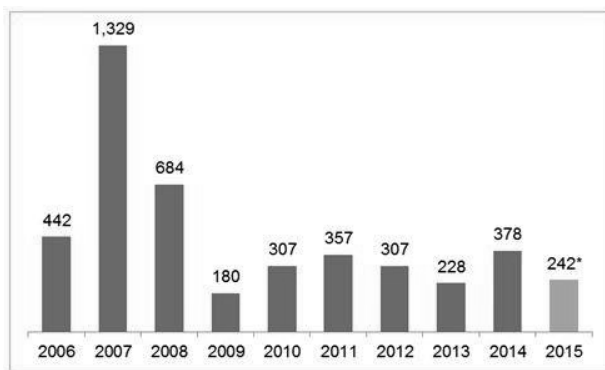


Figure 6: FDI Flows in Bosnia and Herzegovina, annually (in million Euro) (BH Central Bank)

\* 2015 preliminary data according to the balance of payments with an estimated retained earnings

The share of FDI by sector in BiH from May to December 2014 is shown in Table 3, a through diagram in Figure 7 and Figure 8.

Table 3. The percentage share of FDI by sector in BiH from May to December 2014.(Author, BH Central Bank)

Production	Banking	Telecommunication	Trade	Intermediation real estate	Services	Other finance services	Tourism	Transportation	Other
36%	20%	14%	11%	6%	4%	2%	2%	1%	4%

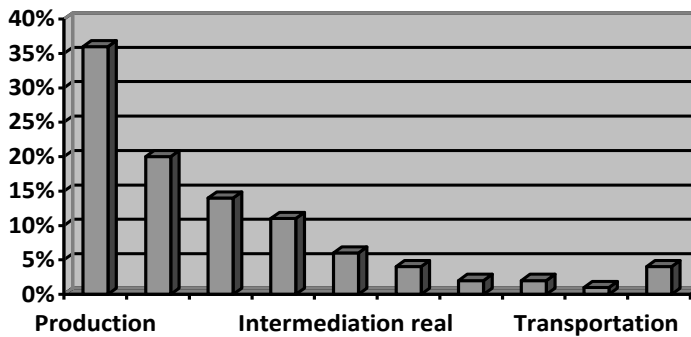


Figure 7: Percentage of FDI by sectors in BiH from May to December 2014 (Author)

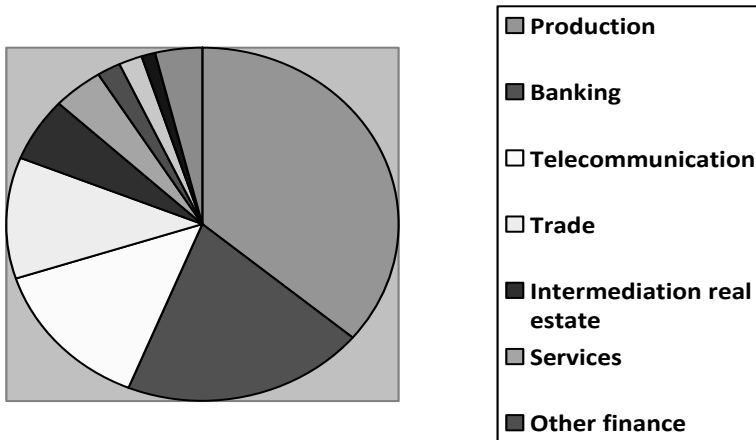


Figure 8: Percentage of FDI by sectors in BiH from May to December 2014 (Author)

## 1.1 Research using the Model of single linear regression

By applying the model of simple linear regression used to describe the relationship between the two phenomena where one phenomenon changes depending on the occurrence of other phenomenon (Peck & Vining 2012, 25), has only one independent variable which influences only one dependent variable, the dependence of GDP ( $Y_i$ ) from FDI ( $X_i$ ) for the period from 2009 to 2014 for Bosnia and Herzegovina was researched. This model shows the degree of correlation between the variables. The model is used to determine the direction, intensity, type and form of connections between phenomena. However, relations between phenomena in nature and society are dynamic and constantly changing. The link between these phenomena is usually not functional, because they depend on the laws of probability. This connection between phenomena is called stochastic relationship. Statistical relationships between phenomena differ from deterministic or functional relationships.

Stochastic connection means that the empirical value of an independent random variable ( $X = x$ ), when a larger number of repetitions of the experiment, corresponds to a greater number of realised values of the dependent random variable ( $y = y_1, y_2, \dots, y_n$ ), which can be predicted (Petrovic 2006, 173). The form of stochastic dependency of random variables ( $x, y$ ) is conditionally expressed in mathematical functions, which best describe the outcomes achieved from the dependent random variable ( $s$ ).

Correlation analysis consists of the application of procedures setting out the statistical indicators of the strength of statistical link between phenomena. Standardized measure of the strength of the statistical link between the phenomena presented by two quantitative variables is the correlation coefficient (Sosic 1998, 269). Since it is defined phenomena, the data can be displayed in the coordinate system. A set of these points is called a scatter plot from which the relationship between variables can be seen.

The correlation between phenomena can be positive and negative. When there is a positive correlation, a linear increase in one variable corresponds to a linear increase in other variable. If this correlation is complete, it takes the value  $r = 1$ . When a linear increase in one variable corresponds to a linear decrease in other variable, the correlation is negative. If the nega-

tive correlation is complete, its value is  $r = -1$ . However, in practice, it is not possible to get a complete correlation, and correlation coefficient has a value ranging from -1 to 1 and based on that, it is:

- from 0 to  $\pm 0.30$  weak correlation (bad influence of independent variable on the dependent one)
- from  $\pm 0.30$  to  $\pm 0.70$  medium correlation (medium impact of independent variable on the dependent one)
- from  $\pm 0.70$  to  $\pm 1$  strong correlation (strong influence of independent variable on the dependent).

In the single regression model, the following applies:

- The correlation coefficient ( $r$ ) cannot be greater than 1,
- The parameters  $b$ ,  $b'$  and  $r$  are always with the same sign,
- Regression lines intersect into the arithmetic environment,
- When the variable  $x$  is changed to 1, then  $Y_c$  is changed to  $b$ ,
- When the variable  $y$  is changed to 1, then  $X_c$  is changed to  $b$ .

The model is expressed as follows:

$$y = a + bx \quad (1)$$

$y$  – dependent variable,  
 $x$  – independent variable,  
 $a$  and  $b$  - the parameters.

Based on the above stated, using the single linear regression model in this study can be expressed as follows:

$$\text{GDP} = f(\text{FDI}) \quad (2)$$

GDP – dependent variable,  
 FDI – independent variable.

The data used in the application of the single linear regression model are given in Table 4, and were taken from the database of the Central Bank of Bosnia and Herzegovina.

Table 4. The data per for years for FDI and GDP in BiH (Central Bank of Bosnia and Herzegovina) in million EURO

YEAR	Xi (FDI)	Yi (BDP)	XY	X <sup>2</sup>	Y <sup>2</sup>
2009	180	12.700	2.286.000	32.400	161.290.000
2010	307	13.000	3.991.000	94.249	169.000.000
2011	357	13.400	4.783.800	127.449	179.560.000
2012	307	13.400	4.113.800	94.249	179.560.000
2013	228	13.700	3.123.600	51.984	187.690.000
2014	378	13.900	5.254.200	142.884	193.210.000
2015	375	14.400	5.400.000	140.625	207.360.000
$\Sigma$	<b>2.132</b>	<b>94.500</b>	<b>28.952.400</b>	<b>683.840</b>	<b>1.277.670.000</b>

The regression line for the dependent variable (GDP) is:

$$y = a + bx \tag{3}$$

Meaning:  $a = \bar{y} - b\bar{x} \tag{4}$

While:  $\bar{x} = \frac{\Sigma x}{n} \tag{5}$

$$\bar{y} = \frac{\Sigma y}{n} \tag{6}$$

Including the data in (5) and (6) it can be obtained:

$$\bar{x} = \frac{2.132}{7} = 304,60$$

$$\bar{y} = \frac{94.500}{7} = 13.500$$

To calculate B, the next formula should be used for b:

$$b = \frac{\Sigma xy - \bar{x} \Sigma y}{\Sigma x^2 - \bar{x} \Sigma x} \tag{7}$$



By inserting the data into the formula (7) the following result is as follows:

$$b = \frac{\sum xy - \bar{x} \sum y}{\sum x^2 - \bar{x} \sum x} = \frac{28952400 - 304,6 \times 94500}{683840 - 304,6 \times 2134} = \frac{167700}{35433}$$

By inserting the data into the formula (4) we receive the following result:

$$a = \bar{y} - b\bar{x} = 13500 - 4,73 \times 304,6 = 12059 \quad (8)$$

Based on the above, a linear regression for the dependent variable is:

$$y = a + bx = 12059 + 4,73x$$

As stated above, the function of GDP is:

$$BDP = a + b \times (FDI) = 12059 + 4,73 \times (FDI) \quad (9)$$

The coefficient of determination is calculated using the formula:

$$r^2 = \frac{a \sum y + b \sum xy - n\bar{y}^2}{\sum y^2 - n\bar{y}^2} \quad (10)$$

The inclusion of the data in Table 4, into the form (10) we get the following result:

$$\begin{aligned} r^2 &= \frac{a \sum y + b \sum xy - n\bar{y}^2}{\sum y^2 - n\bar{y}^2} \\ &= \frac{12059 \times 94500 + 4,73 \times 28952400 - 7 \times 182250000}{1277670000 - 7 \times 182250000} \\ &= \frac{770352}{1920000} = 0,401225 \end{aligned}$$

$$r = \sqrt{0,401225} = 0,63$$

Based on the calculated coefficient correlation of 0.63, we can conclude that there is a secondary effect of an independent variable on the dependent. The correlation is positive, whereas a linear regression shows that the increase in foreign direct investment in the fixed assets of 1 million Euros leads to an increase in GDP of 4.73 million EUR.

## CONCLUSION

The role and importance of foreign investment in the economic growth of a country cannot be overemphasized and questionable. Even strong and stable

economies of the world create a policy that will provide them with a favourable investment climate. Attracting foreign direct investment is a basic condition for increasing the production and exports of host countries to a level that would allow a stable economic growth, and the successful debt servicing, therefore one of the main objectives of economic policy makers is creating an investment climate favourable for attracting foreign investors. The inflow of funds through foreign direct investment is not only the inflow of capital, but also the basis for increased trade flows, economic growth and development and job creation. Bosnia and Herzegovina as a country in transition, needs foreign direct investments which would form the main driver of economic growth of the country in the coming period. Given the low level of domestic savings from which the development could be self-financed, the lack of modern technology, as well as appropriate management skills, the aforementioned disadvantages can be offset by the arrival of foreign investors, who would bring new knowledge, experience and technological progress. Therefore, attracting foreign investors and adapting to their requests through an accelerated process of reform is one of the key tasks BiH and its entities are facing. In the last seven years, based on surveys, it is evident that FDI in Bosnia and Herzegovina have a medium impact on GDP growth. It is necessary to create a more favourable climate for foreign direct investment so as to increase this impact and make it strong.

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## EKOLOŠKI PRIHVATLJIVO ODLAGANJE KOMUNALNOG OTPADA NA PODRUČJU REPUBLIKE SRPSKE

**Rezime:** *Otpadne materije nastaju kao posledica čovekovih svakodnevnih aktivnosti, a predstavljaju gubitak materije i energije. Porast proizvodnje otpadnih materija povezan je s privrednim rastom i povećanjem potrošnje. Otpadne materije i način na koji se njima upravlja uzrokuju emisije u vodu, vazduh i zemljište, koje mogu uticati na zdravlje čoveka i životnu sredinu. Veličina tog uticaja zavisi od kvantitativnih i kvalitativnih svojstava otpadnih materija, kao i načina na koji se s njima postupa. Kako bi se smanjili pritisci na životnu sredinu, društvo treba da osigura adekvatno skupljanje, transport i odgovarajuće krajnje zbrinjavanje otpadnih materija.*

*Glavna svrha upravljanja otpadom je pružanje usluga, a posebno uklanjanje otpada iz naselja sa ciljem obezbeđivanja higijenskih uslova života. Pružanje usluga je bio glavni cilj upravljanja otpadom do kraja XIX veka i još uvek jeste u mnogim zemljama u razvoju, dok je u Evropi dostigao uvođenje savremenih sanitarnih postrojenja.*

*Danas, upravljanje otpadom ispunjava visoke higijenske standarde, zbog čega javnost ne uviđa potrebu za navedenom uslugom, osim u vanrednim situacijama. Paralelno sa povećanjem proizvodnje i potrošnje, postaje očigledna rastuća potreba i uloga upravljanja otpadom kao „filtera“ između čovekovih aktivnosti i životne sredine, rezultirajući razvojem bezbednih i pouzdanih tehnologija kao što su: moderni sakupljački sistemi, insineratori i sanitarne deponije.*

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*Cilj rada je da se sagleda i analizira zbrinjavanje otpada na području Republike Srpske u toku 2015. godine, što podrazumeva skupljanje, transport i odlaganje otpada, koji je jedan od najvećih ekoloških problema. Analizirani su problemi infrastrukture, troškovi, organizacija, kvalitet usluga, briga za zaštitu životne sredine i uključenost javnosti u rešavanje ovakvih problema.*

**Ključne reči:** komunalni otpad, načini zbrinjavanja, deponija, područje.

**JEL klasifikacija:** Q5, Q53.

## UVOD

Otpadne materije nastaju u procesu prirodne biološke produkcije, proizvodnje, potrošnje. Otpadne materije su nepotrebne, štetne ili smetaju. Po mestu nastajanja, otpadne materije mogu biti komunalne, iz naselja i domaćinstva, i industrijske. Prema načinu postupanja, otpadne materije se mogu podeliti na:

- one koje se mogu iskoristiti u proizvodnji u kojoj su nastale ili u drugim proizvodnim procesima, ili da se prerađuju u sekundarne sirovine;
- otpadne materije koje se u prvobitnom obliku odlažu na deponije;
- otpadne materije koje se moraju preraditi posebnim postupcima kako bi postale neopasne po okolinu u toku deponovanja.

Jedan deo otpada čine materije organskog porekla, tj. otpaci od prerade i konzumiranja hrane, kao i tzv. zeleni otpad (lišće, trava, itd.). Najvažnija osobina zelenog otpada je da brzo truli i da se lako razgrađuje, uz širenje neprijatnih mirisa. Poseban epidemiološki značaj imaju organske otpadne materije koje nastaju kao posledica fizioloških izlučevina ljudi i životinja, koje sadrže brojne mikroorganizme, među kojima mogu biti i patogeni. Otpadne materije iz domaćinstva i industrije se brzo kvare i privlače ptice, glodare i insekte. Pojedini neorganski otpaci iz industrije, pa i domaćinstva, mogu biti štetni i toksični i njihovo nehigijensko odlaganje je opasno za zagađivanje zemljišta, podzemnih i površinskih voda.

Zbog toga otpadne materije treba sakupljati na mestu nastanka, odvoziti i odlagati ili iskorišćavati na ekološki prihvatljiv način da bi se sprečilo zagađivanje okoline. Danas postoji nekoliko načina dispozicije otpada, koji se primenjuju sa manje ili više uspeha i koji se dalje usavršavaju. To su: nekontrolisano deponovanje – zatrpavanje, kontrolisano deponovanje – zatrpavanje, spaljivanje sa korišćenjem energije, odvajanje korisnih sastojaka – recikliranje, biološka fermentacija, ubrzano kompostiranje i piroлиза (Kristoforović-Ilić 2002, 118).

Za današnje zbrinjavanje otpada, koje mora biti orijentisano ka definisanim ciljevima, važno je početi sa konzensusom o ciljevima. Konkretno, ako je procenjeno nekoliko opcija zbrinjavanja otpada za određeni region, neophodno je imati zajedničke ciljeve kao zajednički imenilac. Otpadne materije i načini na koji se otpadne materije tretiraju značajno se razlikuju među državama, u zavisnosti od njihove istorije, kulture i geografskog položaja.

S obzirom na to da se trenutno u zemljama u razvoju gotovo sav komunalni otpad deponuje, važno je da deponije održe razumne tehničke standarde, uključujući sakupljanje procednih voda i upravljanje deponijskim gasovima. Deponija je mesto za konačno odlaganje otpada. Ona je najstariji i najviše primenjivan način uklanjanja otpada. Kao deponije se koriste prirodna udubljenja, zemljišta nepovoljna za drugu namenu, veštačka udubljenja, kamenolomi, rudnici i slično. Deponije se najčešće koriste za komunalni otpad. U seoskim domaćinstvima na deponije se iznosi samo otpad koji se ne može iskoristiti, a u gradskim sav otpad, uključujući i industrijski. Poseban problem predstavlja odlaganje opasnog otpada. Postojećim pravilnikom određeni su uslovi sakupljanja, prevoza i deponovanja („Službeni glasnik Republike Srpske“ br. 111/13). Još uvek većina i velikih gradova kod nas nema posebne deponije ili objekte za čuvanje posebnog otpada. Dešava se često da se posebni otpad čuva na neodgovarajući, tj. opasan način, ili da se bez ikakve prethodne obrade zakopava na komunalnu deponiju. Međutim, ilegalna smetlišla i neadekvatne lokacije za odlaganje i dalje ostaju problem za zdravlje stanovništva. Deponovanje otpada predstavlja u najvećem broju slučajeva jedini vid zbrinjavanja otpada. U velikom broju slučajeva, deponovanje se izvodi na mestima koja za to nisu predviđena, na tzv. divljim deponijama. Odlaganje

otpada na divljim deponijama se obavlja u odsustvu bilo kakvih mera zaštite životne sredine od zagađenja otpadom. Utvrđivanje broja i osnovnih karakteristika postojećih deponija u regionu je od izuzetne važnosti za dalje planove sanacije takvih deponija, koje predstavljaju opasnost po životnu sredinu. Odlaganje otpada na deponiju treba da predstavlja poslednju meru u procesu upravljanja otpadom, kojoj se pribegava kada su sve druge opcije iskorišćene. Međutim, zbog značajno niže cene od većine drugih opcija, danas se deponovanje najviše koristi, dok se ostale metode tretmana izostavljaju. Pravilno deponovanje otpada podrazumeva sprovođenje niza tehničko-tehnoloških mera u cilju svođenja negativnog uticaja otpada na životnu sredinu na minimalnu meru (Djarmati 2008).

Cilj rada je da se sagleda i analizira zbrinjavanje otpada na području Republike Srpske u toku 2015. godine, što podrazumeva skupljanje, transport i odlaganje otpada, koji je jedan od najvećih ekoloških problema. Analizirani su problemi infrastrukture, troškovi, organizacija, kvalitet usluga, briga za zaštitu životne sredine i uključenost javnosti u rešavanje ovakvih problema. Polazeći od predmeta istraživanja, u radu bi trebalo proveriti i potvrditi nultu hipotezu. Nulta hipoteza istraživanja je da se na području Republike Srpske produkcija komunalnog otpada zbrinjava na ekološki prihvatljiv način. Ekološki prihvatljivi načini zbrinjavanja otpada podrazumevaju zaštitu životne sredine i zaštitu zdravlja stanovništva, zaštitu prirodnih resursa ili održivo korišćenje prirodnih resursa.

## **1. MATERIJAL I METODE RADA**

Kako bi se na što kvalitetniji način vršilo upravljanje komunalnim otpadom u Republici Srpskoj, područje je podeljeno na osam regija: banjalučka, prijedorska, dobojska, regija Mrkonjić Grada, bijeljinska, zvornička, sarajevsko-romanijska i istočno-hercegovačka (Pešević, 2009). Banjalučku regiju čine grad Banjaluka i opštine Gradiška, Srbac, Laktaši, Prnjavor, Čelinac, Kotor Varoš i Kneževo. Prijedorsku regiju čine opštine Krupa na Uni, Novi Grad, Kostajnica, Kozarska Dubica, Oštra Luka i grad Prijedor. Dobojska regija se nalazi u centralnom delu Republike Srpske i u njen sastav ulazi osam opština: Doboj, Derventa, Teslić, Brod, Petrovo, Modriča, Šamac i Vukosavlje. Regija Mrkonjić Grada predstavlja populacijski



najmanju regiju za zbrinjavanje komunalnog otpada u Republici Srpskoj. Bijeljinskoj regiji pripada pet opština: Bijeljina, Ugljevik, Lopare, Pelagićevo i Donji Žabar. Zvorničku regiju čini osam opština: Zvornik, Milići, Vlasenica, Han Pijesak, Srebrenica, Bratunac, Šekovići i Osmaci. Sarajevsko-romanijska regija predstavlja površinski najveću regiju za upravljanje otpadom u Republici Srpskoj. U svom sastavu ima 12 opština: Sokolac, Rogatica, Višegrad, Rudo, Čajniče, Foča, Kalinovik, Pale, Istočno Novo Sarajevo, Istočna Ilidža, Trnovo i Novo Goražde. Regija Istočna Hercegovina predstavlja najjužniju regiju Republike Srpske. Regiju sačinjava sedam opština: Trebinje, Bileća, Ljubinje, Nevesinje, Gacko, Berkovići i Istočni Mostar. Produkcija otpadnog materijala svakodnevnim čovekovim aktivnostima se povećava i danas je među najvećim ekološkim problemima. U toku 2015. godine su praćeni i analizirani načini zbrinjavanja otpadnih materija na području Republike Srpske u svih osam regija, kako bi se utvrdila infrastruktura, organizacija, kvalitet usluga, a sve u cilju brige za zaštitu životne sredine i zdravlja ljudi.

## 2. REZULTATI I DISKUSIJA

Banjalučka regija predstavlja najmnogoljudniju regiju u Republici Srpskoj, sa 447.347 stanovnika, koja se prostire na ukupno 4.730,45 km<sup>2</sup> (Zavod za statistiku RS). U banjalučkoj regiji ne postoje aktivne lokalne deponije, nego se sav komunalni otpad transportuje i odlaže na regionalnu deponiju u Ramićima. Sistem regionalizacije zaživeo je u banjalučkoj regiji, ali postoje problemi zato što je većina komunalnih preduzeća nespremno ušla u proces, sa neadekvatnom mehanizacijom i nepostojanjem potrebne infrastrukture, zbog čega su se pojavili ogromni troškovi transporta i deponovanja otpada. Izuzetak je opština Gradiška, koja je izgradila pretovarnu stanicu i smanjila dodatne troškove. Pored toga, u opštinama Gradiška, Srbac, Čelinac i Kotor Varoš ostale su deponije koje nisu više u upotrebi, sa ukupnom zapreminom od 376. 500 m<sup>3</sup> otpada, koje su samo delimično sanirane.-Regionalna deponija locirana je u severozapadnom delu Banjaluke, na lokalitetu Crkvine, u naselju Ramići, na levoj strani magistralnog puta (M4) Banjaluka–Prijedor (Kalamanda, Vujčić, Delić-Jović 2015, 282). Deponijom upravlja Javno preduzeće „DEP-OT“ iz Banjaluke, koje

je osnovano 2003. godine sa ciljem sanacije postojeće i izgradnje sanitarne deponije. Preduzeće su osnovali grad Banjaluka i opštine banjalučke regije: Gradiška, Prnjavor, Laktaši, Srbac, Kotor Varoš, Čelinac i Kneževo. U deponiji u Ramićima znatno su poboljšani uslovi odlaganja otpada, deponija je ograđena, uvedena je kontrola odlaganja, izgrađeni su propratni objekti za radno osoblje i ugrađena je vaga za merenje otpada, pri čemu se vrši i vizuelna kontrola dovezenog otpada. Prikupljaju se i prečišćavaju procedne vode, a trenutno je u izradi sistem za prikupljanje deponijskog gasa.



Slika 1. Vaga za merenje otpada na ulazu u deponiju      Slika 2. Deponija u Ramićima je propisno ograđena (autor u toku istraživanja)

Na osnovu podataka iz Republičkog zavoda za statistiku Republike Srpske, u prijedorskoj regiji je nastanjeno 167.533 stanovnika na površini 2.180,15 km<sup>2</sup>. Na području prijedorske regije upravljanje komunalnim otpadom obavljaju četiri komunalna preduzeća. Prikupljanje komunalnog otpada u opštinama Oštra Luka i Krupa na Uni vrše komunalna preduzeća iz Novog Grada i Prijedora. U prijedorskoj regiji 25.822 domaćinstva obuhvaćena su redovnim uslugama odvoza komunalnog otpada, što čini oko 60%. Razdvajanje komunalnog otpada na mestu nastanka nije zastupljeno u regiji, međutim, komunalna preduzeća iz Prijedora, Kozarske Dubice i Novog Grada vrše selektivno prikupljanje i razdvajanje papira i ambalažnog ot-

pada u krugu svojih preduzeća. Komunalna preduzeća u prijedorskoj regiji osim komunalnog otpada zbrinjavaju otpadne materije iz privrede i industrije. Komunalni otpad se prikuplja od 2.419 poslovnih subjekata. Deponovanje otpada u prijedorskoj regiji se obavlja na tri lokalne opštinske deponije: „Suca“ u Novom Gradu, „Kurevo“ na području opštine Prijedor i „Palijin park“ na području Kostajnice. Deponija „Suca“ u Novom Gradu ima površinu 2,7 ha, udaljena je 5 km od naseljenog mesta i neuređena je. Stanovnici naselja Suca žale se na širenje neprijatnih mirisa i prljavštine sa deponije blizu svojih kuća, kao i uticaj procednih voda na vodotok potoka Suca i reke Sane. Otpadne materije sakupljene na prostoru opština Novi Grad i Krupa na Uni odlažu se na ovu deponiju. Deponija „Kurevo“ počela je sa radom 1984. godine u Ljeskarama kod Prijedora kao opštinska deponija. Kapacitet deponije je oko 1.000.000 m<sup>3</sup> i omogućava odlaganje otpada u narednih dvadeset godina. Deponija je ograđena, ima čuvarsku službu i mehanizaciju za rad na deponiji, a predviđena je i izgradnja savremenog postrojenja za reciklažu sa mogućnošću korištenja otpada u proizvodnji energije. Na ovu deponiju otpad odlažu opštine: Prijedor, Kozarska Dubica, Oštra Luka, Kostajnica i Krupa na Uni. Deponija „Palijin park“ udaljena je 5 km od Kostajnice. Postojeća zona odlaganja otpada na ovoj deponiji ima površinu oko 5.500 m<sup>2</sup>. Deponija je ograđena, urađeni su obodni kanali, zacevljen je vodotok koji se povremeno javlja, izmešten je pristupni put i izvršeno je dovođenje električne energije na deponiju. Prijedorska regija ima mnogo ekoloških problema zbog postojanja „divljih“ deponija koje su identifikovane na 35 lokacija sa zapreminom od 44. 938 m<sup>3</sup> i svakodnevno se javljaju nove.

Dobojska regija se nalazi u centralnom delu Republike Srpske na površini od 3.091,34 km<sup>2</sup> sa 252. 201 stanovnika u osam opština: Doboj, Derventa, Teslić, Brod, Petrovo, Modriča, Šamac i Vukosavlje. Usluge zbrinjavanja komunalnog otpada u dobojskoj regiji obavljaju opštinska komunalna preduzeća. U ruralnim područjima se ne pružaju komunalne usluge prikupljanja otpada. Međutim, komunalna preduzeća zbog neisplativosti prikupljanja otpada iz udaljenih područja nisu uzela u obzir činjenicu da nepružanje komunalnih usluga sa takvih lokacija može proizvesti veće troškove u budućnosti prilikom sanacije divljih deponija-ili obnavljanja zagađenog zemljišta i podzemnih voda. Komunalni otpad sa urbanih de-

lova opština Doboj, Teslić, Derventa, Modriča i Šamac sakuplja se svakodnevno po ustaljenim rutama. U prigradskim naseljima i mesnim zajednicama komunalni otpad se prikuplja jednom sedmično ili jednom do dva puta mesečno. Broj domaćinstava obuhvaćen redovnom uslugom prikupljanja komunalnog otpada u dobojskoj regiji je 22.829, što je oko 45% pokrivenosti. U dobojskoj regiji ne postoji selektivno prikupljanje komunalnog otpada, ali u Doboju i Derventi postoje reciklažni centri, gde se komunalni otpad razvrstava i plasira na tržište sekundarnih sirovina. Deponovanje otpada u dobojskoj regiji komunalna preduzeća vrše na deponiji „Karabegovac”, koja se nalazi na teritoriji grada Doboj i tom deponijom upravlja KP „Progres“. Na deponiji su urađeni osnovni građevinski radovi da se deponija unapredi, da se stvori stabilnost, smanji mogućnost nastanka požara i sleganja tla deponije i da se osigura dalje odlaganje otpada na ispravan način. h

Regija Mrkonjić Grada, sa 38.810 stanovnika, predstavlja populacijski najmanju regiju za zbrinjavanje komunalnog otpada u Republici Srpskoj. Na površini od 2.075,54 km<sup>2</sup> smešteno je sedam jedinica lokalne samouprave: Mrkonjić Grad, Šipovo, Jezero, Kupres, Ribnik, Istočni Drvar i Petrovac. Poslednjih pet lokalnih samouprava su uglavnom ruralnog karaktera, što se odražava na sistem upravljanja komunalnim otpadom. U opštinama Jezero, Ribnik i Petrovac komunalne usluge pružaju komunalna preduzeća tih opština, dok se u opštinama Istočni Drvar i Kupres ne vrši organizovano prikupljanje komunalnog otpada. U regiji Mrkonjić Grada prikuplja se neselektivni komunalni otpad iz domaćinstava, privrede i industrije, nije zastupljeno prikupljanje sekundarnih sirovina. Deponovanje otpada u regiji Mrkonjić Grada vrši se na lokalne opštinske deponije koje se mogu kategorisati kao neuređene. Deponija „Podovi” na teritoriji Mrkonjić Grada ne zadovoljava ni osnovne ekološke standarde. Na deponiju se nekontrolisano odlaže otpad (domaćinstva, ugostiteljske radnje, uginule životinje, građevinski otpad, piljevina itd.), što predstavlja veliki ekološki problem. Odlaganje otpada na deponiju u opštini Šipovo započeto je 1983. godine. Lokacija deponije je u direktnom kontaktu sa životnom sredinom, neuređena je, neizolovana, nema ogradu i ostale važne elemente. Deponija je locirana na predelu planine Lisina, na nadmorskoj visini od 1.244 metra. Od reke Plive udaljena je 5 km, a od centra grada 7 km i predstavlja stalnu

opasnost i izvor zagađenja pitke vode za stanovništvo Šipova i Mrkonjić Grada, koje se snabdeva pitkom vodom sa obronaka Lisine. Do danas je na ovu neuređenu deponiju odloženo oko 35.000 tona otpada.

Prema regionalnoj podeli zbrinjavanja otpada na području Republike Srbije, bijeljinskoj regiji pripada pet opština: Bijeljina, Ugljevik, Lopare, Pelagićevo i Donji Žabar, na površini 1.360,73 km<sup>2</sup>, sa 149.187 stanovnika. Komunalni otpad u bijeljinskoj regiji se redovno prikuplja od 18.547 domaćinstava. U bijeljinskoj regiji komunalni otpad se odlaže na regionalnu sanitarnu deponiju „Brijesnica“, koja se nalazi u zapadnom delu opštine Bijeljina i udaljena je oko 2 km od periferije grada (sa istočne strane) i oko 1,5 km od najbližih regija naselja sa severozapadne i zapadne strane. Površina deponije „Brijesnica“ iznosi 220.755,78 m<sup>2</sup> i pravac pružanja je severozapad–jugoistok. Na severnom delu lokacije nalazi se staro gradsko smetlište površine oko 4.400 m<sup>2</sup>, na koje se još uvek odlaže otpad. Kapacitet kompaktovanja otpada na regionalnoj sanitarnoj deponiji „Brijesnica“ je oko 200 tona dnevno. Ovom deponijom upravlja Javno preduzeće „Eko-Dep“ Bijeljina, osnovano 2005. godine. Deponija „Brijesnica“ je 2010. godine izgrađena i puštena u rad sa ciljem sanacije postojeće i izgradnjom nove, sanitarne, od kada se kontinuirano vrši monitoring deponije kojim su obuhvaćeni svi parametri u skladu sa važećim zakonskim propisima o deponijama otpada. Trenutno je završena prva faza izgradnje, koja je obuhvatila izgradnju dve od ukupno četiri sanitarne ćelije, kao i izgradnju drugih građevinskih objekata i nabavku specijalizovane opreme i mašina (buldožer, kamion kiper i traktor sa raznim priključcima). Prva faza je u potpunosti urađena u skladu sa direktivama Evropske unije koje regulišu oblast zaštite životne sredine, odnosno upravljanje komunalnim otpadom. U sanitarne ćelije za odlaganje komunalnog otpada ugrađeni su zaštitni izolacioni materijali – specijalne geofolije koje garantuju zaštitu podzemnih voda, sistem za prikupljanje procednih voda, sistem za sakupljanje biogasa i interna saobraćajnica za potrebe deponije.



Slika 3. Deponija „Brijesnica“ (autor u toku istraživanja)

Kompletna površina deponije je ograđena, izgrađena je ulazno-izlazna zona sa digitalnom vagom nosivosti 60 t i postrojenje za pranje i dezinfekciju točkova i donjeg postolja vozila pre izlaska sa deponije. „Divlje“ deponije nisu čest prizor u bijeljinskoj regiji. Odlagališta otpada u bijeljinskoj regiji nalaze se na 13 lokacija, ukupne zapremine 122.925 m<sup>3</sup>. Na površini od 2.339,11 km<sup>2</sup> zvrničke regije živi 142.861 stanovnik. Zvrničku regiju čine opštine Zvornik, Milići, Vlasenica, Han Pijesak, Srebrenica, Bratunac, Šekovići i Osmaci. Upravljanje komunalnim otpadom u zvrničkoj regiji obavljaju komunalna preduzeća čiji su većinski vlasnici opštine. Delatnosti komunalnih preduzeća su različite. U opštinama Zvornik, Han Pijesak, Milići, Osmaci, Šekovići i Srebrenica, pored usluga prikupljanja, transporta i deponovanja otpada, primarne delatnosti su distribucija vode za piće i održavanje kanizacione mreže. Zvrničku regiju prate uglavnom isti problemi kod zbrinjavanja otpada kao i u drugim delovima Republike Srpske. Posebno treba spomenuti odlaganje otpada na lokalne deponije, koje su uglavnom smeštene na neadekvatnim lokacijama, neograđene su (osim u Zvorniku), otvorenog su tipa, ne vrši se pokrivanje inertnim materijalom i nemaju rešen problem procednih voda. Gradska deponija u Zvorniku, na kojoj se svakodnevno vrši spaljivanje otpada, smeštena je u industrijskoj zoni Karakaj, na samoj

obali reke Drine, što je čini veoma ekološki rizičnom po životnu sredinu u ovom području. Odvoz i odlaganje otpada iz opštine Šekovići vrši se na privremeno odlagalište „Mali Lug“, koje se nalazi 4 km od centra naselja i zauzima površinu od 0,85 ha. Lokalitet deponije može se oceniti kao veoma nepovoljan, jer je smešten između lokalnog puta R-455 Šekovići i vodotoka Drinjača. KP „Čistoća“ iz Vlasenice odlaže otpad na privremenu gradsku deponiju smeštenu u mesnoj zajednici Simići, ukupne površine 4 ha. Godišnje se na deponiju odloži oko 3.690 tona neselektivnog otpada. Za odlaganje otpada u opštini Milići koristi se neuređena deponija koja se nalazi na lokalitetu rudnika boksita, gde se ne obavlja eksploatacija rude. Posebno su izraženi problemi deponovanja otpada u zimskom periodu zbog loše saobraćajne infrastrukture koja vodi na deponiju. Trenutno je u izgradnji regionalna sanitarna deponija „Crni vrh“ u pograničnom delu opština Osmaci i Zvornik, godišnjeg kapaciteta 41.500 tona. „Divlje“ deponije u zvorničkoj regiji nalaze se na nekoliko lokacija: Zvornik, Bratunac, Milići, Srebrenica i Vlasenica. Na području opštine Zvornik, „divlje“ deponije se nalaze na području naselja Branjevo, Tršić i Karakaj.

Sarajevsko-romanijska regija, sa 5.084,83 km<sup>2</sup>, predstavlja površinski najveću regiju za upravljanje otpadom u Republici Srpskoj. Ovu regiju čini 12 opština: Sokolac, Rogatica, Višegrad, Rudo, Čajniče, Foča, Kalinovik, Pale, Istočno Novo Sarajevo, Istočna Ilidža, Trnovo i Novo Goražde, u kojima je nastanjeno 151.883 stanovnika. Upravljanje komunalnim otpadom u sarajevsko-romanijskoj regiji obavlja 11 komunalnih preduzeća koja se nalaze u većinskom vlasništvu opština kojima pripadaju. KP „Rad“, sa sedištem u Istočnom Novom Sarajevu, obavlja zbrinjavanje otpada gradskih opština Istočno Novo Sarajevo, Istočna Ilidža i Trnovo. Primarna delatnost komunalnih preduzeća je prikupljanje, transportovanje i odlaganje otpada. Zbrinjavanje komunalnog otpada u svim opštinama sarajevsko-romanijske regije se vrši u urbanim delovima, gde su u pojedinim opštinama uključene prigradske mesne zajednice. U odnosu na ukupan broj stanovnika u ovoj regiji, svega 37% produkovanog komunalnog otpada se organizovano sakuplja i zbrinjava. Organizovano sakupljanje otpada u svim opštinama obuhvata otpad iz nekoliko izvora: domaćinstva, ustanove (izvori nekomercijalnog tipa), otpad iz komercijalnih izvora (komercijalnog tipa), otpad koji po sastavu ne odstupa

značajno od komunalnog otpada i nema karakteristike opasnog otpada, medicinski otpad (zajedno bezopasan i opasan otpad) i otpad nastao kao produkt rada komunalne službe, otpad od čišćenja ulica, uređenja zelenih površina itd.

Regija Istočna Hercegovina predstavlja najjužniju regiju Republike Srpske, ukupne površine 3.753,79 km<sup>2</sup>, u kojoj je naseljeno 78.528 stanovnika. Regiju sačinjavaju opštine: Trebinje, Bileća, Ljubinje, Nevesinje, Gacko, Berkovići i Istočni Mostar. U svim opštinama istočno-hercegovačke regije trenutno kao jedina mogućnost upravljanja kako komunalnim, tako i industrijskim i opasnim otpadom (medicinski, industrijski i ostali opasni otpad) jeste odlaganje na lokalne deponije, pri čemu su deponije uglavnom nedovoljno tehnički opremljene i uređene. Sakupljanje komunalnog otpada vrše komunalna preduzeća koja se nalaze u većinskom vlasništvu opština u kojima posluju. Izuzetak je opština Istočni Mostar, koja nema organizovanog zbrinjavanja komunalnog otpada i gde se povremeno angažuje KP „Komus“ iz Nevesinja. Sve opštine istočno-hercegovačke regije imaju probleme sa „divljim“ odlagalištima otpada u ruralnim delovima svojih teritorija. U Bileći na nekoliko lokacija u gradu postoje „divlje“ deponije na kojima se odlaže komunalni otpad i ostaci od obrade kamena.

U Republici Srpskoj trenutno poslove sakupljanja i transporta otpada obavljaju pedeset tri preduzeća. Pojedine opštine u kojima se vrši organizovano zbrinjavanje komunalnog otpada nemaju preduzeća za ovu namenu nego se angažuju preduzeća iz susednih opština. Delatnosti komunalnih preduzeća su raznovrsne, mnogobrojne i razlikuju se od preduzeća do preduzeća. Primarna delatnost većine preduzeća odnosi se na prikupljanje, transportovanje i odlaganje komunalnog otpada na deponije. Organizovano prikupljanje selektivnog komunalnog otpada u Republici Srpskoj ne postoji i nije u upotrebi. Urbani delovi opština i prigradska naselja su veoma dobro organizovani u sistemu prikupljanja otpada uprkos nedostatku modernih vozila za sakupljanje otpada i nedovoljnom kapacitetu kontejnera, kao i problemima sa finansiranjem. Međutim, problemi su izrazito izraženi u nepokrivenosti usluga u ruralnim delovima opština, što je posledica neodgovarajuće infrastrukturne opremljenosti, dostupnosti, organizacije i nedovoljnih finansijskih sredstava. Na osnovu toga se može konstatovati da je pokrivenost uslugama prikupljanja otpada nedo-



voljna. Prema dostupnim podacima, stopa prikupljanja otpada u Republici Srpskoj iznosi 67,6%. U Republici Srpskoj ograničeno odlaganje otpada vrši se na tri načina: regionalne sanitarne deponije, lokalne opštinske deponije i divlje deponije. Regionalne sanitarne deponije su higijenski, zdravstveno i ekološki prihvatljiv način zbrinjavanja otpada, ali sanitarna deponija je veoma skup objekat ograničenog kapaciteta za prihvatanje otpada. Do danas su u Republici Srpskoj izgrađene, adaptirane i stavljene u funkciju dve regionalne sanitarne deponije: u Ramićima kod Banjaluke i „Brijesnica“, kod Bijeljine. Sa ovako skupim i značajnim objektima treba postupati racionalno. Cilj je da deponije što duže traju. Da bi deponija komunalnog otpada što duže trajala, potrebno je razviti sistem odvojenog prikupljanja i iskorišćavanja otpada (ponovna upotreba, reciklaža, kompostiranje i dr.). Sanitarne deponije su daleko sigurnije za okolinu i najbolje moguće rešenje.

Lokalne opštinske deponije su odlagališta otpada u osam regija na području Republike Srpske, u kojima nisu izgrađene regionalne sanitarne deponije. U Republici Srpskoj postoji 41 lokalna opštinska deponija komunalnog otpada. Upravljanje odlagalištima otpada je u nadležnosti opština, a preneseno je na lokalna komunalna preduzeća. Komunalna preduzeća vrše odlaganje otpada na deponije, podmiruju troškove deponovanja i vrše održavanje i potrebne sanacije deponije. Međutim, zbog teške ekonomske situacije, nedostatka potrebne mehanizacije i nedovoljne angažovanosti pojedinih komunalnih preduzeća, lokalne deponije se nalaze u veoma lošem stanju i uglavnom ne zadovoljavaju osnovne kriterijume ekološki prihvatljivih deponija niti su propisno pripremljene za takvu namenu. Većina odlagališta se nalazi na neadekvatnim i, sa ekološke tačke gledišta, neprihvatljivim lokacijama, gde postoje negativni uticaji na životnu sredinu. Tako se pojedine deponije nalaze u neposrednoj blizini naseljenih mesta, plavnih i rečnih područja, gde otpad prilikom povećane količine padavina završava u obližnjim potocima i rekama, a i veoma je malo učinjeno na sprečavanju da podzemne vode, koje se skupljaju unutar slivnog područja obližnjih brda, prodru do otpada. Pored problema sa vodom, česte pojave su požari na deponijama. Osim opasnosti koju požar predstavlja za susedna područja, uključujući štetu od velikih šumskih požara, dimni gasovi koji nastaju sagorevanjem otpadnih materija sadrže otrovne smese štetne po zdravlje. Zbog

otvorenog tipa deponovanja otpada, pri čemu se uglavnom ne vrši obrada i sabijanje otpada, postoji opravdana zabrinutost za zdravstveni i sigurnosni rizik zbog mogućeg širenja bolesti i infekcije zbog pristupa mogućih prenosnika zaraze (muve, glodari, ptice itd.). Od ukupno 41 lokalne deponije, 49% se odnosi na potpuno neuređene deponije, odnosno deponije na kojima ne postoji građevinsko-tehnička opremljenost niti kontrola deponovanja otpada. U devet opština Republike Srpske postoje uređene lokalne deponije, koje su delimično sanirane i poseduju osnovne mere kontrole deponovanja. Ovakve deponije se nalaze u Trebinju, Gacku, Foči, Palama, Doboju, Tesliću, Mrkonjić Gradu, Prijedoru i Kostajnici. Treći i najčešći način na koji stanovnici Republike Srpske zbrinjavaju otpad su „divlje“ deponije. „Divlje“ deponije su nelegalna odlagališta koja zauzimaju mali prostor i sadrže ograničene količine otpada, a najčešće se formiraju neposredno uz put u blizini naseljenog mesta, a vrlo čest slučaj je da se otpadni materijal deponuje uz korito reke ili u napuštenim iskopinama kamena i šljunka, kao i na zemljištu koje je u privatnom posedu. Ljudi često odlažu otpad u nedopuštenim područjima kako bi se izbeglo plaćanje naknade ili trud potreban da bi se pravilno odložio na sanitarnim deponijama ili centrima za recikliranje. Materijali koji se nalaze na lokacijama divljih deponija su najčešće stare gume, aparati koji sadrže freon, akumulatori, građevinski otpad (suhozid, krovništa, daska, cigle, beton, itd.), napuštena vozila, autodelovi, aparati, nameštaj, dvorišni otpad, kućanski otpad, medicinski otpad itd. „Divlje“ deponije smanjuju kvalitet života, negativno utiču na biljni i životinjski svet, predstavljaju opasnost za ljude, posebno decu, postaju mesta za razmnožavanje glodara, insekata i drugih štetočina, narušavaju zemljište i uništavaju stanište divljih životinja, zagađuju površinske i podzemne vode. Jedan od najvažnijih poslova za rešavanje ovih problema je promena navika u ponašanju i edukacija stanovništva.

## ZAKLJUČAK

Na osnovu dobijenih podataka o konstantanom rastu i proizvodnji otpada, povećanju ekoloških i zdravstvenih problema prouzrokovanih neprimernim rukovanjem otpadom, smanjivanjem kapaciteta za odlaganje otpada, kao i različitih zakonodavnih i političkih uslova na području Republike Srpske, može se izvesti nekoliko zaključaka..

Sadašnje stanje količina, vrsta i sastava otpada u Republici Srpskoj veoma je teško tačno utvrditi. Osnovni razlog je nedostatak podataka o kvalitativnoj i kvantitativnoj analizi otpada, tačnije u vođenju evidencije o količinama, utvrđivanju karakteristika i sastava.

U Republici Srpskoj ne postoji selektivno razdvajanje pojedinih vrsta komunalnog otpada, tako da komunalni otpad predstavlja mešavinu kućnog i komercijalnog otpada, otpada s pijaca i iz lokalnih industrijskih preduzeća. Zbog toga je teško odrediti sastav otpada za svaku opštinu u Republici Srpskoj, zbog široke razlike u nivou životnog standarda između raznih zajednica i između urbanih i ruralnih sredina.-

Sakupljanje i transport otpada predstavlja jednu od najznačajnijih karika u sistemu upravljanja otpadom. U Republici Srpskoj, zbrinjavanje komunalnog otpada nalazi se u nadležnosti jedinica lokalne samouprave, saglasno odlukama o zbrinjavanju otpada i drugim delatnostima u kojima je definisan nivo usluga i način formiranja cene usluga.

U urbanim delovima opština i prigradskim naseljima veoma su dobro organizovani sistemi prikupljanja otpada uprkos nedostatku modernih vozila za sakupljanje otpada.

Selektivno prikupljanje otpada i reciklaža u Republici Srpskoj nalazi se u fazi začetka, ali su primetna značajna poboljšanja komunalnih usluga. Međutim, otpad se još uvek u najvećoj meri, bez ikakvog tretmana, nakon sakupljanja odlaže direktno na deponije. ----

Postoji određeni broj inicijativa komunalnih preduzeća za razvrstavanje komunalnog otpada i reciklažu. Prvenstveno se razvrstavaju sekundarne sirovine: papir, plastika (PET ambalaža i plastična folija) i metal, koje se dalje prodaju preduzećima za reciklažu i promet otpadom. Značajnije inicijative u oblasti reciklaže zapažene su od strane privatnih preduzeća, koja su prepoznala poslovne mogućnosti.---

Najprihvatljivija mogućnost upravljanja otpadom u Republici Srpskoj, kako komunalnim tako i industrijskim, medicinskim i opasnim otpadom jeste odlaganje na deponije, pri čemu je većina odlagališta na neadekvatnim lokacijama ili tehnički neopremljena. Većina odlagališta nalazi se na neadekvatnim i, sa ekološke tačke gledišta, neprihvatljivim lokacijama, gde postoje negativni uticaji na životnu sredinu.

Odlaganje otpada u Republici Srpskoj vrši se na regionalnim sanitarnim deponijama (Banjaluka i Bijeljina), lokalnim opštinskim deponijama i divljim deponijama.

Na osnovu istraživanja, opovrgnuta je nulta hipoteza da se na području Republike Srpske produkcija komunalnog otpada zbrinjava na ekološki prihvatljiv način.

Uspješno zbrinjavanje otpada počinje prevencijom nastajanja otpada. Jedan od najvećih problema politike za zaštitu životne sredine u Republici Srpskoj predstavlja neadekvatno i nedovoljno razvijeno postupanje s otpadom. Ovakvo stanje prvenstveno je posledica slabog i nedovoljno izgrađenog stava društva prema otpadu, kao i neobrazovanosti i nerazumevanja pitanja koliko je važan sistem održivog upravljanja otpadom, te neshvatanja pozitivnih efekata ovog procesa.

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Original scientific paper

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## ENVIRONMENTALLY FRIENDLY WASTE MANAGEMENT IN THE REPUBLIC OF SRPSKA

**Summary:** *Waste products are generated as a result of human daily activities and represent a loss of matter and energy. The increased production of waste materials is associated with economic growth and increased consumption. Waste materials and the way they are managed cause emissions to water, air and soil, which may affect human health and the environment. The magnitude of this impact depends on the quantitative and qualitative characteristics of waste materials and the way they are treated. In order to reduce the negative impact on the environment, society should ensure adequate collection, transportation and final disposal of waste materials. The main purpose of waste management is to provide the waste removal from the settlements in order to ensure hygienic living conditions. The provision of services has been the main objective of waste management since the end of the nineteenth century in many developing countries, while in Europe modern sanitary facilities were introduced. Today, waste management meets the high hygienic standards, which is why the public does not see the need for these services, except in emergency situations. In parallel with the increase of production and consumption, the role of waste management as a “filter” between human activities and the environment is growing. This results in the development of safe and reliable technology such as modern gatherer systems, incinerators and sanitary landfills. The aim of this paper is to examine and analyze the waste management in the Republic of Srpska in 2015, including the collection, transport and disposal of waste as one of the biggest environmental problems. The problems of infrastructure, costs, organization, quality of service, concern for environmental protection and public involvement in solving these problems are analyzed and discussed as well.*

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**Key words:** *municipal waste, methods of disposal, landfill, area*

**JEL Classification:** *Q5, Q53*

## INTRODUCTION

Waste products are generated in the process of natural biological production, production and consumption. Waste products are unnecessary, damaging or interfering. According to the place of formation, waste materials can be industrial, communal and household. According to the method of handling, waste materials can be divided into:

- those that can be used in the production in which they arise or in other manufacturing processes or to be processed into secondary raw materials
- waste products disposed in landfills in its original forms
- waste materials that must be processed by special procedures to become harmless to the environment during the depositing.

One part of waste are organic waste materials, ie. waste leftovers from processing and consumption of food, as well as so-called. green waste (leaves, grass, etc.). The most important feature of green waste is that it rots quickly and easily breaks down with the spread of malodours. Of special epidemiological importance are organic waste materials which occur as a result of physiological secretions of humans and animals, containing a number of microorganisms, including pathogens. Waste materials from households and industry can be harmful and attract birds, rodents and insects. Some non-organic wastes from industry, including household, can be harmful and toxic and their unhygienic disposal are the risk of contamination of soil, groundwater and surface water.

Therefore, the waste matter should be collected on the site, transported and disposed of or exploited in an environmentally friendly manner to avoid environmental contamination. Today there are several ways of waste disposal, which are applied and improved with more or less success. These are: uncontrolled disposal - filling, controlled disposal - filling, incineration with energy use, separation of useful components - recycling, bio-fermentation, rapid composting and pyrolysis (Kristoforović-Ilic 2002, 118). With the current way of waste disposal, which must be oriented towards



defined objectives, it is important to begin with a consensus on the objectives. In particular, if there are some options of waste disposal for a specific region, it is necessary to have common goals as a common denominator. Waste materials and the ways in which waste products are treated differ significantly between countries depending on their history, culture and geographical location.

Since almost all municipal waste is deposited in developing countries, it is important that landfills maintain reasonable technical standards, including the collection of leachate and landfill gas management. The landfill is a site for final disposal of waste. It is the oldest and most applied method of disposing of waste. As landfill use natural depressions, land unsuitable for other purposes, artificial cavities, quarries, mines and the like. Landfills are commonly used for municipal waste. Only the waste that cannot be used is put in landfills is in rural households, while in the city all waste is deposited there, industrial included. A particular problem is the disposal of hazardous waste. The existing ordinance stipulates the conditions for the collection, transportation and disposal (Official Gazette of the Republic of Srpska, number 111/13). Still, in most of the major cities in our country there are no special landfills or facilities for storage of special waste. Thus, often, a special waste is kept inappropriately, ie. in dangerous way or it is buried the municipal landfill without any prior treatment. However, illegal landfills and inadequate disposal sites still remain a problem for the health of the population. In most cases waste disposal represents the only form of waste disposal. In many cases, deposition is performed in places not provided for them, the so-called. illegal dumps. The waste disposal in illegal dumps is done in the absence of any protective measures against environmental pollution. Determining the number and the main characteristics of the existing landfills in the region is of great importance for the further rehabilitation of such landfills that pose a threat to the environment. The disposal of waste in landfills should be the last resort in the waste management process. However, due to significantly lower prices than for most other options, disposing is the most popular method, while other methods of treatment are rarely used. The proper disposal of waste includes the implementation of a series of technical and technological measures to minimize the negative impact of waste on the environment (Gyarmati, 2008).

Bearing all this in mind, the aim of this paper is to examine and analyze the waste management in the Republic of Srpska in 2015, including the collection, transport and disposal of waste as one of the biggest environmental problems. The problems of infrastructure, costs, organization, quality of service, concern for environmental protection and public involvement in solving these problems are all analyzed. Based on the research subject in the paper, the null hypothesis is checked. The null hypothesis is that the production of municipal waste in the Republic of Srpska is disposed in an environmentally friendly manner. The environmentally friendly ways of waste management include the protection of the environment and protection of public health, protection of natural resources and sustainable use of natural resources.

## **1. MATERIAL AND METHODS**

In order to better manage waste in the Republic of Srpska, the area is divided into eight regions: Banja Luka, Prijedor, Doboј, region of Mrkonjić Grad, Bijeljina, Zvornik, Sarajevo-Romanija and East Herzegovina (Pešević, 2009). Banja Luka region consists of the city of Banja Luka and Gradiska Municipality, Srbac, Laktasi, Prnjavor, Celinac, Kotor Varos and Knezevo. Prijedor region consists of the municipalities of Krupa on the river Una, Novi Grad, Kostajnica, Kozarska Dubica Ostra Luka and Prijedor. Doboј region is located in the central part of the Republic of Srpska, which includes eight municipalities: Doboј, Derventa, Teslic, Brod, Peter, Modrica, Samac and Vukosavlje. Region Mrkonjić Grad population represents the smallest region for the disposal of municipal waste in the Republic of Srpska. Bijeljina region has five municipalities: Bijeljina, Ugljevik, Lopare, Pelagićevo and Donji Zabar. Zvornik region consists of eight municipalities of Zvornik, Milici, Vlasenica, Han Pijesak, Srebrenica, Bratunac, Šekovići and Osmaci. Sarajevo-Romanija region represents the largest surface region for waste management in the Republic of Srpska. It comprises 12 municipalities of Sokolac, Rogatica, Visegrad, Rudo, Cajnice, Foca, Kalinovik, Pale, East Novo Sarajevo, East Ilidza, Trnovo and Novo Gorazde. Region Eastern Herzegovina is the southernmost region of the Republic of Srpska. The region consists of seven municipalities:

Trebinje, Bileća, Ljubinje, Gacko and Berkovići and East Mostar. The production of waste with daily human activities are increasing and today are among the biggest environmental problems. As a way of support for the environment protection and care for human health, these issues in 2015 are tracked. Thus, the ways of disposing of waste materials in the Republic of Srpska are analyzed in all eight regions in order to establish the level of the infrastructure, organization, quality of service.

## **2. RESULTS AND DISCUSSION**

Banja Luka region represents the most populous region in the Republic of Srpska with 447,347 inhabitants, which covers a total of 4,730.45 square kilometers (Institute of Statistics RS). In Banja Luka region there are no active local landfills, but all municipal waste is transported and disposed of at a regional landfill Ramići. The system of regionalization came to life in the Banja Luka region, but there are problems because most utility companies entered the process unprepared, with inadequate equipment and the lack of the necessary infrastructure, which resulted in enormous costs of transport and disposal of the waste. The exception is the municipality of Gradiska, which built a transfer station and reduced the extra costs. In addition, in the municipality of Gradiska, Srbac, Celinac and Kotor Varos, there are some landfills that are no longer in use, with a total volume of 376, 500 m<sup>3</sup> of waste and they are only partially sanitized. Regional Landfill Ramići is located in the northwestern part of Banja Luka, in Crkvina in the village Ramići, on the left side of the main road (M4) Banja Luka - Prijedor (Kalamanda, Vujcic, Delic-Jovic 2015, 282). The landfill is managed by public company "DEP-OT" from Banja Luka, which was established in 2003 with the aim of rehabilitation of existing and construction of a sanitary landfill. The company was founded by the city of Banja Luka and the municipality of Banja Luka region: Gradiska, Prnjavor, Laktasi, Srbac, Kotor Varos, Celinac and Knezevo. At the landfill in Ramići the conditions of waste disposal are considerably improved, the landfill is fenced and there are disposal checks. The supporting structures for the working staff are built. There are the scales for waste and there is a visual inspection of the waste brought. The leachate is collected and treated and the system for collecting landfill gas is currently under construction.



Image 1. The waste scales at the entrance to the landfill. Image 2. The landfill Ramići is properly fenced (The author during the research)

Based on data from the Institute of Statistics of the Republic of Srpska, in the Prijedor region there are 167,533 inhabitants in the area of 2,180.15 km<sup>2</sup>. There, the waste management is carried out by four utilities. The collection of municipal waste in the municipalities of Ostra Luka and Krupa on the Una are done by the commercial utilities from Novi Grad and Prijedor. In the Prijedor region 25,822 households are covered by regular municipal waste removal services, which accounts for about 60%. The separation of the waste at the source is not present in the region, but utilities from Prijedor, Kozarska Dubica and Novi Grad carry out selective collection and separation of paper and packaging waste within their companies. Apart from the municipal waste, the utility companies in the Prijedor region dispose the waste materials from industry. Municipal waste is collected from 2,419 enterprises. The waste disposal in the Prijedor region is performed at three local municipal landfills, “Suca” in Novi Grad, “Kurevo” in the municipality of Prijedor and “Palija park” in the area of Kostajnica. The landfill „ Suca “in Novi Grad has an area of 2.7 ha, located 5 km from the settlement and it is unregulated. The residents of the village Suca complain about malodors and dirt from the landfill near their homes and the impact of leachate on the flow of the nearby stream and the river Sana. The waste materials collected in the municipalities of Novi Grad and Krupa on the Una are deposited on this landfill. The landfill “Kure-

vo” started in 1984 in Ljeskare near Prijedor as a municipal landfill. The landfill capacity is about 1,000,000 m<sup>3</sup> and enables the disposal of waste for the next twenty years. The landfill is fenced, has a guard service and machinery to work at the landfill. The construction of a modern recycling facilities with the possibility of using waste in energy production is planned. At this landfill the waste is disposed by the following municipalities Prijedor, Kozarska Dubica, Ostra Luka, Kostajnica and Krupa on the river Una. The landfill “Palija park” is located 5 km from Kostajnica. The existing waste disposal area at this landfill has an area of approximately 5, 500 m<sup>2</sup>. The landfill is fenced, drainage channels are made, the watercourse that is occasionally active is piped, the access road is relocated and electricity is brought to the landfill. Prijedor-ska region has a lot of environmental problems due to the existence of „ wild “landfills that have been identified at 35 sites with a capacity of 44 938 m<sup>3</sup> and the new ones are appearing.

Doboj region is located in the central part of the Republic of Srpska with the area of 3091.34 sq km and 252, 201 inhabitants in the eight municipalities of Doboj, Derventa, Teslic, Brod, Petrovo, Modrica, Samac and Vukosavlje. The services of waste management in the Doboj region are performed by the municipal utilities. In the rural areas municipal waste collection services are not provided. However, due to the unprofitability of waste collection from remote areas, utility companies have not taken into account the fact that the lack of municipal services from such locations can produce higher costs in the future when the remediation of illegal dumps or renewal of the soil and groundwater. The municipal waste from urban areas in the municipalities of Doboj, Teslic, Derventa, Modrica, Samac is collected on a daily basis according to the established routes. In the suburbs and local communities municipal waste is collected once a week or once or twice a month. The number of households covered by regular municipal waste collection service in the Doboj region is 22,829, which is about 45% coverage. In the Doboj region there is selective collection of municipal waste, but in Doboj and Derventa there are recycling centers where waste is sorted and placed on the market for secondary raw materials. Depositing waste in the Doboj region utilities are performed at the landfill „ Karabegovac “, which is located in the city of Doboj and the landfill managed by KP” Progress “. The basic construction work has been done on the landfill to improve the landfill and create stability, reduce the possibility of

fire or sinking of the landfill body and ensure the continued dumping of waste in the correct manner.

Mrkonjić Grad region with its 38,810 inhabitants, represents the smallest population region for the disposal of municipal waste in the Republic of Srpska. On an area of 2075.54 sq km 7 local governments are located: Mrkonjić Grad, Sipovo, Jezero, Kupres, Ribnik, East Drvar and Petrovac. The last five local governments are mostly of rural character, which is reflected in the municipal waste management system. In the municipalities of Jezero, Ribnik and Petrovac municipal services are provided by utility companies of their own municipalities, while in municipalities of East Drvar and Kupres there is no organized collection of municipal waste. In the Mrkonjić Grad region indiscriminate municipal waste is collected from households, business and industry, while there is no the collection of secondary raw materials. The waste disposal in the region Mrkonjić Grad is done on the local municipal landfills and can be categorized as disordered. The landfill „Podovi” in the territory of Mrkonjić Grad does not meet even basic environmental standards. At the landfill the waste is disposed uncontrollably (household and catering establishments, dead animals, construction waste, sawdust, etc.) This is a major environmental problem. The disposal of waste into landfill in the municipality of Šipovo started in 1983. The landfill site is in direct contact with the environment. It is non-insulated, there is no fence or other important elements. The landfill is located in the area of the mountain Lisina at an altitude of 1,244 meters. It is 5 km from the river Pliva and 7 km from the city center. It poses a constant threat and a source of contamination of drinking water for the population Sipovo and Mrkonjić Grad, which are supplied with drinking water from the slopes of Lisa. To date, this unregulated dump has seen approximately 35,000 tonnes of waste.

According to the regional division of waste management in the Republic of Srpska, Bijeljina region has 5 municipalities: Bijeljina, Ugljevik, Lopare, Pelagićevo and Donji Zabar on the surface of 1360.73 square kilometers, with a population of 149,187. The municipal waste in Bijeljina region are regularly collected from 18,547 households. In the region of Bijeljina municipal waste is disposed of in sanitary landfill “Brijesnica”, which is located in the western part of the municipality of Bijeljina and is about 2 km from the outskirts of town (east side) and about 1.5 km from the nearest village from northwest

and west sides. The landfill area “Brijesnica” is 220,755.78 m<sup>2</sup> and spread in the direction of the northwest - southeast. In the northern part of the site there is an old city dumpsite with the area of 4,400 m<sup>2</sup> and waste is still disposed there. The capacity for compacting waste at a regional sanitary landfill “Brijesnica” is about 200 tonnes per day. This landfill is managed by public company “Eko-Dep” Bijeljina, established in 2005. The landfill “Brijesnica” is built in 2010 and put into operation with the aim of rehabilitation of the existing and construction of new sanitary. It continuously monitors the landfill with all the parameters in accordance with the applicable legislation on waste dumps. Currently, the first phase of construction is finished and it included the construction of two out of the four hot cells, as well as the construction of other buildings and the purchase of specialized equipment and machines (bulldozer, dump truck and a tractor with various attachments). The first phase has been fully completed in accordance with European Union directives that regulate the field of environmental protection and waste management. In the hot cell for disposal of municipal waste protective insulating materials are installed that guarantee the protection of the groundwater, together with the system to collect leachate, biogas collection system and internal roads for the purposes of the landfill.



Image 3. Brijesnica landfill (The author during the research)

The entire surface of the landfill is fenced, there is an entry-exit zone with digital scales (capacity of 60 t) and a plant for cleaning and disinfection of the wheels and the lower pedestal vehicles before leaving the landfill. „Wild“ landfills are not a common sight in the Bijeljina region. The landfills in Bijeljina region are at 13 locations with the total volume of 122,925 m<sup>3</sup>.

With an area of 2,339.11 square kilometers, Zvornik region has 142,861 inhabitants. Zvornik region consists of the municipalities of Zvornik, Milici, Vlasenica, Han Pijesak, Srebrenica, Bratunac, Šekovići and Osmaci. The municipal waste Management in the Zvornik region is performed by utility companies whose majority owners are the municipalities. The activities of utility companies are different. In the municipalities of Zvornik, Han Pijesak, Milici, Osmaci, Sekovici and Srebrenica, in addition to collection services, transportation and disposal of waste, their primary activities are the distribution of drinking water and maintenance of the sewerage network. Zvornik region generally has the same problems with waste disposal as the other parts of the Republic of Srpska. The local landfills are mostly on inadequate locations, unbounded (except in Zvornik), not covered with inert material and with the unsolved problem of leachate. The municipal landfill in Zvornik, where the daily incineration of waste takes place, is located in the industrial zone of Karakaj, on the bank of the Drina river, which makes it very risky to the environment in this area. The transport and disposal of waste from the municipality Sekovici is carried out on a temporary landfill „Mali Lug“, located 4 km from the center of the village and it occupies an area of 0.85 ha. The site of the landfill is very unfavorable, since it is situated between the local road R-455 Sekovici and watercourses Drinjaca. KP „Cleanliness“ from Vlasenica dispose of waste at the temporary town landfill located in the local community Simići, the total area of 4 hectares. Each year, about 3. 690 tons of non-selective waste is disposed in the landfill. For the disposal of waste in the municipality of Milici an unregulated landfill is used. It is located on the site of a bauxite mine where exploitation of ore is not done. There is a serious problem of waste disposal in the winter due to poor transport infrastructure leading to the landfill. Currently, the construction of regional sanitary landfill „Crni vrh“ in the border part of municipalities Osmaci and Zvornik, with annual capacity of 41,500 tons is under way. „Wild“ landfills in the Zvornik re-



gion are located in several locations: Zvornik, Bratunac, Milici, Srebrenica and Vlasenica. In the municipality of Zvornik „wild“ landfills are located in the area of the village farm Tršić and Karakaj.

Sarajevo-Romanija region of 5084.83 sq km, is the largest surface region for waste management in the Republic of Srpska. This region consists of 12 municipalities of Sokolac, Rogatica, Visegrad, Rudo, Cajnice, Foca, Kalinovik, Pale, East Novo Sarajevo, East Ilidza, Trnovo and Novo Gorazde. It is inhabited by 151,883 residents. The municipal waste management in the Sarajevo-Romanija region is performed by 11 utility companies that are mainly owned by the municipality to which they belong. KP “Work” based in East New Sarajevo performs waste disposal for urban municipalities Novo, Sarajevo East, Eastern Ilidžaji and Trnovo. The primary activity of utility companies is the collection, transportation and disposal of waste. The municipal waste disposal in all municipalities of the Sarajevo-Romanija region is carried out in urban areas, where some municipalities include suburban local communities. In relation to the total population in this region, only 37% of the produced waste is collected and disposed in an organized manner. The organized waste collection in all municipalities includes wastes from several sources: households, stand up (non-commercial sources), waste from commercial sources (commercial type), waste whose composition does not significantly differ from municipal waste and does not have the characteristics of hazardous waste, medical waste (both harmless and hazardous waste) as well as the waste generated as a product of the work utilities, waste from street cleaning, landscaping, etc.

Region Eastern Herzegovina is the southernmost region of the Republic of Srpska, the total area of 3,753.79 square kilometers. It is inhabited by 78,528 people. The region consists of the municipalities of Trebinje, Bileca, Ljubinje, Gacko and Berkovići and East Mostar. In all the municipalities of Eastern Herzegovina region there is currently only one option to manage utility, industrial and hazardous waste (medical, industrial and other hazardous waste) - the disposal in local technically unequipped landfills. The municipal waste collection is performed by the utility companies majority-owned by the municipalities in which they operate. The exception is the municipality of East Mostar, which has organized municipal waste disposal and where KP “Komus” from Nevesinje is engaged.

All municipalities Eastern Herzegovina region have problems with „wild“ landfills in rural parts of its territory. In Bileća, at several locations in the city, there „ wild “landfills used to dispose of waste and residues from processing stone.

In the Republic of Srpska collecting and transporting waste is carried out by fifty-three companies. Some municipalities do not have waste disposal companies, but they engage companies from neighboring municipalities. Activities of utility companies are varied and numerous. The primary activities of most of the companies are the collection, transportation and disposal of municipal waste in landfills. Organized collection of selective municipal waste in the Republic of Srpska does not exist and is not in use. Urban parts of the municipality and the suburban areas are very well organized in the system of waste collection, despite the lack of modern vehicles for waste collection and insufficient capacity of the skips, as well as problems with financing. However, problems are highly expressed in the lack of service in rural parts of the municipality, which is the result of inadequate infrastructure facilities, accessibility, organization and insufficient funding. On this basis one can say that the coverage of waste collection services is insufficient. According to available data, in the Republic of Srpska, the rate of waste collection is 67.6%. In the Republic of Srpska organized waste disposal is done in three ways: regional landfills, local municipal landfills and illegal dumps. The regional sanitary landfill are sanitary, health and environmentally friendly way of disposing of waste. However, sanitary landfills are very expensive facilities with limited capacities to accept waste. To date, the Republic of Srpska constructed, adapted and put into operation two regional sanitary landfills in Ramići near Banja Luka and in Brijesnica near Bijeljina. These expensive and important objects should be treated rationally. The goal is to last as long as possible. To achieve it, it is necessary to develop a system of separate collection and utilization of waste (reuse, recycling, composting, etc.) Sanitary landfills are far safer for the environment and the best possible solution.

Local municipal landfills are landfills in eight regions in the Republic of Srpska with no constructed regional landfill. The Republic of Srpska has 41 local municipal landfill waste. The management of landfills is the responsibility of municipalities, transferred to the local utility companies. Utility

companies perform waste disposal in landfills, pay for the costs of deposits and carry out the maintenance and the restoration of landfills. However, due to the difficult economic situation, the lack of the necessary machinery and the lack of involvement of certain utility companies, local landfills are in very poor condition and generally do not meet the basic criteria of environmentally sound landfills. Most sites are on the inadequate and ecologically unacceptable locations with negative environmental impacts. Thus, some landfills are located close to populated areas, flood-prone and river areas. With increased amounts of rainfall, waste ends up in nearby streams and rivers. Very little has been done to prevent ground water, which is collected within the catchment area surrounding hills, penetrate the waste. In addition to problems with the water, fires are frequent in landfills. Besides the danger that fire poses to neighboring areas, including the damage of forest fires, flue gases generated by burning waste materials contain toxic mixtures harmful to health. Because of the open disposal of waste not being processed and compaction of waste, there is a justified concern for the health and safety risks due to the potential spread of disease and infection due to the approach of possible laptop infestation (flies, rodents, birds, etc.). From a total of 41 local landfills, 49% were completely unregulated or landfills where there is no building-technical equipment or the control of waste disposal. In nine municipalities of the Republic of Srpska there are regulated local partially rehabilitated landfills that have basic control measures. These landfills are located in Trebinje, Gacko, Foca, Pale, Doboj, Teslic, Mrkonjic Grad, Prijedor and Kostajnica. The third and most common way in which people of the Republic of Srpska dispose waste are „wild“ landfills. „Wild“ dumps are illegal landfills that take up little space and contain limited amounts of waste, most commonly formed directly by the road, near a settlement. Quite often the waste material is deposited along the river bed or in abandoned excavations of stone and gravel as well as on land that is privately owned. People often dispose of waste in unauthorized areas in order to avoid payment of fees or effort needed to properly put it on sanitary landfills or recycling centers. The materials at locations of illegal dumps are usually old tires, appliances containing freon, batteries, construction waste (drywall, roofing, lumber, brick, concrete, etc.), abandoned vehicles, auto parts, home appliances, furniture, outdoor waste, household

waste, medical waste, etc. „, Wild “landfills reduce the quality of life, have negative impact on flora and fauna, present a danger to humans, especially children, are becoming places for breeding of rodents, insects and other pests, damage the land and destroy the habitat of wildlife, pollute surface and ground water. To solve these problems, one of the most important tasks is to change habits and behavior as well as to educate the population.

## CONCLUSION

Based on the data on the constant growth and production of waste, increasing environmental and health problems caused by inappropriate waste handling, on reducing the capacity for waste disposal, as well as on various legislative and political conditions in the Republic of Srpska the following conclusion can be made:

The current situation of quantity, type and composition of waste in the Republic of Srpska is very difficult to accurately determine. The main reason is the lack of data on the qualitative and quantitative analyses of waste, precisely the lack of records of the quantities, the characteristics and composition.

In the Republic of Srpska there is no selective separation of certain types of waste. Thus, waste is a mixture of household and commercial waste, waste from markets and local industrial enterprises. Therefore, it is difficult to determine the composition of waste for each municipality in the Republic of Srpska due to the wide differences in the level of living standards between different communities and between urban and rural areas.

Collection and transportation of waste is one of the most important links in the waste management system. In the Republic of Srpska municipal waste disposal is the responsibility of local governments, in accordance with decisions on waste management and other activities in which the level of service and manner of pricing are defined.

Urban and suburban areas have very well organized systems of waste collection, despite the lack of modern waste collection vehicles.

Selective waste collection and recycling in the Republic of Srpska are in an embryonic stage, but significant improvement of municipal services are noticeable. However, the waste is still largely deposited directly into landfill without any treatment after collecting.

There are a number of initiatives within utility companies for waste sorting and recycling. Secondary raw materials are primarily classified: paper, plastic (PET bottles and plastic film) and metal, which are then sold to companies for recycling and dispose of waste. Significant initiatives in the area of recycling were observed by private enterprises which have recognized the business opportunities .

The most acceptable option for waste management in the Republic of Srpska, utilities and industrial, medical and hazardous waste is landfilling. The majority of landfills are in inappropriate locations or technically unequipped. Most sites are located on the inadequate and ecologically unacceptable locations where there are negative environmental impacts.

The disposal of waste in the Republic of Srpska is done on the regional sanitary landfills (Banja Luka and Bijeljina), local municipal landfills and illegal dumps.

This reserach disproved the null hypothesis stating that the production of municipal waste in the Republic of Srpska is disposed of in an environmentally sound manner.

Successful waste management begins with prevention of waste generation. One of the biggest problems of policy for environmental protection in the Republic of Srpska is inadequate and underdeveloped waste management. This situation is primarily the result of the attitude of society towards waste, the lack of education and understanding of important issues of sustainable system of waste management as well as the lack of understanding of the positive effects of this process.

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## ANALIZA UPRAVLJANJA OTPADOM U REPUBLICI SRPSKOJ I SRBIJI SA OSVRTOM NA NEKE EVROPSKE ZEMLJE

**Rezime:** *Upravljanje otpadom predstavlja značajnu komponentu koncepta održivog razvoja neke zemlje. Nastajanje otpada izaziva promjene u životnoj sredini, djeluje degradirajuće na biljni i životinjski svijet i ekosisteme u cjelini. Zbog toga je značajno pravilno upravljanje otpadom, kako bi se umanjio štetan uticaj na životnu sredinu. U radu je analiziran proces razvoja upravljanja otpadom u Republici Srpskoj, te je predstavljena komparacija upravljanja komunalnim otpadom u Republici Srpskoj u odnosu na Srbiju i neke zemlje Evropske unije (Grčka, Njemačka, Velika Britanija). Utvrđena je prosječna specifična količina komunalnog otpada koja se stvara na području Republike Srpske, i ona iznosi oko 279 kg komunalnog otpada po stanovniku godišnje. U Srbiji je ta količina 359 kg po stanovniku godišnje, dok se u Grčkoj ta količina kreće oko 457 kg, u Njemačkoj 587 kg i u Velikoj Britaniji 526 kg po stanovniku godišnje. Zaključak je da Republika Srpska po stanovniku generiše najmanje količine otpada u odnosu na analizirane zemlje. Problem u Republici Srpskoj predstavlja, međutim, još uvijek neusaglašena zakonska regulativa sa propisima Evropske unije.*

**Ključne riječi:** *upravljanje otpadom, komunalni otpad, životna sredina.*

**JEL klasifikacija:** Q 53, Q 56.

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## UVOD

Urbanizacija predstavlja jednu od globalnih promjena, na svjetskom nivou. Rast populacije u urbanim sredinama je u direktnoj vezi sa porastom količine otpada, koji, pored uticaja na životnu sredinu, ima i druge brojne negativne uticaje na čovjeka. Ugrožavanje životne sredine, kao i koncept održivog razvoja, doveli su upravljanje otpadom na sam vrh osnovnih ciljeva jednog društva.

Otpad je svaka materija ili predmet koji se odbacuje ili se namjerava odbaciti. Osnovna klasifikacija otpada je na:

- komunalni otpad (otpad iz domaćinstva),
- komercijalni otpad i
- industrijski otpad.

Upravljanje otpadom je značajna stavka koncepta održivog razvoja, u okviru kojeg se uzimaju u obzir brojni aspekti: ekološki, ekonomski, pravni, politički, tehnički i socijalni (Chang et al. 2011, 1551).

Svaka aktivnost antropogenog faktora imaće za rezultat nastajanje otpada, koji izaziva promjene u životnoj sredini, ugrožava biljni i životinjski svijet i ekosisteme u cjelini. Zbog toga je važno pravilno upravljanje otpadom, koje bi rezultiralo smanjenjem štete koja se u kontinuitetu nanosi životnoj sredini i očuvanju prirodnih resursa. Upravljanje otpadom predstavlja jedan od brojnih aspekata održivog razvoja neke zemlje (Nikolić 2016).

Upravljanje otpadom je djelatnost od opšteg interesa, koja uključuje provođenje niza propisanih mjera za postupanje sa otpadom. Tu spadaju sakupljanje, transport, skladištenje i odlaganje otpada, uključujući i upravljanje otpadom. Upravljanje otpadom treba da se izvodi sa minimalnim rizicima po zdravlje ljudi i životnu sredinu. Vrlo važnim se smatra i kontinuiran monitoring:

- zagađenja voda, vazduha i zemljišta;
- opasnosti po biljni i životinjski svijet;
- opasnosti od eksplozija ili požara;
- negativnih uticaja na predjele i prirodna dobra posebnih vrijednosti;
- nivoa buke i neprijatnih mirisa (Zakon o upravljanju otpadom Republike Srpske, 2013).



U Republici Srpskoj, upravljanje otpadom još uvijek je u fazi konačnog uređenja. U tu svrhu donose se sljedeći dokumenti: strategija upravljanja otpadom, planovi za pojedinačne tokove otpada, zajednički plan upravljanja otpadom, lokalni plan upravljanja otpadom i plan upravljanja otpadom u postrojenju za koje se izdaje ekološka dozvola.

Cilj ovog rada je da se analizira proces razvoja i stepen implementacije upravljanja otpadom u Republici Srpskoj i poređenje količina komunalnog otpada između Republike Srpske, Srbije i nekih evropskih zemalja.

## **1. MATERIJAL I METODE RADA**

U toku istraživanja su korišćene induktivno-deduktivne metode, metode analize i sinteze, uz primjenu relevantnih postupaka saznanja iz inostranih iskustava, kao i komparativne metode. Analiza razvoja upravljanja otpadom u Republici Srpskoj vršena je kroz preglede zakonskih dokumenata, donesenih, kao i onih u izradi. U skladu sa Zakonom o upravljanju otpadom, resorno ministarstvo provodi aktivnosti na izradi strategije upravljanja otpadom u Republici Srpskoj, koja je u ovom momentu u nacrtu.

Cilj je da se analizira proces razvoja upravljanja otpadom u Republici Srpskoj. To uključuje utvrđivanje osnovnih podataka o otpadu i procjenu stanja, postavljanje budućih ciljeva, razvoj planova za integrisano upravljanje otpadom i njihovu implementaciju, a sve u skladu sa principima smanjenja negativnog uticaja na životnu sredinu. Zadaci istraživanja su i uporedna analiza upravljanja komunalnim otpadom u Republici Srpskoj u odnosu na Srbiju i neke zemlje Evropske unije (Grčka, Njemačka, Velika Britanija).

## **2. REZULTATI SA DISKUSIJOM**

Otpad se, prema katalogu otpada, razvrstava u dvadeset grupa. Kategorizacija je izvršena na osnovu mjesta nastanka i porijekla. Ovaj katalog čini dio Pravilnika o kategorijama, ispitivanju i klasifikaciji otpada iz 2010. Katalog otpada je potpuno usaglašen sa katalogom otpada Evropske unije, čiji je cilj bio da stvori jasan sistem za klasifikaciju otpada unutar Evropske unije. Predstavlja osnovu za sve obaveze vezane za dozvole za upravljanje

otpadom, nacionalne baze podataka o otpadu i transport otpada. Katalog otpada sa indeksnim brojevima dat je u tabeli 1.

Tabela 1. Katalog otpada (Pravilnik o kategorijama, ispitivanju i klasifikaciji otpada, Službeni glasnik RS, br. 56/2010, član 14)

<b>Indeksni broj</b>	<b>Mjesto i porijeklo nastanka otpada</b>
01	Otpad koji nastaje od istraživanja, iskopavanja iz rudnika ili kamenoloma, i fizičkog i hemijskog tretmana minerala
02	Otpad iz poljoprivrede, hortikulture, akvakulture, šumarstva, lova i ribolova, pripreme i prerade hrane
03	Otpad od prerade drveta i proizvodnje papira, kartona, pulpe, panela i namještaja
04	Otpad iz kožarske, krznarske i tekstilne industrije
05	Otpad od rafinisanja nafte, prečišćavanja prirodnog gasa i pirolitičkog tretmana uglja
06	Otpad od neorganskih hemijskih procesa
07	Otpad od organskih hemijskih procesa
08	Otpad od proizvodnje, formulacije, snabdijevanja i upotrebe premaza (boje, lakovi i staklene glazure), lijepkovi, zaptivači i štamparska mastila
09	Otpad iz fotografske industrije
10	Otpad iz termičkih procesa
11	Otpad od hemijskog tretmana površine i zaštite metala i drugih materijala; hidrometalurgija obojenih metala

12	Otpad od oblikovanja i fizičke i mehaničke površinske obrade metala i plastike
13	Otpadna ulja i otpad tečnih goriva (osim jestivih ulja i onih u grupama 05, 12 i 19)
14	Otpad od organskih rastvarača, sredstava za hlađenje i potisnih gasova (osim 07 i 08)
15	Otpad od ambalaže; apsorbenti, krpe za brisanje, materijali za filtriranje i zaštitne tkanine
16	Otpad koji nije drugačije specifikovan u katalogu
17	Građevinski otpad i otpad od rušenja (uključujući i iskopanu zemlju sa kontaminiranih lokacija)
18	Otpad iz objekata u kojima se obavlja zdravstvena zaštita ljudi i životinja i/ili s tim povezana istraživanja (isključujući otpad iz kuhinja i restorana koji ne dolazi od neposredne zdravstvene zaštite)
19	Otpad iz postrojenja za obradu otpada, pogona za tretman otpadnih voda van lokacije nastajanja i pripremu vode za ljudsku potrošnju i korišćenje u industriji
20	Komunalni otpad (kućni otpad i sličan komercijalni i industrijski otpad), uključujući odvojeno sakupljene frakcije

Svi aspekti upravljanja čvrstim otpadom trebalo bi da se analiziraju i posmatraju kao cjelina, jer svi dijelovi su u vezi jedni s drugima, a razvoj jednog segmenta direktno ili indirektno utiče na prakse i aktivnosti drugih segmenata (Pires et al. 2011, 1037).

## 2.1. Zakonodavstvo EU u oblasti upravljanja otpadom

Okvir Evropske politike upravljanja otpadom čine brojne direktive. Ovdje navodimo samo neke:

- Direktiva 2008/98/EZ Evropskog parlamenta i Vijeća Evrope o otpadu i ukidanju određenih direktiva iz 2008. godine;

- Direktiva 2010/75/EZ Evropskog parlamenta i Vijeća Evrope o industrijskim emisijama (integrisano sprečavanje i kontrola zagađenja) iz 2010. godine;
- Direktiva Vijeća Evrope 1999/31/EZ o deponovanju otpada iz 1999. godine;
- Direktiva 2009/31/EZ Evropskog parlamenta i Vijeća Evrope o geološkom skladištenju ugljen-dioksida i o izmjenama i dopunama Direktive Vijeća 85/337/EEZ;
- Direktive Evropskog parlamenta i Vijeća Evrope 2006/60/EZ, 2001/80/EZ, 2004/35/EZ, 2006/12/EZ, 2008/1/EZ, i Uredba EZ br. 1013/2006, iz 2009. godine i dr.

Uz navedene direktive, postoji još cijeli niz uredbi i odluka Vijeća Evropske unije i Evropske komisije kojima se propisuje: okvir upravljanja otpadom, postupanje s posebnim kategorijama otpada, pošiljke, uvoz i izvoz, te građevine za obradu i deponovanje otpada (Nacrt strategije upravljanja otpadom u Republici Srpskoj za period 2016–2025. godine, 2016).

### 2.1.1. Analiza količina komunalnog otpada u Republici Srpskoj

Na osnovu pregleda podataka, prosječna specifična količina komunalnog otpada koja se stvara na području Republike Srpske iznosi oko 0,76 kg komunalnog otpada po stanovniku na dan (raspon vrijednosti od 0,23 do 1,08 kg/st./dan, zavisno od razvijenosti opštine i pokrivenosti uslugom sakupljanja otpada), odnosno oko 279 kg komunalnog otpada po stanovniku godišnje. U tabeli 2. vidi se prikaz morfološkog sastava komunalnog otpada u Republici Srpskoj.

Tabela 2. Prikaz morfološkog sastava komunalnog otpada u Republici Srpskoj (analiza morfološkog sastava otpada i elementarna analiza pojedinih komponenti otpada koji se dovozi na deponiju u Ramićima)

Kategorija otpada	Udio (%)
Organski otpad	34,2
Drvo	4,1
Tekstil	1,3
Staklo	4,9

Građevinski otpad	5,7
Otpad životinjskog porijekla	3,8
Elektronski otpad	0,2
Papir i karton	10,8
Metal	4,5
Limenke	2,1
Plastika	7,8
Guma	0,9
Folija	9,4
PET	5,1
Ostalo	5,3

Prema sastavu otpada, najveći pojedinačni udio čvrstog komunalnog otpada čini organski otpad iz kuhinja i bašta (jedna trećina), oko 56% komunalnog otpada predstavljaju komponente koje se mogu reciklirati, a oko 10% otpada su ostale miješane komponente, te komponente koje je potrebno posebno preraditi (životinjski, elektronski otpad, ostalo).

Posmatrano sa ekonomskog aspekta, uređenje sistema upravljanja otpadom, prema Nacrtu strategije upravljanja otpadom u Republici Srpskoj za period 2016–2025, procijenjeni ukupni iznos ulaganja u mjere za postizanje ciljeva u pomenutom segmentu iznosi oko 191,9 miliona evra. Oko 80,5% sredstava se planira uložiti u potrebne aktivnosti i radove do kraja 2020. godine. Potrebna su, dakle, velika ulaganja u narednom periodu, da bi sistem upravljanja otpadom u Republici Srpskoj bio na zadovoljavajućem nivou. Možemo zaključiti da sadašnje stanje nije na nivou evropskih zemalja i da se Republika Srpska tek razvija u tom pravcu. U prilog tome govore i rezultati istraživanja regionalne deponije u Ramićima (Kalamanda i sar. 2015, 282). Iz istraživanja je vidljivo da ova deponija ima brojne nedostatke, kao što su: visoki dnevni slojevi otpada, a da pritom deponija ne posjeduje perforirane cijevi za odvođenje gasova. Na taj način dolazi do degradacije, jer se gasovi nekontrolisano šire u vazduh, ali i uzrokuju požare. Jedan od rizika, zbog neuređenog sistema upravljanja otpadom, jeste i opasnost od eksplozija.

### 2.1.2. Analiza količina komunalnog otpada u Republici Srbiji

U Republici Srbiji, jedan od osnovnih problema u oblasti zaštite životne sredine jeste neadekvatno upravljanje otpadom. Generiše se sve veća količina otpada i bez posebnog prethodnog tretmana odlaže na postojeće deponije. Ovakva praksa ugrožava životnu sredinu i zdravlje ljudi, te onemogućava iskorišćavanje energetskih potencijala iz otpada. U tabeli 3. dat je pregled količina generisanog komunalnog otpada po opštinama u Srbiji.

Tabela 3. Pregled količina generisanog komunalnog otpada u opštinama Srbije (Vujić i sar. 2010).

Opština	Količina generisanog otpada			
	Dnevno		Godišnje	
	t	kg/stan.	t	kg/stan.
Indija	52	1,05	18 890	383
Sombor	38,5	0,67	13 966	246
Novi Kneževac	5,7	0,59	2063	214
Šabac	66	0,59	25 794	209
Topola	7,3	0,29	2761	105
Kragujevac	128	0,7	47 099	252
Bor	17,8	0,32	6507	114
Niš	176	0,73	63 937	266
Novi Sad	366	1,16	133 104	424
Beograd	1 484	1,08	548 513	394

Utvrđivanje morfološkog sastava komunalnog otpada predstavlja važan dio pri prikupljanju relevantnih podataka koji su segment definisanja sistema upravljanja otpadom na određenoj teritoriji. U tabeli 4. prikazan je morfološki sastav komunalnog otpada u pet gradova Republike Srbije, izražen procentualno za 16 frakcija komunalnog otpada (Vujić i sar. 2010, 1016).

Tabela 4. Morfološki sastav komunalnog otpada u pet gradova Republike Srbije (%) (Vujić i sar. 2010).

Kategorija otpada	Beograd	Niš	Kragujevac	Topola	Novi Sad
Baštenski otpad	6,68	10,00	11,29	16,16	13,37
Ostali biorazgradivi	30,93	30,56	27,34	36,32	30,17
Papir	10,78	7,90	8,07	4,72	5,25
Staklo	6,84	4,74	5,04	2,95	5,07
Karton	8,97	6,12	11,13	4,25	6,13
Karton – vosak	1,74	0,71	0,80	0,46	0,71
Karton – aluminijum	1,20	0,62	1,24	0,54	0,65
Metal – ambalažni i ostali	1,98	1,38	1,09	1,00	1,64
Metal – Al konzerve	0,40	0,57	0,68	0,33	0,15
Plastični ambalažni	4,58	3,01	4,78	3,17	3,71
Plastične kese	5,61	9,18	8,45	6,24	6,40
Tvrda plastika	4,73	5,77	3,68	2,88	5,04
Tekstil	5,31	5,67	3,68	4,45	7,49
Koža	0,61	0,36	0,41	0,50	1,04
Pelene	3,67	4,08	3,72	4,15	4,48
Fini elementi	5,98	9,32	8,61	11,88	8,70

Nakon pregleda brojnih analiza, može se zaključiti da je jedan od vodećih ekoloških problema u Republici Srbiji neadekvatno upravljanje otpadom. Ogroman problem predstavljaju neuređene deponije na koje se često odlaže komunalni otpad. Veći rizik od prethodnog po životnu sredinu predstavljaju divlje deponije. Značajan problem predstavlja i stvaranje velikih količina opasnog industrijskog i medicinskog otpada. Opasni otpad se privremeno skladišti, često neadekvatno, ponekad i bez

posebne kontrole, i kao takav odlaže na komunalne ili divlje deponije. Dakle, problemi u ovoj oblasti su zaista brojni. Usvajanjem Nacionalne strategije upravljanja otpadom 2010–2019. (*Službeni glasnik Republike Srbije* br. 29/2010), sa programom približavanja EU, postavljen je okvir kojim se obezbjeđuju uslovi za racionalno i održivo upravljanje otpadom u Republici Srbiji. Donošenjem Zakona o upravljanju otpadom (*Službeni glasnik Republike Srbije* br. 36/2009. i 88/2010) jasno je propisan način adekvatnog upravljanja otpadom, od njegovog nastanka, preko sakupljanja, transporta, skladištenja, tretmana, sve do konačnog odlaganja (Jovanović 2015).

### **2.1.3. Analiza količina komunalnog otpada u nekim evropskim zemljama**

U odnosu na Republiku Srpsku i Srbiju, upravljanje otpadom u Njemačkoj, Velikoj Britaniji i Grčkoj se u velikoj mjeri razlikuje. Tu se prvenstveno misli na: način odlaganja i sakupljanja otpada, zakonsku regulativu, ekonomski nivo, navike građana i dr. Neke paralele se ipak mogu napraviti, kada se uzme u obzir da zemlje u razvoju imaju daleko manju količinu otpada, ali nemaju dovoljno sredstava za zbrinjavanje ni te količine otpada, dok razvijene zemlje imaju druge probleme, a to su brojne prepreke da ostvare idealno upravljanje otpadom u cilju smanjenja njegove količine (Nikolić 2016). Ukupna količina otpada u prethodno pomenutim zemljama kreće se u intervalu od 359 kg do 526 kg po stanovniku za godinu dana (tabela 5). U tabeli su dati podaci za ukupno generisan komunalni otpad i srednja godišnja količina generisanog otpada po stanovniku, gdje je poređena Srbija sa ovim evropskim zemljama (Eurostat 2012, a, b).



Tabela 5. Količina generisanog komunalnog otpada i otpada u kg po jednom stanovniku za godinu dana (2010. god.) (Izvor: Eurostat 2012, a, b).

	Ukupna količina komunalnog otpada (1000 t)	Srednja godišnja količina otpada (kg/stan.)
Srbija	2 650	359
Grčka	67 523	457
Njemačka	367 256	587
Velika Britanija	316 991	526

Iz tabele 5. vidljivo je da Srbija na godišnjem nivou generiše znatno manje količine otpada od zemalja sa kojima je poređena. Količina otpada po stanovniku je manja u prosjeku za oko 100–200 kg u odnosu na Njemačku, Veliku Britaniju i Grčku.

## ZAKLJUČAK

Iz pregleda relevantne literature, strateških dokumenata i prikazanih podataka o upravljanju otpadom na području Republike Srpske i Srbije, može se zaključiti da postoje brojni nedostaci u sistemu upravljanja otpadom, koje karakterišu:

- nedovoljno pouzdani podaci o količinama i sastavu otpada, na svim odlagalištima;
- nerazvijen sistem sakupljanja i sistematizovanja podataka i tokova svih vrsta otpada;
- nemogućnost organizacije odvojenog sakupljanja otpada za reciklažu iz domaćinstava;
- neprovođenje programa praćenja stanja životne sredine u vezi sa emisijom sa deponija, u mjeri u kojoj je to potrebno;
- nepostojanje pogona za preradu i iskorišćavanje otpada;
- odlaganje opasnog otpada zajedno s komunalnim otpadom;
- pojava neuređenih i nelegalnih deponija.

Prosječna specifična količina komunalnog otpada koja se stvara na području Republike Srpske iznosi oko 279 kg komunalnog otpada po stanovniku

godišnje. U Srbiji je to 359 kg po stanovniku godišnje, dok se u nekim evropskim zemljama ta količina kreće ovako: Grčka 457 kg, Njemačka 587 kg i Velika Britanija 526 kg po stanovniku godišnje. Možemo zaključiti da Republika Srpska po stanovniku generiše najmanje količine otpada u odnosu na analizirane zemlje. Problem u Republici Srpskoj predstavlja, međutim, još uvijek neusaglašena zakonska regulativa sa propisima Evropske unije. U ovom trenutku, Republika Srpska se nalazi tek u fazi konačnog donošenja strategije upravljanja otpadom, dugoročno posmatrano. Srbija je ovaj, kao i brojne druge dokumente donijela i usaglasila sa regulativom evropskih zemalja.

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Original scientific paper

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## ANALYSIS OF WASTE MANAGEMENT IN THE REPUBLIKA SRPSKA AND SERBIA WITH REFERENCE TO SOME EUROPEAN COUNTRIES

**Summary:** *Waste management is an important component of sustainable development of a country. Formation of waste causes changes in the environment, has a degrading effect on wildlife and ecosystems as a whole. The correct management of waste is therefore important in order to reduce the harmful impact on the environment. This paper analyzes the process of development of waste management in the Republika Srpska, but also presents a comparison of municipal waste management in Republika Srpska and Serbia and some EU countries (Greece, Germany, Great Britain). The established average specific amount of municipal waste generated in the Republika Srpska is around 279kg of municipal waste per capita per year. In Serbia, this quantity is 359kg per capita annually. While in Greece, this amount is around 457kg, 587kg Germany and Britain 526kg per capita annually. The conclusion is that Republika Srpska per capita generates the smallest amount of waste in relation to the analyzed countries. Problem in Republika Srpska is the fact that there is still lack of harmonized legislation with EU regulations.*

**Key words:** *waste management, municipal waste, environment*

**JEL Classification:** *Q 53, Q 56,*

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## INTRODUCTION

Urbanization is one of the global changes at the global level. Population growth in urban areas is directly related to the increase in the quantity of waste that, despite the impact on the environment, has the other numerous negative impacts on people. Environmental degradation, as well as the concept of sustainable development, has presented waste management as the top goal of a society. Waste is any substance or object that is discarded or intended to discard. Basic classification of waste is to:

- municipal waste (household waste);
- commercial waste
- industrial waste.

Waste management is an important item of the concept of sustainable development, in which many aspects are being considered: environmental, economic, legal, political, technical and social (Chang et al. 2011, 1551). Each activity of the anthropogenic factor will result in formation of waste that causes changes in the environment, endangering wildlife and ecosystems as a whole. Therefore, it is important to properly manage waste, which would ultimately result in reduction of the harm continuously being done to environment and in conservation of the natural resources. Waste management is one of the many aspects of sustainable development of a country (Nikolić 2016).

Waste management is an activity of general interest, which includes the implementation of a series of prescribed measures for waste treatment. These include the collection, transport, storage and disposal of waste, including waste management. Waste management should be performed with minimal risk to human health and the environment. Constant monitoring is considered to be very important of the following items:

- Pollution of water, air and soil,
- Danger to flora and fauna,
- Danger of explosion or fire,
- Negative impacts on regions and natural resources of special value and
- The level of noise and odors (Law on Waste Management of Republika Srpska, 2013).

In Republika Srpska waste management is still the final stage of planning. For this purpose, following documents are about to be enacted: Waste management strategy, plans for specific waste streams, common waste management plan, local waste management plan and waste management plan in the plant for which the environmental permit needs to be issued. The aim of this paper is to analyze the process of development and degree of implementation of waste management in Republika Srpska and comparison of the amount of municipal waste between the Republika Srpska, Serbia and some European countries.

## **1. MATERIAL AND METHODS**

In the course of the study inductive-deductive method, analysis and synthesis methods, with the application of relevant procedures of knowledge based on the international experience, as well as the comparative method were used. Analysis of the development of waste management in Republika Srpska was carried out through examination of the issued legal documents, as well as those that are still in the process of preparation. In accordance with the Law on Waste Management, the line ministry conducts activities on the development of the waste management strategy in the Republika Srpska, which is at this point still in the draft.

The aim is to analyze the process of development of waste management in Republika Srpska. This includes establishing baseline data on waste and assessing the situation, setting future goals, developing the plans for integrated waste management and their implementation, and all that in accordance with the principles of reducing the negative environmental impact. The tasks of this research are also the comparative analysis of the management of municipal waste in the Republika Srpska in comparison with Serbia and some EU countries (Greece, Germany, and Great Britain).

## **2. RESULTS WITH DISCUSSION**

The waste, according to the waste catalog, is classified into twenty groups. The categorization was made on the basis of the place of origin and the source. This brochure forms part of the Rules on categories, testing and classification of waste from the Waste Catalogue from the year 2010. This

catalogue is fully compliant with the Waste Catalogue of the European Union that created a clear system for the classification of waste within the European Union. The catalogue is the basis for all the obligations related to waste management permit, for a national database on waste and for the waste transportation. Waste Catalogue with an indexed number is given in Table 1.

**Table 1.** Waste Catalogue (Regulations on categories, testing and classification of waste “Official Gazette of RS”, No.56 / 2010, article 14)

<b>Index number</b>	<b>Place and origin of waste</b>
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
03	Wastes from wood processing and the production of paper, cardboard, pulp, panels and furniture
04	Wastes from the leather, fur and textile industries
05	Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
06	Wastes from inorganic chemical processes
07	Wastes from organic chemical processes
08	Wastes from the manufacture, formulation, supply and use of coatings (paints, varnishes and vitreous enamels), glues, sealants and printing inks
09	Wastes from the photographic industry
10	Wastes from thermal processes
11	Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydrometallurgy
12	Wastes from shaping and physical and mechanical surface treatment of metals and plastics
13	Oil wastes and wastes of liquid fuels (except edible oils, and those in groups 05, 12 and 19)
14	Wastes from organic solvents, coolants and propellant gases (except 07 and 08)



15	Packaging wastes; absorbents, wiping cloths, filter materials and protective fabrics
16	Wastes not specified in the list
17	Construction waste and demolition wastes (including excavated soil from contaminated sites)
18	Wastes from facilities that provide health care for humans and animals and / or where related research is conducted (except from the waste from the kitchen and restaurant wastes not arising from immediate health care)
19	Wastes from waste treatment facilities, facilities for treatment of water off formation site and reparation of water for human consumption and industrial use
20	Municipal wastes (household waste and similar commercial and industrial wastes) including separately collected fractions

All aspects of solid waste management should be analyzed and viewed as a whole, because all the parts are connected with each other and the development of a segment directly or indirectly influences the practices and activities of other segments (Pires et al. 2011, 1037).

## 2.1. EU legislation on waste management

Framework of the European waste management policy consists of a number of Directives. Here are just a few:

- Directive 2008/98 / EC of the European Parliament and of the Council on waste and repealing of the certain directives in 2008;
- Directive 2010/75 / EC of the European Parliament and of the Council on industrial emissions (integrated pollution prevention and control) from 2010.
- Council Directive 1999/31 / EC of the deposit of waste from 1999.
- Directive 2009/31 / EC of the European Parliament and of the Council on the geological storage of carbon dioxide and on amendments to Council Directive 85/337 / EEC,

- Directive of the European Parliament and Council Directive 2006/60 / EC, 2001/80 / EC, 2004/35 / EC, 2006/12 / EC, 2008/1 / EC and Regulation (EC e) No. 1013/2006 from 2009.

With that Directive, there are a number of the Regulation and the Decision of the Council of the European Union and the European Commission, which provide: a framework for waste management, way to handle the special categories of waste, shipments, imports and exports and facilities for treatment and disposal of waste (Draft Waste Management Strategy in Republika Srpska for the period 2016-2025, 2016.).

### 2.1.1. Analysis of Municipal waste in Republika Srpska

Based on the review of the data, the average specific amount of municipal waste generated in Republika Srpska is about 0,76kg municipal waste per capita per day (values range from 0.23 to 1.08 kg / capita / day, depending on the development of the municipality and the waste collection service coverage), or about 279kg of municipal waste per capita per year. In table you can the morphological composition of municipal waste in Republika Srpska.

Table 2. Review of morphological composition of municipal waste in Republika Srpska (Analysis of the morphological composition of waste and elemental analysis of the individual components of waste brought to the Ramići landfill)

Waste type	Share (%)
Organic waste	34,2
Wood	4,1
Textiles	1,3
Glass	4,9
Construction waste	5,7
Waste of animal origin	3,8
Electronic waste	0,2

Paper and cardboard	10,8
Metal	4,5
Cans	2,1
Plastic	7,8
Gum	0,9
Foil	9,4
PET	5,1
Other	5,3

According to the waste composition largest single share of municipal solid waste has an organic waste from kitchen and garden (one-third), about 56% of municipal waste have components that can be recycled, and about 10% have the other mixed components, and components which need special rework (animal, electronic waste, etc.).

If we look at this situation from the economic aspect, arranging waste management system, according to the Waste Management Strategy of Republika Srpska for the period 2016-2025., the estimated total amount of investment into the measures to achieve the objectives in this segment is approximately 191.9 million Euros. Approximately 80.5% of the funds are planned to be realized in the activities and work until the end of 2020. It requires, therefore, a great investment in the future, so that the system of waste management in Republika Srpska can reach a satisfactory level. We can conclude that the current situation is not at the level of European countries and that Republika Srpska, in this segment, is still developing. This is supported by the research results of the regional Ramići landfill (Kalamanda et al. 2015, 282). Their research shows that the Ramići landfill has a number of drawbacks, such as high living layers of waste, while at the same landfill does not have a perforated pipe for the evacuation of gases. This leads to degradation because the gases spread uncontrollably in the air, but also cause fires. One of the risks due to improper waste management system is the danger of explosion.

### 2.1.2. Analysis of municipal waste in Republika Srpska

In Serbia, one of the main problems in the field of environmental protection is inadequate waste management. Increasing amount of waste is being generated and without special pre-treatment is being disposed in landfills. This practice threatens the environment and human health, prevents exploitation of energy resources from waste. In table 3, an overview of the amount of municipal waste generated by municipalities in Serbia is provided.

Table 3. Overview of the amount of municipal waste generated in the municipalities of Serbia (Vujic et al. 2010)

Municipality	Amount of generated waste			
	Daily		Yearly	
	t	kg/capita	t	kg/capita
Indija	52	1,05	18 890	383
Sombor	38,5	0,67	13 966	246
Novi Kneževac	5,7	0,59	2063	214
Šabac	66	0,59	25 794	209
Topola	7,3	0,29	2761	105
Kragujevac	128	0,7	47 099	252
Bor	17,8	0,32	6507	114
Niš	176	0,73	63 937	266
Novi Sad	366	1,16	133 104	424
Beograd	1 484	1,08	548 513	394

Determination of morphological composition of municipal waste is an important part in the collection of relevant data that defines the segment of waste management system in a particular territory. Table 4 shows the morphological composition of municipal waste in 5 cities of the Republic of Serbia, expressed in percentage for 16 fractions of municipal waste (Vujic et al. 2010, 1026).

Table 4. Morphological composition of municipal waste in 5 cities of the Republic of Serbia (%) (Vujic et al., 2010.)

Waste category	Belgrade	Niš	Kragujevac	Topola	Novi Sad
Garden waste	6,68	10,00	11,29	16,16	13,37
Other biodegradable	30,93	30,56	27,34	36,32	30,17
Paper	10,78	7,90	8,07	4,72	5,25
Glass	6,84	4,74	5,04	2,95	5,07
Cardboard	8,97	6,12	11,13	4,25	6,13
Cardboard-wax	1,74	0,71	0,80	0,46	0,71
Cardboard-aluminium	1,20	0,62	1,24	0,54	0,65
Metal-packaging and other	1,98	1,38	1,09	1,00	1,64
Metal-aluminium cans	0,40	0,57	0,68	0,33	0,15
Plastic packaging	4,58	3,01	4,78	3,17	3,71
Plastic bags	5,61	9,18	8,45	6,24	6,40
Hard plastic	4,73	5,77	3,68	2,88	5,04
Textiles	5,31	5,67	3,68	4,45	7,49
Leather	0,61	0,36	0,41	0,50	1,04
Diapers	3,67	4,08	3,72	4,15	4,48
Fine elements	5,98	9,32	8,61	11,88	8,70

A review of a number of analysis it can be concluded that one of the major environmental problems in the Republic of Serbia is the inadequate waste management. A huge problem is the unregulated landfills on which the municipal waste is often disposed. Greater risk of the foregoing for the environment is illegal dumps. A significant problem is the creation of large quantities of hazardous industrial and medical waste. Hazardous waste is often inadequately stored, sometimes without specific controls and, as such disposed in municipal or wild landfills. Thus, the problems in this area are really numerous. By adopting the National Waste Management Strategy

2010-2019 (Official Gazette of the Republic of Serbia 29/2010) with a program of approaching the EU, a framework which provides conditions for the rational and sustainable waste management in the Republic of Serbia is clearly set. By The Law on Waste Management enactment (Official Gazette of the Republic of Serbia 36/2009 and 88/2010), the way of adequate waste management, from its formation through the collection, transport, storage, treatment, up to the final disposal (Jovanović 2015) is clearly prescribed.

### 2.1.3. Analysis of municipal waste in some European countries

Waste management in Germany, the UK and Greece is very different in comparison to Republika Srpska and Serbia. This is primarily related to: disposal and waste collection, legislation, economic level, habits of citizens and others. Some parallels can be made, however, when you take into account that developing countries have far less waste, but do not have sufficient funds to take care of that waste, while developed countries have other problems, and these other problems are primarily numerous obstacles to achieve the ideal waste management in order to reduce its quantity (Nikolić 2016). The total amount of waste in the aforementioned countries is in the range from 359 kg to 526 kg per capita per year (Table 5). The table below presents the data for the total waste generated and the mean annual quantity of waste generated per capita, where Serbia is compared with the following European countries (Eurostat 2012 a, b).

Table 5. The amount of generated municipal waste and waste in kg per capita in one year (2010) (Source: Eurostat 2012 a, b)

	The total amount of municipal waste (1000t)	Average annual quantity waste (kg / capita)
Serbia	2 650	359
Greece	67 523	457
Germany	367 256	587
Great Britain	316 991	526

Table 5 shows that Serbia annually generates significantly less amount of waste from countries with which it is compared. The amount of waste per

capita is lower for around 100 to 200kg in average, compared to Germany, the UK and Greece.

## CONCLUSION

From a review of the relevant literature, policy documents and presented data on waste management in Republika Srpska and Serbia, it can be concluded that there are numerous shortcomings in the waste management system, which is characterized by:

- insufficient reliable data on the quantities and composition of waste at all landfills,
- underdeveloped system of collection and systematization of data and flow of all types of waste,
- the inability of the organization of separate collection of recyclable waste from households,
- failure to implement a program of environmental monitoring concerning emissions from landfills, to the necessary extent,
- the lack of facilities for processing and utilization of waste,
- disposal of hazardous waste along with the municipal waste,
- The phenomenon of unregulated and illegal landfills.

Average specific amount of municipal waste generated in the Republic of Serbian is around 279kg of municipal waste per capita per year. In Serbia, that is 359kg per capita annually. While in some European countries, this amount is as follows: Greece 457kg, 587kg, Germany and the United Kingdom 526kg per capita annually. We can conclude that Republika Srpska generates the smallest amount of waste per capita when compared to the analyzed countries. The main problem related to this issue in Republika Srpska represents the fact that there is still lack of coordinated legislation with EU regulations. At this point Republika Srpska is in the stage of final enactment of the long-term Waste management strategy. Serbia has already enacted this and many other documents and coordinate them with the regulations of the European countries.

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Pregledni rad

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## ULOGA DRŽAVE U FINANSIRANJU RAZVOJA

**Rezime:** *Cilj istraživanja je da se pokaže kako se zadaci fiskalne politike zemalja u tranziciji mogu sažeti u: transfer sredstava iz privatnog u javni sektor, djelovanje na visinu i strukturu investicija, visinu i strukturu potrošnje, strukturu uvoza i izvoza, visinu stope štednje, preraspodjelu dohotka, strukturu zaposlenosti, alokaciju resursa i inflatornih kretanja. Metodi istraživanja su: opšti metodološki principi, prilagođeni konkretnom predmetu istraživanja, metod indukcije i dedukcije, deskriptivni metod, metodi analize i sinteze, metodi klasifikacije i deskripcije, sa posebnim akcentom na njihovoj objektivnosti, pouzdanosti, preciznosti, sistematičnosti i uopštenosti. Rezultat istraživanja pokazuje da je potreban izmijenjen sistem državnog intervencionizma pri upravljanju javnim finansijama. Rad se završava zaključnim razmatranjima u okviru kojih se posebno ističu neophodnost primjene reformi u fiskalnom sektoru, kao i primjena monetarističkog pristupa dugoročne stope monetarnog rasta kod sistema deficitarnog finansiranja.*

**Ključne riječi:** *fiskalna održivost, javni dug, javna potrošnja, deficitarno finansiranje.*

**JEL klasifikacija:** *H62, H63, H69.*

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## UVOD

Danas, sve zemlje u tranziciji svoju fiskalnu politiku i instrumente njenog ostvarivanja usmjeravaju u svrhu stabilizacije, smanjenjem rashoda i uravnoteženjem budžeta, a cijeli taj teret pada na stranu prihoda. Naravno, teret ostvarivanja prihoda mora biti zasnovan na efikasnoj i ravnopravnoj naplati. Indikativno je da danas fiskalna politika, zbog prethodno iznesenih činjenica, nije u stanju da ostvaruje najveći dio akumulacije, posebno kad se kod zemalja u tranziciji osjeća nedostatak privatne akumulacije i stranih investicija.

Povećanje akumulacije moguće je povećanjem poreske presije, ali se postavlja pitanje do koje granice je moguće povećavati poreze i koja je to granica učešća poreza u BND. Podaci o udjelu poreza u BND znatno se razlikuju za zemlje u tranziciji i visokorazvijene zemlje, kod prvih je to učešće do 20%, a kod drugih od 40% do 50%. Ovakvi podaci govore o nekoliko stvari. Prvo, visokorazvijene zemlje imaju znatno veći kapacitet da generišu ovako visoke poreske prihode i znatno veće potrebe za javnim rashodima, što navodi da postoji značajna mjera kauzalnosti između višeg nivoa razvijenosti i viših nivoa poreza.

Od načina kako se resursi troše, kauzalnost može ići i u drugom pravcu. Mnogi ekonomisti su skloni tvrdnji da je osnovna slabost fiskalnog sistema kod zemalja u tranziciji odnos direktnih i indirektnih poreza. S druge strane, neohodno je sagledati i strukturu indirektnih poreza, odnosno mogućnosti sprovođenja reformi s ciljem poreskog raterećenja poreskih obveznika.

## 1. ODRŽAVANJE FISKALNE ODRŽIVOSTI – TRENUTNE PERSPEKTIVE

Različitost orijentacija fiskalnih politika proizvodi i različitu orijentaciju na direktne ili indirektno poreze izražene kao procenat BND. Dok je taj odnos u SAD znatno veći u korist direktnih poreza (17% u odnosu na 3,7%), taj odnos je u Evropi gotovo izjednačen (14,2% naprema 13,7%), a za zemlje u tranziciji odnos je znatno veći u korist indirektnih poreza. Sa aspekta djelovanja na ekonomski razvoj, nejasna je uloga i jednih i dru-

gih, ali se može sa sigurnošću reći da nije razumno pretjerano oslanjanje na bilo koji oblik. Mobilizacija resursa kao cilj oporezivanja kod zemalja u tranziciji uveliko se koristi za finansiranje deficita budžeta, smanjujući rashode za zdravstvo, obrazovanje, infrastrukturu i ostale komponente ekonomske infrastukture, i ne zaboravljajući da država u znatnoj mjeri finansira svoja javna preduzeća i njihove troškove, od kojih gotovo sva posluju sa gubitkom.

Posebno do izražaja dolazi vremenski period od 2000. godine do danas, gdje sve zemlje u tranziciji imaju probleme stalnog rastućeg fiskalnog deficita u znatnoj mjeri izazvanog nedostajućim razvojnim projektima i spoljnim faktorima. Podaci IMF govore da se i visokorazvijene zemlje součavaju sa fiskalnim deficitom i deficitom budžeta.

Tabela 1. Fiskalna ravnoteža, 2008–2015. (Međunarodni monetarni fond – IMF 2014, 10)

	2008.	2009.	2010.	2011.	2012.	2013.	2014.
Francuska	-3,3	-7,6	-7,1	-5,3	-4,8	-4,2	-3,7
Njemačka	-0,1	-3,1	-4,2	-0,8	-0,1	0	0
Grčka	-9,9	-15,6	-10,8	-9,6	-6,3	-2,6	-2,7
Italija	-2,7	-5,4	-4,4	-3,7	-2,9	-3,0	-2,7
UK	-5,0	-11,3	-10,0	-7,8	-8,0	-5,8	-5,3
SAD	-7,8	-14,7	-12,5	-11,0	-9,7	-7,3	-6,4
Japan	-4,1	-10,4	-9,3	-9,8	-8,7	-8,4	-7,2

Tabela 2. Državni dug kao procenat BND, 2008–2015. (IMF 2014, 14)

	2008–2015.
Francuska	68,2–95,6
Njemačka	66,8–95,8
Grčka	112,9–174,7
Italija	106,1–134,5
UK	51,9–91,5
SAD	72,8–105,7
Japan	191,8–243,5

Kod analize nivoa duga, posebno je značajan pokazatelj niske inflacije u evrozoni od 2013, temeljne inflacione stope manje su od 1 odsto. Istraživanja pokazuju da je rizik od usporene deflacije široko rasprostranjen. Međutim, ako niska inflacija potraje, može komplikovati napore za smanjenje duga. U teoriji, niska inflacija povećava odnos javnog duga kroz tri glavna kanala.

- Prvo, vlade bi smanjile manje realne resurse kroz bazu kreiranja novca (monetarnog sistema).
- Drugo, niska inflacija može povećati odnos duga prema BND kroz pogoršanje dinamike duga. Uticaj ovog kanala zavisi od zrelosti strukture valute i denominacije duga, kao i odgovora kamatne stope na nižu inflaciju. Uticaj niske inflacije na dug je najniži za kratkoročne i plivajuće stope. Strani denominovani kurs neće uticati na koeficijente duga ako kurs u potpunosti odražava razliku inflacije.
- Treće, niska inflacija može uticati na primarni bilans i na strani prihoda i na strani rashoda. Pravac i stepen ovih efekata zavisi od institucionalnih okvira. Na primjer, zaostala naplata poreza može povećati porez na nivou BDP u kratkom roku, jer se porez na dobit zasniva na dohotku ostvarenom za prethodnu godinu. Dakle, nominalna vrijednost prihoda od prikupljenog poreza može privremeno brže rasti po tekućim cijenama. Nasuprot tome, u zemljama sa nesavršenom indeksacijom, smanjenje inflacije smanjuje pokazatelj prihoda.

Tabela 3. Izabrane razvijene ekonomije: bruto potrebe za finansiranjem kao procenat BDP-a 2014. godine (IMF 2014, 17)

2014.	Dug koji je dospio	Budžetski deficit	Bruto potrebe za finansiranjem
Francuska	13,2	3,7	16,9
Njemačka	6,9	0	6,8
Grčka	13,8	1,9	15,7
Italija	25,7	2,7	28,4
UK	6,3	5,3	11,6
SAD	18,0	6,4	24,4
Japan	50,7	7,2	57,9



Povećanje duga, smanjivanje dotoka stranih privatnih i državnih investicija, rastući trgovinski debalans pred zemlje u tranziciji nameće potrebu značajnih fiskalnih prestrojavanja i sagledavanje vlastitog realnog poreskog potencijala koji mora biti utemeljen uz uvažavanje sljedećih faktora:

- utvrđivanje realnog prihoda stanovništva;
- nivo nejednakosti u raspodjeli prihoda;
- uvažavanje strukture ekonomije i pojedinih njenih segmenata;
- političke, institucionalne i socijalne postavke različitih grupa (poljoprivrednici, industrija, sindikat i dr.);
- stručnost administracije, moralne vrijednosti istih i njihov integritet.

Pored utvrđivanja optimalnog poreskog potencijala, za zemlje u tranziciji najvažniji zadatak je efikasnost i integritet poreskih uprava i njegove funkcije da generiše dovoljno javnih prihoda iz kojih treba da se finansiraju razvojni programi u ekspanziji i vrši prenos prihoda od onih sa višim prihodom ka onima sa nižim, u cilju smanjenja siromaštva i prihodovne nejednakosti, ali cijeli taj proces u potpunosti zavisi od političke volje za primjenu i provođenje progresivnih poreskih programa (Mookherjee 1997, 108–225).

U posljednjih šest mjeseci, niske kamatne stope i nestabilnost na tržištima obveznica doveli su do pada pritiska na javne finansije u većini zemalja. Međutim, temeljne fiskalne ranjivosti i dalje postoje, a novi rizici se pojavljuju. U razvijenim ekonomijama, predviđeno usporavanje smanjenja strukturnog deficita pružiće podršku obnovi privredne aktivnosti. Preduzeti fiskalni napor u posljednjih pet godina stabilizovao je prosječni dug u BDP-u. Ipak, još uvijek se očekuje da premaši 100 odsto BDP-a na kraju decenije. Važno je nastaviti smanjivanje duga na sigurniji nivo i obnavljanje fiskalnih rezervi. Neodlučan oporavak i uporni rizici deflacije i umor reformi poziv su za fiskalnu politiku da pažljivo balansira podršku za rast i zapošljavanje.

U srednje razvijenim privredama, koeficijenti duga i deficita su uglavnom umjereni, mada, u prosjeku, iznad nivoa prije krize. Izgledi za preduzimanje čvršćih uslova finansiranja i eventualno nižeg potencijala za rast otvaraju prostor za djelovanje fiskalne politike. Takođe, zemlje treba da preduzmu mjere za jačanje fiskalnih okvira za upravljanje rizicima vladinih

aktivnosti kojima nisu trenutno pokriveni nacionalni budžeti, a u složenim uslovima finansiranja imali bi koristi od preduzimanja fiskalnih mjera.

Visoki i uporni nivo nezaposlenosti poziv je za široku reakciju ekonomske politike, kojom treba obuhvatiti reformu tržišta i druge politike. Međutim, situacija kod zemalja u tranziciji je nepovoljna, ako se kao polazna tačka prilagođavanja uzme dugotrajna recesija, kada se zna da veći rashodi imaju kratkoročni negativan uticaj na zapošljavanje. Kod zemalja u tranziciji, podešavanja obično imaju negativan uticaj na zapošljavanje, zbog smanjenja niskih nivoa javnih investicija. Konačno, ono što je možda najviše bitno jeste priroda specifičnih prihoda ili mjere za smanjenje rashoda.

Dobro dizajnirana poreska reforma može omogućiti rast i zapošljavanje, ali zemlje sa malim fiskalnim prostorom moraju biti svjesne svojih budžetskih ograničenja. Veće javne investicije mogu obezbijediti pozitivna preliivanja, uz preduzimanjemjera da se izbjegnu negativne reakcije na tržištu. Strukturne reforme mogu da podrazumijevaju niže fiskalne troškove, ali bez obzira da li ili ne ovi troškovi treba da se apsorbuju kroz konsolidaciju sporijim tempom u zavisnosti od postojećeg fiskalnog prostora, potencijalnih ranjivosti, kao i posvećenosti provođenju reformi. Kao opšte pravilo, fiskalni troškovi treba da budu sadržani i u veličini i u trajanju. U slučaju negativnog rasta, zemlje mogu aktivirati automatske stabilizatore, osim ako se suočavaju s ograničenjima obavezujućeg finansiranja. Kredibilni srednjoročni fiskalni planovi su potrebni kao dio zvučnih okvira fiskalne politike. Ovo je naročito važno za zemlje sa visokim dugom, kod kojih se uočava veliki projektovani rast u zdravstvu i penzionoj potrošnji. U drugim zemljama, obuzdavanje lične potrošnje može smanjiti dugoročne fiskalne rizike.

## **2. JAVNA POTROŠNJA**

Sa širenjem kejnzijanskog shvatanja anticikličnog i antikriznog djelovanja države, sve je više dolazio do izražaja državni intervencionizam i u gotovo svim zemljama doveo je do rasta javnih rashoda. Sa stavljanjem pod državnu kontrolu svih segmenata privrede, socijalnog sistema i preraspodjele dohotka, javna potrošnja u svim razvijenijim zemljama značajno je porasla i početkom 90-ih godina već je imala udio oko 50% u BDP-u. Posebno je karakteristično da je rast javnih rashoda u zemljama u tran-

ziciji u tim godinama imao veći rast od rasta BDP-a, a da su te zemlje zbog takvog trenda povećale stepen oporezivanja. Sve veća preraspodjela dohotka kroz budžet i znatna netržišna ulaganja imali su mnoge efekte na tržišne odnose.

Stalni porast javne potrošnje, a samim tim i sve većih poreskih zahvatanja, dovodi do otpora svih struktura i kritike neracionalne potrošnje, državne regulatorne funkcije nauštrb efikasnosti kapitala, pada produktivnosti, profitne stope i mase dohotka. Neracionalna potrošnja sve više prerasta u potrebu ograničavanja javnog sektora. Sve najrazvijenije zemlje napuštaju politiku deficitarnog budžetskog finansiranja, koja fiskalnim podsticajima, javnim rashodima i ekspanzivnom monetarnom politikom treba da oživi privrednu aktivnost i spriječi ulazak privrede u fazu recesije.

Ekonomija ponude i racionalnih očekivanja zauzima dominantnu poziciju u najrazvijenijim zemljama i u ekonomskoj strategiji pravi zaokret od javnog ka privatnom sektoru, povratak snazi tržišta, privatnoj inicijativi i ekonomskoj dinamici proizvođača, ali i filozofiji racionalnog ponašanja pojedinaca i inherentnoj stabilnosti privatnog sektora (Ristić i Komazec 2009, 649). Ovakvu poziciju usvajaju sve zemlje u tranziciji do početka novog milenijuma.

Doktrina slobodnog tržišta danas je u potpunom raskoraku sa stvarnim odnosima kod najrazvijenijih zemalja, jer danas se sve više ispoljava ograničeno djelovanje tržišta, manipulacija ponudom i potražnjom od strane monopola i najrazvijenijih zemalja. Doktrina neoliberalizma sa konceptom slobodnog pristupa tržištu, liberalizacije finansijskih tržišta za slobodno strano privatno investiranje, te promocija privatne preduzumljivosti isključivo su u funkciji ekonomske i finansijske dominacije najrazvijenijih zemalja u odnosu na sve ostale.

Stalni rast javnih rashoda izaziva rast budžetskog deficita koji se posljednjih decenija povećao nekoliko puta. Izbor pred zemljama je da prošire zaduživanje da vlastitim rashodima pokrenu ekonomski rast, koji će se kasnije smanjivati povećanim porastom poreskih prihoda u skladu sa povećanjem nacionalnog dohodka ili smanjivanjem transfernih rashoda zbog porasta zaposlenosti ili znatnim smanjenjem rashoda sa realnim izgledima pojave stagnacije u razvoju i porasta nezaposlenosti, sve u duhu kejnzijanske doktrine. Drugi pravac, koji su prihvatile gotovo sve zemlje, jeste kontraktivna budžetska politika koja je motivisana stavom da širenje deficita neminovno

vodi porastu inflacije, iako se stope inflacije u svim najrazvijenijim zemljama kreću u prihvatljivim granicama. I pored svih pokušaja, fiskalna neravnoteža u gotovo svim razvijenim zemljama se produbljuje.

Trenutna ekonomska realnost i ekonomska teorija priznaju potrebu državnog intervencionizma, posebno u razvojnim segmentima (socijalni, obrazovni i zdravstveni), kao i proaktivne uloge u promociji privatnog sektora i njihovih profitnih motiva. Savremeni javni sektor ne može imati ulogu zatvorenog i izolovanog sistema u odnosu na privatni sektor i u procesu novog koncepta ekonomskog razvoja ima koncept funkcionalnih finansija.

### 3. JAVNI DUG

Djelovanje javnog duga u savremenoj privredi i tendencija njegovog sve bržeg rasta u odnosu na nacionalni dohodak i budžetska sredstva sve više zaokuplja pažnju kako država, tako i ekonomsku teoriju u cilju dubljeg analiziranja. Formiranje i upravljanje javnim dugom danas je dio globalnih razmatranja međunarodnih institucija i njihovog djelovanja u međunarodnim okvirima.

Ekonomska teorija danas diferencira vrlo brojna djelovanja koja se mogu klasifikovati u nekoliko osnovnih pravaca (Ristić i Komazec 2009, 698):

- monetarno djelovanje,
- razvojno ili konjunktorno djelovanje,
- stabilizaciono djelovanje,
- specifično djelovanje (uglavnom redistributivnog karaktera).

U zavisnosti od ekonomskih, finansijskih i političkih implikacija danas je djelovanje duga vrlo raznovrsno, ali i značajno. Opšta tendencija porasta učešća javnog duga u BDP-u negativno djeluje na dohodak i zaposlenost, alokacijom resursa sa privatnog na javni sektor remeti se tržišni mehanizam i povećavaju troškovi neefikasnosti korišćenja kapitala. Stabilizacione mjere smanjenja budžetskog deficita, koje danas preduzimaju sve države, kako najrazvijenije, tako i zemlje u tranziciji, u osnovi predstavljaju strategiju otklanjanja inflatornih očekivanja i smanjenja realne kamatne stope na tržištima kapitala.

U analizi javnog duga neophodno je vratiti se unazad. Polazeći od toga da je akumulacija spoljnog duga izražen problem zemalja u tranziciji u

fazi ekonomskog razvoja, gdje je priliv domaće štednje nizak, a deficit platnog bilansa visok, neophodan je uvoz kapitala kako bi se povećala domaća sredstva. Početkom 70-ih godina prošlog vijeka javni dug je za te zemlje bio moćno sredstvo stabilizacije i razvojne politike. Većina tih kredita bila je na koncesionoj (niskokamatnoj) osnovi i davani su u cilju implementacije razvojnih projekata i povećanja uvoza kapitalnih roba. Ekonomske krize 80-ih i 90-ih godina na međunarodnom tržištu mijenjaju iz osnova politiku plasmana sredstava i veliku ulogu dobijaju komercijalne banke u međunarodnom kreditiranju, a posebno je poznat slučaj recikliranja suficita zemalja članica OPEC-a.

Spoljno zaduživanje za zemlje u tranziciji ima dubokog ekonomskog smisla i sve vode takvu politiku finansiranja vlastitih investicija, pod uslovom da angažovanje strane štednje ima ekonomsko opravdanje ako je krajnji cilj dinamizovanje privrednog rasta, da se u dugom roku poveća vlastita štednja i stvore uslovi za samostalan razvoj. Posljednje godine pokazuju da je cijena zaduživanja za zemlje u tranziciji bila daleko veća od koristi, posebno gledajući proces servisiranja duga.

Servisiranje duga predstavlja plaćanje amortizacije i akumulirane kamate, što predstavlja ugovorom fiksiranu naknadu za domaći realni prihod i štednju. S obzirom na to da se uplate za servisiranje duga moraju platiti iz inostrane razmjene, a da se kod mnogih zemalja u tranziciji na taj način limitira postojeći izvoz, uticaj eksternog duga na razvoj postao je zabrinjavajući. Proces servisiranja duga zahtijeva seriju koordinisanih akcija, jer se koncept osnovnog transfera (neto priliv i odliv deviza za međunarodne pozajmice) pokazao kao veoma negativan za zemlje u tranziciji 80-ih i 90-ih godina (Stewart 1985, 141–204).

Angažovanje stranih sredstava treba da bude u funkciji dinamizovanja stope privrednog rasta, a povećanje proizvodnje treba da obezbijedi sredstva u cilju finansiranja prispjelih obaveza. Najnepovoljniji oblik angažovanja stranih sredstava je razvoj onih grana koje treba da obezbijede potrebe domaćeg tržišta, kao i poslova javnog karaktera za izgradnju javnih objekata, što je kod znatnog broja zemalja u tranziciji bio apsolutan slučaj (BiH, Srbija). Otplatu ovakvih kreditnih sredstava uvijek prati povećanje poreza iz nemogućnosti servisiranja duga, angažovanje ovih sredstava nije imalo uticaja na izvozni sektor.

U toku posljednje decenije promijenjen je oficijelni fiskalni stav po kome više ne važi tvrdnja da se fiskalni deficit jedne zemlje finansira isključivo sredstvima te zemlje (Ristić i Ristić 2015, 17). Za uspješno servisiranje duga ključno pitanje je povećanje efikasnosti upotrebe stranih sredstava. Zemlje u tranziciji moraju tražiti metode efikasne upotrebe tih sredstava, prvenstveno kroz veće periode mirovanja otplate, smanjenje visine kamata ili veću depatrijaciju profita stranih preduzeća.

Generalno, zemlje u razvoju imaju porast zaduženja u inostranstvu. Noliko je razloga za to: prvo, zemlje u razvoju zbog izuzetno niskog koeficijenta tehničke opremljenosti rada imaju nisku proizvodnju po zaposlenom. Drugo, zbog povećanja lične i investicione potrošnje raste sklonost ovih zemalja ka uvozu. Značajna ulaganja u infrastrukturu kao razvojni prioritet uglavnom se karakterišu visokom kapitalnom intenzivnošću, usljed čega uvozna zavisnost ovih zemalja raste. Istovremeno, ove investicije se karakterišu vrlo dugim aktivizacionim periodom, odnosno one se efektiraju tek nakon dužeg vremenskog intervala. Velika eksterna zaduženost zemalja u razvoju spada u jedan od izraženijih ekonomskih problema savremenog svijeta. Jedan broj ekonomskih teoretičara u njoj vidi najveću opasnost za cjelokupni međunarodni i finansijski sistem (Babić 1993, 335). Stanje i struktura duga najbolje se vide iz sljedeće tabele.

Tabela 4. Spoljni dug (Svjetska banka – World Bank 2014)

	BiH	Hrvatska	Crna Gora	Madarska	Srbija
Bilans tekućeg računa (BoP, važeći US\$)	1,1 mlrd.	715 mil.	-649 mil.	5,5 mlrd.	-2,7 mlrd.
Spoljni dug, privatno negarantovani (PNG) (DOD, važeći US\$)	4,1 mlrd.		76 mil.	106 mlrd.	17 mlrd.
Spoljni dug, javni i javno garantovani (PPG) (DOD, važeći US\$)	4,7 mlrd.		2,4 mlrd.	65 mlrd.	16,7 mlrd.
Spoljni dug, kratkoročni (DOD, važeći US\$)	1,3 mlrd.		467 mil.	22 mlrd.	571 mil.
Spoljni dug, ukupni (DOD, važeći US\$)	11 mlrd.		3 mlrd.	196 mlrd.	36,4 mlrd.
SDI, neto priliv (BoP, važeći US\$)	315 mil.				

IBRD i IDA krediti (DOD, važeći US\$)	1,6 mlrd.		407 mil.	3,7 mlrd.	2,6 mlrd.
Neto tokovi spoljnog duga, dugoročni (NFL, važeći US\$)	58 mil.		101 mil.	15 mlrd.	2,6 mlrd.
Neto tokovi spoljnog duga, ukupni (NFL, važeći US\$)	64 mil.		30 mil.	8,9 mlrd.	1,5 mlrd.
Neto primljena sredstva ODA (% of GNI)	3,0		2,8		1,8
Neto primljena sredstva ODA <i>per capita</i> (važeći US\$)	144		205		109
Neto zvanična primljena pomoć za razvoj (važeći US\$)	550 mil.		127 mil.		783 mil.
Ukupno servisiranje duga (% izvoza roba, usluga i dohotka)	17,8		17,2	95,5	43,6
Kredit od IMF (DOD, važeći US\$)	848 mil.		39 mil.	1,5 mlrd.	1,6 mlrd.

#### 4. DEFICITARNO FINANSIRANJE RASTA

Deficitarno finansiranje razvoja sve je više predmet interesa, ali i kontroverzi u ekonomskoj teoriji. Jedna grupa zagovara metod ovakvog finansiranja u kombinaciji sa zdravim oblicima finansiranja, dok zagovornici kejnzijanske doktrine zagovaraju metod podsticanja investicione potrošnje, stope rasta i zaposlenosti, korišćenjem čiste emisije novca koja odgovara višku štednje u odnosu na realne investicije. Dodatna novčana masa samo popunjava taj višak štednje koja se ne investira.

Globalna investiciona potrošnja povećava se na onaj nivo koji će osigurati ostvarivanje politike pune zaposlenosti.

U ekonomskoj teoriji i danas postoji veliki broj autora koji ne prihvataju ovakav način finansiranja zbog generisanja inflacije, uz obrazloženje da razvijena privreda posjeduje dovoljno kapitala, ali za zemlje u tranziciji koje imaju oskudicu kapitala ovakav način predstavlja značajan alternativni metod stvaranja akumulacije, mada dobar dio i tih zemalja ima oprečne stavove, od podržavanja do odbacivanja.

Sve aktuelniji problem deficitarnog finansiranja nameće određene dileme u smislu izbora modela, granica i njegovog djelovanja. Inflatorno stvaranje

novca u određenim uslovima može stimulisati akumulaciju, ali po stavu mnogih, inflacija je kao opšta metoda finansiranja razvoja neprihvatljiva. Međutim, neki ekonomisti polaze od stava da je umjerena inflacija istorijski nužan oblik prinudne štednje za stvaranje dopunske akumulacije u savremenim uslovima razvoja zemalja u razvoju (Hansen 1960, 174). Ostaje dilema koje su to granice i mogućnost utvrđivanja istih. Uz sve oprečnosti u pogledu deficitarnog finansiranja, ono je u primjeni u gotovo svim zemljama, bilo kroz sistem budžetskog deficita bilo kroz ekspanziju kredita. Određena razmatranja pokazala su da je deficitarno finansiranje nedovoljno efikasno kao sredstvo povećanja ekonomskog rasta, ali znatno efikasno u podržavanju opšte tražnje i može se uključiti u dugoročne ekonomske programe u kojima su deficitarno finansiranje i javni dug značajni faktori. Sistem deficitarnog finansiranja, kako ga preporučuje kejnzijanska koncepcija sa dugoročnije vođenom politikom jeftinog novca, nije primjenljiv danas, u uslovima potpuno izmijenjene strukture razvijene privrede, a jedan od odgovora je monetaristički pristup dugoročne stope monetarnog rasta. Izuzetno visok nivo potrošnje u razvijenim zemljama negira kejnzijansku teoriju građenu na kriznodeflacionoj situaciji privrede, implicirajući da su agregati tražnje i ponude prestali da postoje kao osnovni faktori u modelovanju cijena (transferna davanja, monopolističko određivanje cijena i međunarodni uticaj) (Ristić i Komazec 2009, 571).

## ZAKLJUČAK

Zemlje u tranziciji i srednje razvijene privrede treba da preduzmu mjere za jačanje fiskalnih okvira za upravljanje rizicima vladinih aktivnosti kojima nisu trenutno pokriveni nacionalni budžeti, a u složenim uslovima finansiranja bi imali koristi od preduzimanja fiskalnih mjera.

Velika nezaposlenost zemalja u tranziciji pokazuje da je neophodno provoditi reforme u području fiskalne politike. Dugotrajna recesija dodatno negativno utiče na nivo zaposlenosti kod ovih zemalja. Naime, obično se dešava povećanje fiskalnih nameta uz smanjenje javnih investicija, što, u pravilu, dovodi do dodatnog negativnog uticaja na zapošljavanje.

Potrebna je dobro dizajnirana poreska reforma, sa puno poreskih olakšica u periodu recesije, koja će omogućiti rast i zapošljavanje. Takođe, neophodne



su i veće javne investicije koje mogu obezbijediti pozitivna preliivanja, uz preduzimanje mjera da se izbjegnu negativne reakcije na tržištu. Strukturne reforme mogu da podrazumijevaju niže fiskalne troškove, ali bez obzira da li ili ne ovi troškovi treba da se apsorbuju kroz konsolidaciju sporijim tempom u zavisnosti od postojećeg fiskalnog prostora, potencijalnih ranjivosti, kao i posvećenosti provođenju reformi. Kao opšte pravilo, fiskalni troškovi treba da budu sadržani i u veličini i u trajanju. U slučaju negativnog rasta, zemlje mogu aktivirati automatske stabilizatore, osim ako se suočavaju s ograničenjima obavezujućeg finansiranja. Kredibilni srednjoročni fiskalni planovi potrebni su kao dio zvučnih okvira fiskalne politike. Ovo je naročito važno za zemlje sa visokim dugom, kod kojih se uočava veliki projektovani rast u zdravstvu i penzionoj potrošnji. U drugim zemljama, obuzdavanje lične potrošnje može smanjiti dugoročne fiskalne rizike.

Da bi se javni dug smanjio, neophodno je uspješno servisiranje duga, koje će omogućiti povećanje efikasnosti upotrebe stranih sredstava. Zemlje u tranziciji moraju tražiti metode efikasne upotrebe tih sredstava, prvenstveno kroz veće periode mirovanja otplate, smanjenje visine kamata ili veću depatrijaciju profita stranih preduzeća.

Kod zemalja u razvoju, sistem deficitarnog finansiranja, kako ga preporučuje kejnzijanska koncepcija sa dugoročnije vođenom politikom jeftinog novca, nije primjenljiv danas u uslovima potpuno izmijenjene strukture razvijene privrede, a jedan od odgovora na pitanje koji pristup koristiti jeste monetaristički pristup dugoročne stope monetarnog rasta.

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Review

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## ROLE OF THE STATE IN FINANCING FOR DEVELOPMENT

**Summary:** *The goal of the research is to demonstrate that the tasks of the fiscal policy in transition countries can be summarized in: the transfer of funds from the private to the public sector, activity on the amount and structure of investments, the amount and structure of consumption, the structure of imports and exports, the rate of savings, income distribution, employment structure, allocation of resources and inflationary trends.*

*The methods of research are: general methodological principles adapted to the specific case studies, methods of induction and deduction, descriptive method, method of analysis and synthesis, method of classification and description, with particular emphasis on their objectivity, reliability, precision, systematic and generality.*

*The result of research indicates that a modified system of state intervention in the management of public finance director:*

*The paper ends with concluding remarks in the context of which the necessity for reforms in the fiscal sector as well as the application of the monetarist approach to long-term rate of growth in the monetary system of deficit financing.*

**Key word:** *fiscal sustainability, public debt, public spending, deficit financing.*

**JEL Classification:** *H62, H63, H69.*

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## INTRODUCTION

Today, fiscal policies of all countries in transition and instruments of these policies and their implementation are directed in order to stabilize, reducing spending and balancing the budget, the whole burden falls on the side of revenues. Of course, the burden of earning income must be based on an efficient and equitable payment.

It is indicative that now fiscal policy from the previously mentioned fact is not able to achieve most of the accumulation, especially when the countries in transition feel the lack of accumulation of private and foreign investments. Increasing accumulation is possible by increasing the tax burden, but the question is where is the extent to which it is possible to increase taxes and to limit the share of taxes in GDP. Data on the share of taxes to GDP vary considerably in countries in transition and developed countries, at first this share to 20%, and in others of 40-50%.

These data suggest a few things; first developed countries have a much greater capacity to generate such high tax revenues and significantly higher needs for public expenditure, which alleged that there is a significant measure of causality between a higher level of development and higher levels of taxation.

From the way in which resources are wasted, causality can go in another direction. Many economists are tending to claim that the main weakness of the fiscal systems in countries in transition is relationship between direct and indirect taxes. On the other hand, it is necessary to examine the structure of indirect taxes, and the possibilities of implementing reforms to the tax burden of taxpayers.

### **I. MAINTAINING FISCAL SUSTAINABILITY - CURRENT PERSPECTIVES**

The diversity of fiscal policy orientations leads to a different orientation to direct or indirect taxes as a share of GDP. While this ratio is much higher in the United States in favor of direct taxes, 17% compared to 3.7%, the ratio is almost equal in Europe, 14.2% contrasted with 13.7%, for the tran-

sition countries the ratio is much higher in favor of indirect taxes. From the operation point on economic development, it is unclear the role of both, but one can say with certainty that it is not reasonable over-reliance on any form. Resource mobilization as an objective of taxation in the countries in transition is largely used to finance the budget deficit, reducing expenditures on health, education, infrastructure and other components of economic infrastructure, not forgetting that the state largely financed their public enterprises and their costs, of which almost all operate at a loss. It is particularly prominent a period from 2000 to nowadays, where all countries in transition have constant problems of growing fiscal deficit largely caused by insufficient development projects and external factors. IMF data show that the developed countries face a fiscal deficit and budget deficit.

Table 1. Fiscal Balance, 2008-2015. (International Monetary Fund- IMF 2014, 10)

	2008	2009	2010	2011	2012	2013	2014
France	-3,3	-7,6	-7,1	-5,3	-4,8	-4,2	-3,7
Germany	-0,1	-3,1	-4,2	-0,8	-0,1	0	0
Greece	-9,9	-15,6	-10,8	-9,6	-6,3	-2,6	-2,7
Italy	-2,7	-5,4	-4,4	-3,7	-2,9	-3,0	-2,7
UK	-5,0	-11,3	-10,0	-7,8	-8,0	-5,8	-5,3
USA	-7,8	-14,7	-12,5	-11,0	-9,7	-7,3	-6,4
Japan	-4,1	-10,4	-9,3	-9,8	-8,7	-8,4	-7,2

Table 2. Government debt as a percentage of GDP, 2008–2015. (IMF 2014, 14)

	2008-2015
France	68,2-95,6
Germany	66,8-95,8
Greece	112,9-174,7
Italy	106,1-134,5
UK	51,9-91,5
USA	72,8-105,7
Japan	191,8-243,5

In the analysis of debt level, a particularly significant is the indicator of low inflation in the Eurozone since 2013, the core inflation rates are lower than 1 percent. Research shows that the risk of slowed deflation is widespread.

However, if low inflation persists, it may complicate efforts to reduce debt. In theory, low inflation increases the ratio of public debt through three main channels.

- First, the government should reduce less real resources through the money creation base (monetary system).
- Second, low inflation can increase the ratio of debt to GDP through the worsening of debt dynamics. The impact of this channel depends on the currency maturity structure and debt denomination, as well as the response of interest rates to lower inflation. The impact of low inflation on debt is the lowest in short-term and floating rates. Foreign denominated exchange rate will not affect coefficients of debt if the exchange rate fully reflects the difference in inflation.
- Third, the low inflation may affect the primary balance both on the revenue side and the expenditure side. The direction and extent of these effects depends on institutional framework. For example, collection of tax arrears may increase the tax on the level of GDP in short term, because the tax is based on income earned in the previous year. Thus, the nominal value of revenue from tax collection may temporarily grow faster at current prices. By contrast, in countries with an imperfect indexation, reduction of inflation reduces the indicators of income.

Table 3. Selected advanced economies: gross financing needs, as a percentage of GDP in 2014. (IMF;17)

2014	The debt that is due	Budget deficit	Gross financing needs
France	13,2	3,7	16,9
Germany	6,9	0	6,8
Greece	13,8	1,9	15,7
Italy	25,7	2,7	28,4
UK	6,3	5,3	11,6
USA	18,0	6,4	24,4
Japan	50,7	7,2	57,9

Debt increasing, inflow of foreign private and state investments reducing, a growing trade imbalance before transition countries imposes the need for significant fiscal realignment and understanding their own real tax

potential which must be established taking into account the following factors:

- determining the real income of the population;
- level of inequality in income distribution;
- taking into account the structure of economy and some of its segments;
- political, institutional and social postulates of different groups (farmers, industry, trade unions and others);
- administration competence, moral values of the same and their integrity.

In addition to determining the optimal tax potential for countries in transition the most important task is the efficiency and integrity of tax administration and its functions to generate sufficient public revenues from which should be funded development programs in expansion and performs the transfer of income from those with higher incomes to those with lower in order to reduce poverty and income inequality, but the whole process is completely dependent on political will of application and enforcement of progressive tax programs. (Mookherjee 1997 108 to 225).

In the last six months, low interest rates and volatility in bond markets led to a drop in pressure on public finances in most countries. However, the underlying fiscal vulnerabilities still exist, and new risks appear. In developed economies, the projected slowdown in the reduction of structural deficit will support the renewal of economic activity. Fiscal efforts undertaken in the past five years have stabilized the average debt in GDP. However, it is still expected to exceed 100 percent of GDP at the end of the decade. It is important to continue to reduce debt to a safer level, and restoring of fiscal reserves. Hesitant recovery and persistent risks of deflation and fatigue reforms are all a call for fiscal policy to carefully balance support for growth and employment.

In middle-income economies, debt and deficit ratios are generally moderate, although, on average, above the level before the crisis. Prospects for taking stronger financing conditions and possibly lower growth potential, open space for a fiscal policy. In addition, countries need to take measures to strengthen the fiscal framework for risk management of government activities that are not currently covered by national budgets, and the complex conditions of financing would benefit from taking fiscal measures.

High and persistent levels of unemployment call for a broad response of economic policy, which should include market reform and other policies. However, the situation in countries in transition is unfavorable, if as a starting point adjustment prolonged recession is taken, when it is known that higher expenses have short-term negative impact on employment. For countries in transition, the adjustments tend to have a negative impact on employment, due to the reduction of low levels of public investment. Finally, what is perhaps most important is the nature of specific revenues or measures for reducing expenditures.

Well-designed tax reform may provide growth and employment, but countries with little fiscal space should be aware of their budgetary constraints. Larger public investments can provide positive spillovers, while taking measures to avoid a negative reaction in the market. Structural reforms can imply lower fiscal costs, but regardless of whether or not these costs should be absorbed through consolidation by slower pace depending on the existing fiscal space, potential vulnerabilities, as well as the commitment to reforms. As a general rule, the fiscal costs should be included, both in size and duration. In the case of negative growth, countries can activate the automatic stabilizers, unless they face binding financing constraints. A credible medium-term fiscal plans are necessary as part of a framework of sound fiscal policy. This is particularly important for countries with high debt in which the observed large projected growth in health care and pension expenditure. In other countries, the restraint of private consumption can reduce the long-term fiscal risks.

## **2. PUBLIC SPENDING**

With the spread of anti-cyclical and anti-crisis Keynesian understanding activities of the state is increasingly coming to the fore a state interventionism and in almost all countries has led to the growth of public expenditure. With putting under government control of all segments of the economy, social system and redistribution of income, public spending in all developed countries increased significantly and in early 90s already had a share of around 50% of GDP. It is particularly significant that the growth of public expenditure in countries in transition in those years had a higher growth than the growth of GDP, and that these countries because of this



trend increased the level of taxation. An increasing income redistribution through the budget, significant non-market investments had many effects on market relations.

The constant increase of public spending, and thus increasing of tax collection lead to resistance of structures and criticism of irrational consumption, government regulatory functions to the detriment of efficiency of capital, falling productivity, profit rates and mass income. Irrational consumption grows into the need to restrict public sector. All the most developed countries leave politics of deficit budget financing, which by fiscal incentives, public expenditure and expansionary monetary policy should revive economic activity and prevent the economy entering into a recession phase.

Economics of offers and rational expectations occupies a dominant position in the most developed countries and in the economic strategy makes the shift from public to private sector, the return to market force, private initiative and economic dynamics of producers, but also to the philosophy of rational behavior of individuals and the inherent stability of private sector. (Ristić and Komazec 2009, 649). This position has been adopted by all countries in transition to the new millennium.

The free market doctrine has been in complete out of step with real relations at developed countries, because nowadays is more and more manifested a limited market activity, manipulation of offer and demand by monopolies and developed countries. The doctrine of neoliberalism with the concept of free market access, liberalization of financial markets for free foreign private investment, promotion of private entrepreneurship are solely in the function of economic and financial domination of the most developed countries in relation to everyone else.

The constant growth of public expenditures causes growth of budget deficit, which in recent decades has increased several times. The choice before the countries is to be able to extend borrowing to launch a growth with its own expenditure, which will later be increased by reduced increase in tax revenues in line with the increase of national income or reducing transfer expenditures due to the increase in employment and a significant reduction in expenditures with realistic prospects of phenomena of stagnation in the development and growth of unemployment, all in the spirit of the Keynesian doctrine. The second direction, accepted by almost all countries is con-

tractive budgetary policy that is motivated by the view that the expansion of deficit inevitably leads to higher inflation, although the rate of inflation in all the most developed countries move within acceptable limits. Despite all attempts a fiscal imbalance in almost all developed countries is deepening.

The very current economic reality and economic theory recognize the need for state interventionism, especially in the developmental aspects (social, education and health) as well as a proactive role in promoting the private sector and their profit motive. Modern public sector can play a role of closed and isolated system in relation to the private sector and in the process of a new concept of economic development has a concept of functional finances.

### **3. PUBLIC DEBT**

The effect of public debt in the modern economy and the tendency of all of its faster growth relative to the national income and budgetary funds is increasingly attracting the attention of both countries, and economic theory in order to deeply analyze it. Establishment and management of public debt is a part of a global review of international institutions and its activity within the international framework.

Economic theory today differs quite a number of activities that can be classified into several main directions. (Ristić and Komazec 2009, 698)

- monetary operations;
- development or cyclical activity;
- stabilizing;
- specific (mainly distributive nature) operation.

Depending on the economic, financial and political implications, debt activity today is very diverse, but also significant. The general trend in the increase of public debt to GDP ratio has a negative impact on income and employment, allocation of resources from private to public sector disturbs market mechanism and increase the cost of using capital inefficiencies. Stabilization measures taken today by all countries, the most developed, as well as countries in transition, the budget deficit reducing essentially represents a strategy of inflationary expectations eliminations and reducing of real interest rates in capital markets.

In the analysis of public debt, it is necessary to go back to the past. Given that the accumulation of foreign debt is an enunciated problem of transition countries in the phase of economic development, where the influx of domestic savings is low, the current account deficit is high, it is necessary to import capital to maximize domestic resources. In the early 70's of the last century, public debt of these countries was a powerful means of stabilization and development policy. Most of these loans were on a concession (low interest rate) basis and were given in order to implement development projects and an increase in imports of capital goods. The economic downturn in 80s and 90s in the international market changed fundamentally policy for funds placement and commercial banks received a large role in international lending, especially known case of OPEC member countries surplus recycling.

Foreign borrowing for countries in transition has profound economic sense and all lead such a policy by financing their own investments, only if the involvement of foreign savings has economic justification if the ultimate goal is economic growth spurring, that in the long run increase their own savings and create the conditions for independent development. Recent years have shown that borrowing cost for countries in transition was far greater than the benefits, especially looking at the process of debt servicing.

Debt service is the payment of accrued interest and amortization, which represents the fixed contract fee for domestic real income and savings. Since the payment of debt service have to be paid out from foreign exchange, and that in many countries in transition thus limiting the existing exports, the impact of external debt on development has become a concern. The process of servicing debt requires a series of coordinated activities, because the basic concept of transfer (net inflow and outflow of foreign exchange for international loans) proved to be very negative for the countries in transition, in 80s and 90s (Stewart 1985, 141-204).

Hiring of foreign funds should be in the function of economic growth intensification rates, increased production should provide the funds received to finance obligations. The least favorable forms of foreign funds involvement, the development of those branches that should provide the domestic market, and the works of public character for the construction of public facilities, which at a number of countries in transition was an absolute case

(BiH, Serbia). Repayment of such loan funds is always accompanied by an increase in taxes from the inability of debt servicing, the engagement of these assets had no impact on the export sector. During the last decade has been changed the official fiscal stance, according to which no longer was valid the assertion that the country fiscal deficit is funded solely by the resources of that country (Ristić I Ristić 2015, 17). For successful debt servicing a key issue is to increase efficiency in the use of foreign funds. Primarily, countries in transition must seek methods of efficient use of these funds primarily through higher grace period, reducing the amount of interest or greater profit repatriation of foreign corporations.

Overall, developing countries have an increase in foreign borrowing. There are several reasons for this: first, generally, developing countries due to the extremely low coefficient of technical equipment of labor have low production per employee. Second, due to the increase of personal consumption and investment, the tendency of these countries to import is increasing. Significant investment in infrastructure as a development priority is mostly characterized by high capital intensity due to which import dependence of these countries is growing. At the same time these investments are characterized by a very long activation period, and those are effected only after a longer time interval. Large external debt of developing countries falls into one of the more pronounced economic problems of the contemporary world. A number of economic theorist sees in it the greatest danger for the entire international and financial system. (Babić, 1993, 335). Balance and debt structure are best seen from the following table.

Table 4. Foreign debt (World Bank 2014)

	BiH	Croatia	Montenegro	Hungary	Serbia
Current account balance (BoP, valid US\$)-	1.1 bill.	715 mil	-649 mil	5.5 bill.	-2.7 bill.
External debt, private, non-guaranteed (PNG) (DOD, valid US\$)	4.1 bill.		76 mil	106 bill.	17 bill.
External debt, public and private, guaranteed (PPG) (DOD, valid US\$)	4.7 bill.		2.4 bill.	65 bill.	16.7 bill.
External debt, shot term (DOD, valid US\$)	1.3 bill.		467 mil.	22 bill.	571 mil.

External debt, total (DOD, valid US\$)	11 bill.		3 bill.	196 bill.	36.4 bill..
FDI, net inflow (BoP, valid US\$)	315 mil.				
IBRD and IDA loans (DOD, valid US\$)	1.6 bill.		407 mil.	3.7 bill.	2.6 bill.
Net flows of external debt, long term (NFL, valid US\$)	58 mil.		101 mil.	15 bill.	2.6 bill.
Net flows of foreign debt, total (NFL, valid US\$)	64 mil.		30 mil.	8.9 bill.	1.5 bill.
Net funds received ODA (% of GNI)	3,0		2.8		1.8
Net funds received, ODA per capita (valid US\$)	144		205		109
Net official development assistance received (valid US\$)	550 mil		127 mil.		783 mil.
Total debt service (% of exports of goods, services and income)	17,8		17.2	95.5	43.6
Loans of IMF (DOD, valid US\$)	848 mil.		39 mil.	1.5 bill.	1.6 bill.

#### 4. DEFICIT FINANCING GROWTH

Deficit financing development is more and more subject to interest or controversy in economic theory. One group advocates such method of financing in combination with a healthy forms of financing, while advocates of Keynesian doctrine advocate methods of stimulating investment spending, growth rates and employment, using clean emission of money that corresponds to excess of savings in refers to real investments. Additional money in circulation only fills the surplus savings that cannot invest.

Global investment spending increases to a level which will ensure achievement of full employment policies.

In economic theory and today there are a large number of authors who do not accept this type of financing for generating inflation, arguing that developed economies have sufficient capital but for transition countries that have a dearth of capital this way is an important alternative method of creating accumulation. Although a good share of these countries have different opinions, from support to rejection.

All topical problem of deficit financing imposes certain dilemmas in terms of model, limits and its activity. Inflationary creation of money in certain conditions can stimulate the accumulation, but according to many, inflation as a general method of development financing is unacceptable. However, some economists have taken the approach that moderate inflation is historically necessary form of forced savings to create additional accumulations in modern development conditions of developing countries. (Hansen 1960: 174). The dilemma remains which are the limits to the possibility of establishing them. With all the contradictions in terms of deficit financing it has been implemented in almost all countries either through the system's budget deficit, either through expansion of credit.

Certain considerations have shown that deficit financing is not sufficiently effective as a means of increasing economic growth, but significantly effective in supporting overall demand and can be included in the long-term economic programs in which the deficit financing and public debt are important factors.

The system of deficit financing recommended by Keynesian concept of the long-term driven policy of cheap money is not applicable today in conditions of completely changed structure of developed economies, one of the answers is a monetarist approach to the long-term rate of monetary growth. Extremely high levels of consumption in developed countries negate the Keynesian theory constructed on a crisis-deflation situation of economy, implying that demand and offer aggregates ceased to exist as the main factors in price modeling (transfer payments, monopolistic pricing and international influence) (Ristić and Komazec 2009, 571).

## CONCLUSION

The countries in transition and middle-income economies need to take measures to strengthen the fiscal framework for risk management of government activities that are not currently covered by national budgets, and the complex conditions of financing would benefit from taking fiscal measures.

High and persistent levels of unemployment call for a broad response of economic policy, which should include market reform and other policies. However, the situation in countries in transition is unfavorable, if as a starting point adjustment prolonged recession is taken, when it is known

that higher expenses have short-term negative impact on employment. For countries in transition, the adjustments tend to have a negative impact on employment, due to the reduction of low levels of public investment. Finally, what is perhaps most important is the nature of specific revenues or measures for reducing expenditures.

There is needs to provide a well-designed tax reform may provide growth and employment, but countries with little fiscal space should be aware of their budgetary constraints. Larger public investments can provide positive spillovers, while taking measures to avoid a negative reaction in the market. Structural reforms can imply lower fiscal costs, but regardless of whether or not these costs should be absorbed through consolidation by slower pace depending on the existing fiscal space, potential vulnerabilities, as well as the commitment to reforms. As a general rule, the fiscal costs should be included, both in size and duration. In the case of negative growth, countries can activate the automatic stabilizers, unless they face binding financing constraints. A credible medium-term fiscal plans are necessary as part of a framework of sound fiscal policy. This is particularly important for countries with high debt in which the observed large projected growth in health care and pension expenditure. In other countries, the restraint of private consumption can reduce the long-term fiscal risks. For successful debt servicing a key issue is to increase efficiency in the use of foreign funds. Primarily, countries in transition must seek methods of efficient use of these funds primarily through higher grace period, reducing the amount of interest or greater profit repatriation of foreign corporations. In developing countries, the system of deficit financing recommended by Keynesian concept of the long-term driven policy of cheap money is not applicable today in conditions of completely changed structure of developed economies, one of the answers is a monetarist approach to the long-term rate of monetary growth.

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Pregledni rad

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## EFIKASNOST REŠAVANJA RADNIH SPOROVA U BOSNI I HERCEGOVINI

**Rezime:** *Dugotrajni i spori sudski procesi podrazumevaju kašnjenje u rešavanju sporova izvan zakonski postavljenih rokova. Upravo problem dugotrajnosti sudskog postupka kada je u pitanju rešavanje radnog spora česta je pojava u sudovima u BiH, i to predstavlja značajan problem. Radni sporovi su predmeti koje su sudije obavezne da rešavaju po hitnom postupku i imaju prioritet. Međutim, ovi sporovi, koji treba da budu hitni, često se rešavaju i po nekoliko godina. Time hitni predmeti postaju dugotrajni sudski procesi koji često dovode u pitanje sam sudski postupak s obzirom na to da vreme igra važnu ulogu u ostvarivanju prava. Praksa u razvijenim zemljama je pokazala da uvođenje specijalizovanih radnih sudova ili posebnih odeljenja za radne sporove pozitivno utiče na ujednačenu primenu prava, značajno ubrzanje postupaka, kao i na efikasno sprovođenje sudskih odluka. Nažalost, zanemarljiv je broj sudova u BiH koji imaju formirana posebna odeljenja za radne sporove ili koji imaju sudije koji isključivo rade na predmetima iz oblasti radnih odnosa, što znači da velika većina sudova u BiH nema formirana posebna odeljenja za predmete iz radnih odnosa, iako je ova mera preporučena od strane vodećih pravosudnih institucija prema sudovima.*

**Ključne reči:** *radni sporovi, efikasnost rešavanja, radni odnosi.*

**JEL klasifikacija:** *K23, K29.*

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## UVOD

Sistem industrijskih odnosa u BiH predstavlja podsistem opšteg ekonomskog, društvenog i pravnog sistema BiH i njenih entiteta – Republike Srpske (RS), Federacije Bosne i Hercegovine (FBiH) i Brčko Distrikta (BD). Zasnovan je na zakonskim odredbama i kolektivnim ugovorima entiteta i Distrikta i reguliše uspostavljanje radnog odnosa i druga relevantna pitanja, rešavanje radnih sporova (posredovanje, mirenje, arbitraža), provođenje tripartitnog i bipartitnog socijalnog dijaloga (tj. kolektivnog pregovaranja) i pitanja vezano za štrajk.

Na državnom nivou, postoje samo propisi koji regulišu radni odnos državnih službenika i nameštenika koji rade u institucijama BiH. U entitetima i Distriktu, Zakon o radu omogućio je osnivanje Socijalno-ekonomskog savjeta na tripartitnoj osnovi, dok je u Republici Srpskoj usvojen Zakon o Socijalno-ekonomskom savjetu. Isti zakoni omogućavaju kolektivno pregovaranje radi zaključivanja opšteg, granskih i kolektivnih ugovora na nivou preduzeća, kao i na nivou jednog ili više kantona u okviru FBiH. Ukoliko mirno rešavanje sporova ne da rezultate, radni sporovi se rešavaju na sudu. U BiH (državni nivo, nivo entiteta i Distrikta), ne postoje ni sudovi rada, niti posebna odeljenja za rešavanje radnih sporova u okviru redovnog sudskog sistema. Takvi sporovi se rešavaju u sudovima opšte nadležnosti, koji se bave građanskim sporovima. Slabosti sudskog sistema uključuju i sudske postupke koji veoma dugo traju, neinformisanost stranaka u sporu, visoke troškove i činjenicu da je teret dokazivanja na zaposlenom.

Trenutno ne postoje posebni zakoni vezano za alternativno rešavanje radnih sporova u BiH i njenim entitetima. Ova pitanja su regulisana relevantnim Zakonom o radu, zakonima o štrajku, Zakonom o Socijalno-ekonomskom savjetu RS, opštim i granskim kolektivnim ugovorima i kolektivnim ugovorima na nivou preduzeća ili kantona, kao i radnim propisima na nivou preduzeća.

Sporost i neefikasnost pravosuđa odslikava se u segmentu radnih sporova. To samo pokazuje da treba tražiti druge načine rješavanja sporova iz radnog odnosa. Imajući u vidu njihov značaj i karakter, opravdani su zahtjevi za obrazovanjem posebnih – specijalizovanih radnih sudova, u

cilju uspješnijeg rješavanja sporova koji nemaju samo pravnu prirodu, već su u suštini duboko socijalne i egzistencijalne prirode. Konačno, ti zahtjevi su utemeljeni kako u teorijskim stanovištima, tako i u pozitivnim rezultatima prakse zemalja koje takve sudove imaju.

## 1. REŠAVANJE RADNIH SPOROVA U POSTUPKU PRED SUDOM

Sudovi su nadležni da u ime države traže i kažnjavaju subjekte koji su prekršili zakone i pravne norme i da rešavaju sporove koji su nastali kao rezultat određenih normiranih odnosa između fizičkih i pravnih lica. Kada su u pitanju radni odnosi, uloga suda jeste da pruži brzu, efikasnu, i nezavisnu zaštitu zagaranovanih prava kako bi se izbegle, sprečile ili nadoknadile loše posledice po radnika, poslodavca/preduzeće i ekonomiju (Centar za edukaciju sudija i tužilaca Republike Srpske 2011, 5). U tom pogledu, sudovi osiguravaju primenu važeće regulative na pojedinačne slučajeve i rešavaju radne sporove koji nastaju između radnika i poslodavca, ili sindikata i poslodavaca, odnosno udruženja poslodavaca povodom povrede prava, interesa, ili neizvršavanja obaveza iz ugovora o radu. Sudovi pružaju, kada su u pitanju individualni radni sporovi, tri oblika zaštite (Tadić 2012, 203):

- a) deklatornu zaštitu, kroz koju se utvrđuje postojanje ili nepostojanje radnog odnosa ili pojedinih prava iz tog odnosa;
- b) kondemantornu zaštitu, u okviru koje sud osuđuje tuženika da nešto uradi/trpi/plati ili propusti; i
- c) konstitutivnu zaštitu, koja uključuje izricanje neke pravne promene (Demir 2011, 27).

Istovremeno, u slučaju kolektivnog radnog spora, subjekti kolektivnog ugovora mogu pred sudom zahtevati i pravnu zaštitu. Rešavanje individualnih i kolektivnih sporova uređeno je sa dva zakona: zakonom o radu i zakonom o parničnom postupku, dok se sudski postupak vodi pred redovnim sudovima u parničnom postupku.

U BiH ne postoje specijalizovani radni sudovi. U prvom stepenu nadležan je opštinski (Federacija BiH) odnosno osnovni sud (Republika Srpska), koji je opštenadležan za tuženog. S obzirom na prirodu individualnih radnih sporova, u svojstvu tuženog uvek se javlja zaposleni kao tužilac i po-

slodavac kao tuženik. Kada je zaposleni tužilac u radnom sporu, onda je za suđenje nadležan, pored suda koji je opšte mesno nadležan za tuženog, i:

- a) sud na čijem se području rad obavlja ili se obavljao,
- b) sud na čijem bi se području rad morao obavljati,
- c) sud na čijem je području zasnovan radni odnos (Demir 2011, 28).

Žalbe protiv odluka opštinskog, odnosno osnovnog suda razmatra kantonalni (Federacija BiH) odnosno okružni sud (Republika Srpska).

Protiv odluke kantonalnog/okružnog suda odlučuje Vrhovni sud Federacije BiH odnosno Vrhovni sud Republike Srpske, koji su u tom slučaju nadležni da donose odluke o redovnom pravnom leku. Sam sudski postupak nije vezan za prethodno podnošenje zahteva za zaštitu prava poslodavcu. Naime, sudska zaštita javlja se kao nastavak ostvarivanja pravne zaštite iz radnog odnosa, ako ona nije ostvarena kod poslodavca (Gradašćević Sijerčić i ostali 2007, 37).

Osnovanost zahteva zaposlenih u sudskom postupku ocenjuje se u odnosu na odluke i postupke poslodavca, tako da postupak ostvarivanja zaštite prava iz radnog odnosa, bez obzira na to što se odvija u dva oblika, čini jedinstvenu celinu. Posebno je značajno da vođenje radnog spora pred sudom protiv odluke poslodavca nema suspenzivno delovanje u odnosu na tu odluku. Njeni učinci i delovanje poništavaju se tek donošenjem pravosnažne sudske presude, kojom se utvrđuje ništavost takve odluke, odnosno njenim stavljanjem van snage od strane samog poslodavca.

Sudsku zaštitu svojih prava i sam postupak radnik pokreće tužbom radi utvrđivanja da pojedninačni akt poslodavca kojim je odlučivao o pravu i obavezi iz radnog odnosa nije dopušten, te kondemnatornim zahtevom za vraćanje na rad ili ostvarivanje drugog prava. Smisao tužbenog zahteva je vraćanje zaposlenog u onakav pravni položaj u kakvom bi bio da nije bilo nezakonite odluke poslodavca (Demir 2011, 29). Ukoliko zaposleni ne želi povratak na rad kod poslodavca, on polaže pravo i na deklaratornu zaštitu, koja će mu omogućiti utvrđivanje prava i ostvarivanje prava iz radnog odnosa. Rok za podnošenje tužbe je jedna godina od dana saznanja za povredu prava, a najdalje u roku od tri godine od dana učinjene povrede. Istekom roka gubi se pravo na sudsku zaštitu. Važno je takođe naglasiti da su sudovi radne sporove obavezni da rešavaju, u skladu sa regulativom, po hitnom postupku.

## 2. ANALIZA EFIKASNOSTI REŠAVANJA RADNIH SPOROVA U BIH

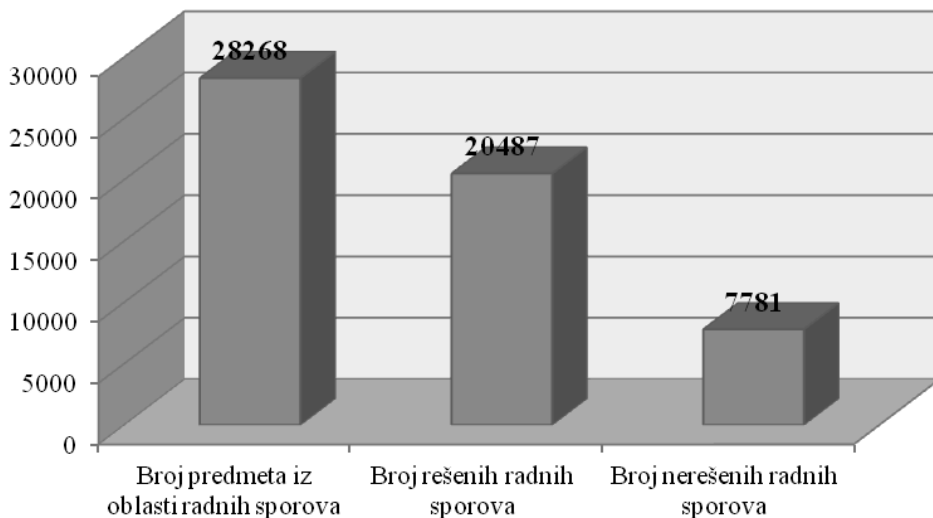
Analiza efikasnosti rešavanja radnih sporova u Bosni i Hercegovini obuhvatila je 54 suda, i to: Vrhovni sud RS; Vrhovni sud Federacije BiH; Apelacioni sud Brčko Distrikta; osnovne sudove u Bijeljini, Brčkom, Vlasenici, Tesliću, Derventi, Sokocu, Kotor Varoši, Doboju, Prijedoru, Trebinju, Banjoj Luci; opštinske sudove u Konjicu, Goraždu, Mostaru, Visokom, Tešnju, Zenici, Velikoj Kladuši, Kalesiji, Cazinu, Travniku, Bugojnu, Sanskom Mostu, Foči, Sarajevu, Kiseljaku, Tuzli, Širokom Brijegu, Žepču, Bosanskoj Krupi, Gradačcu, Zavidovićima, Ljubuškom, Orašju, Kaknju, Livnu; okružne sudove u Bijeljini, Istočnom Sarajevu, Banjoj Luci, Doboju, Trebinju; te kantonalne sudove u: Sarajevu, Novom Travniku, Bihaću, Goraždu, Livnu.

Osnovni faktor koji utiče na efikasnost sudstva u BiH kada je u pitanju zaštita prava iz radnih odnosa jeste veliki broj predmeta iz ove oblasti, ali i, uopšteno, veliki broj predmeta na sudovima, od kojih je značajan broj starih ili zaostalih predmeta (Visoko sudsko i tužilačko vijeće BiH 2014, 3). Pregled situacije u sudovima u BiH ukazuje na činjenicu da opštinski i osnovni sudovi koji deluju u većim gradovima ili su nadležni za opštine sa većim brojem stanovništva imaju veći broj predmeta iz oblasti radnih odnosa.

Istovremeno, ovi sudovi imaju nedovoljan broj sudija. Na primer, Opštinski sud u Mostaru na početku 2014. godine broji 44 187 predmeta, od kojih su 4 088 sporovi iz oblasti radnih odnosa, dok samo troje sudija radi isključivo na ovim predmetima. Opštinski sud u Visokom procesuirao oko 36 936 predmeta, s tim da je 228 sporova iz oblasti radnih odnosa, a ima šest sudija koji rade na ovim sporovima, ali i na drugim predmetima. Opštinski sud u Sarajevu ima 843 347 predmeta, od čega je 3 981 predmet iz radnih odnosa i ima sedam sudija unutar Parničnog odeljenja, koji rade na ovim i drugim predmetima. U skladu sa navedenim, nije iznenađujuća činjenica da osnovni problem koji sudovi imaju kada je u pitanju rešavanje predmeta iz oblasti radnih odnosa, jeste nedovoljan broj sudija zbog obima posla.

Rešavanje problema velikog broja zaostalih predmeta na sudovima, uključujući i radne sporove, vlasti u BiH već su predvidele u svojim strateškim dokumentima. Strategija za reformu sektora pravde (SRSP) u BiH sadrži određene mere koje bi trebalo da doprinesu efikasnijem radu sudova i rešavanju zaostalih predmeta. Mere koje se direktno odnose na zaostale predmete jesu: uvođenje sistema za upravljanje predmetima, uvođenje vremenskih merila za predmete i povećanje broja sudija. Uvođenje sistema za upravljanje predmetima treba da omogući razmenu informacija, prikupljanje statistika, evidentiranje značajnih trendova, da obezbedi veću ujednačenost u načinu upravljanja sudovima i prilike za razmenu najbolje prakse.

U 2009. godini, Visoko sudsko i tužilačko veće (VSTV) BiH donelo je odluku da poveća broj sudija na sudovima kako bi se, između ostalog, poboljšala efikasnost sudova na rešavanju zaostalih predmeta, pa je predloženo da se u prvostepenim sudovima poveća broj sudija za 21%, a da se na drugostepenim sudovima poveća broj sudija za 34%. Predloženo je i povećanje broja stručnih saradnika u sudovima za 102%.

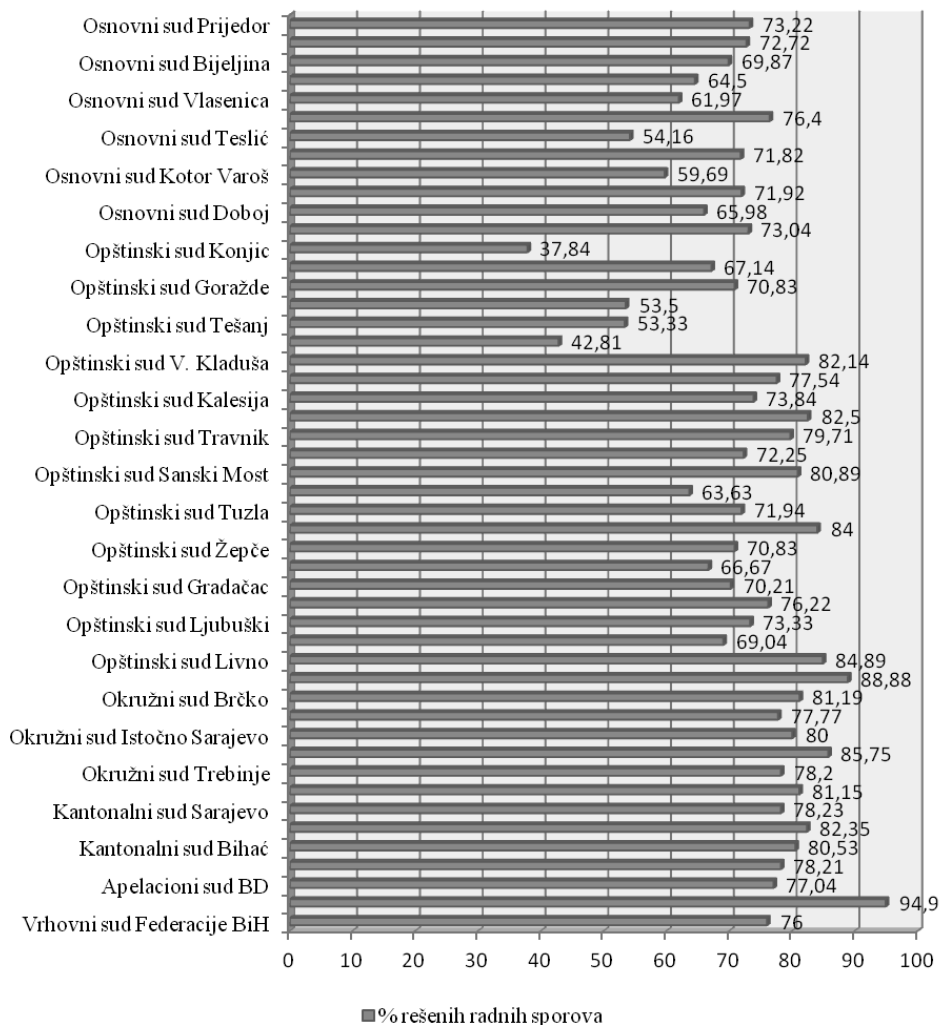


Grafikon 1. Ukupan broj rešenih i nerešenih radnih sporova u 2014. godini (autor)

Međutim, ova mera još uvek nije pokazala svoje rezultate, a dobre prakse takođe pokazuju ograničenost učinka ove mere. U studiji o upravljanju zaostalim predmetima u sudovima koja je nedavno sprovedena, ukazuje se na činjenicu da su potrebne godine da se sve sudije zaposle, te da povećanje sudija ne utiče pozitivno na broj rešenih predmeta. Autori navedene studije predlažu uvođenje sistema evaluacije rada sudija i sudova. Ova metoda, već široko primenjena u razvijenim zemljama, pokazala je odlične rezultate kada je u pitanju efikasnost sudova (Bečirović, Demirović, Šabeta 2014, 65).

Takođe, uvođenje vremenskih merila za predmete pokazalo se delimično efikasnom metodom u nekoliko zemalja, kao i uvođenje individualnih kalendara za sudije, na osnovu kojih je moguće pratiti svaki predmet i vreme koje sudija posvećuje rešavanju određenog spora (Demir 2011, 31). Dugotrajni i spori sudski procesi podrazumevaju kašnjenje u rešavanju sporova izvan zakonski postavljenih rokova. Upravo problem dugotrajnosti sudskog postupka kada je u pitanju rešavanje radnog spora česta je pojava u sudovima u BiH, i to predstavlja značajan problem.

Radni sporovi su predmeti koje su sudije obavezne da rešavaju po hitnom postupku i imaju prioritet. Međutim, ovi sporovi, koji treba da budu hitni, često se rešavaju i po nekoliko godina u BiH: čak između 3 i 5 godina, odnosno nijedan slučaj koji su vodili nije rešen po hitnom postupku. Time hitni predmeti postaju dugotrajni sudski procesi koji često dovode u pitanje sam sudski postupak, s obzirom na to da vreme igra važnu ulogu u ostvarivanju prava. Istovremeno, svaki odgođen postupak jeste nerešen slučaj.



Grafikon 2. Procenat rešenih radnih predmeta u 2014. godini (autor)

Dobre prakse u svetu potvrđuju da informatizacija može da doprinese ubrzanju procesa rešavanja radnih sporova. Takođe, praksa iz sveta pokazala je da, pored informatizacije, organizovanje treninga iz oblasti menadžmenta može takođe značajno da utiče na smanjenje broja predmeta



u sudovima i ubrza procese rešavanja radnih sporova. Takođe, procedure rada (podnošenje tužbe, obrada predmeta, itd.) treba analizirati i revidirati kako bi se smanjila kašnjenja i troškovi (Düvel i dr. 2005, 27). Pored navedenog, praksa u razvijenim zemljama je pokazala da uvođenje specijalizovanih radnih sudova ili posebnih odeljenja za radne sporove pozitivno utiče na ujednačenu primenu prava, značajno ubrzanje postupaka (Botero i dr. 2003, 41), kao i na promptno provođenje sudskih odluka.

Nažalost, zanemarljiv je broj sudova u BiH koji imaju formirana posebna odeljenja za radne sporove (samo tri suda od 54 analizirana) ili koji imaju sudije koji isključivo rade na predmetima iz oblasti radnih odnosa, što znači da velika većina sudova u BiH nema formirana posebna odeljenja za predmete iz radnih odnosa iako je ova mera preporučena od strane vodećih pravosudnih institucija prema sudovima.

Kada su u pitanju radni sporovi, česta pojava i problem jeste neizvršavanje sudskih odluka. Prema odredbama Zakona o izvršnom postupku (*Službene novine Federacije BiH* br. 32/03. i 33/06), isplata ovih sredstava je moguća samo ako imaju sredstva predviđena za tu namenu u budžetima institucija, a s obzirom na to da se ta sredstva stalno umanjuju u budžetima, dovodi se u pitanje isplata istih. Takođe, problem u neizvršavanju sudskih odluka javlja se kada je u pitanju način isplate u vezi sa postupcima koje su osobe dobile protiv Republike Srpske i Federacije BiH, a koji je regulisan Zakonom o utvrđivanju i načinu izmirenja unutrašnjih obaveza Federacije BiH (*Službene novine Federacije BiH* br. 9/04) i Zakonom o utvrđivanju i načinu izmirenja unutrašnjeg duga Republike Srpske (*Službeni glasnik Republike Srpske* br. 28/13, 41/13, 59/13). Navedene isplate vrše se u obveznicama i stranke nisu zadovoljne okolnostima niti rokovima. Čest problem, a posebno relevantan za radne odnose, jeste nemogućnost građana da ostvare svoja potraživanja usled nelikvidnosti preduzeća u kojima su radili. Veliki priliv predmeta iz oblasti radnih sporova uzrokovan je, pre svega, slabim sprovođenjem opštih akata poslodavaca ili njihovom neusklađenošću sa zakonima – posebno ugovora o radu – od strane poslodavaca, bez obzira na to da li poslodavac dolazi iz privatnog ili javnog sektora. Prema tome, masovna kršenja prava iz radnih odnosa su pre svega osnovni uzroci velikog broja predmeta na sudovima.

U tom pogledu, veoma je važno delovati preventivno kako bi se sudovi

rasteretili, ali i kako bi se u startu sprečila kršenja prava. S obzirom na to da sudovi u ovom pogledu mogu malo toga da učine, sprečavanje raširene prakse kršenja prava iz radnih odnosa zahtevaće sistematski pristup problemu od strane izvršne vlasti i tela koja vrše monitoring provođenja zakona na terenu. Prema tome, važno je uzeti u obzir da rešavanje problema u sudovima, kada su u pitanju radni sporovi, treba biti praćeno reformama u drugim oblastima. Pre svega, nadležne institucije treba da rade na jačanju institucija i procedura u računovodstvu i reviziji u privatnom i javnom sektoru. Informacije o poslodavcima koji krše prava svojih zaposlenih treba da postanu javne i takva preduzeća ne smeju da budu korisnici beneficija ili subvencija koje dodeljuju institucije vlasti (Kazić 2011, 63).

Pored jačanja institucija i procedura u računovodstvu i reviziji, neophodno je raditi na povećanju nadležnosti inspekcija rada, kao i kazni koje ove ustanove izriču. Ove javne institucije, nadležne za monitoring sprovođenja zakona, trenutno su nemoćne. Rad uprava za inspeksijske poslove je neefikasan jer su nadležnosti koje imaju ograničene, a kaznena politika koju primenjuju je slaba (Duraković 2011, 55). Tako inspekcija kažnjava poslodavca kod kojeg su evidentirani radnici koji rade „na crno“ sa oko 1000 KM, bez obzira na to da li je evidentiran jedan ili 300 radnika. Male kazne i veliki nameti za doprinose utiču na činjenicu da veliki broj poslodavaca, uključujući čak i javne institucije i preduzeća, smatraju plaćanje kazni mnogo manjim izdatkom nego redovno ispunjavanje zakonskih obaveza prijavljivanja i plaćanja socijalnih i penzionih beneficija radnicima (Inicijativa i civilna akcija 2009, 7).

Istovremeno, zaštita prava iz radnih odnosa kroz kolektivnu akciju je znatno slabija. Sindikalno organizovanje je često osporavano pravo od strane poslodavaca, dok se institucija veća/saveta zaposlenih gotovo retko, ako ikako, koristi unutar preduzeća. Istovremeno, sindikati se često žale i na regulativu vezanu za štrajkove. U cilju jačanja primene navedenih mehanizama kolektivne akcije, potrebno je raditi na jačanju socijalnog dijaloga, posebno kroz ekonomsko-socijalna veća. Uloga ekonomsko-socijalnih veća (ESV) u Federaciji BiH i Republici Srpskoj, a i na državnom nivou, jeste da harmonizuju ekonomsku i socijalnu politiku, te da zaključuju i implementiraju kolektivne ugovore (Demir 2011, 33). Prema tome, ova veća imaju nadležnosti da zahtevaju informacije i prate sprovođenje javnih

politika, zakona i opštih ugovora. Jačanjem ekonomsko-socijalnog veća na državnom nivou omogućio bi se veći uticaj sindikata na procese donošenja odluka u oblasti rada i time bi se smanjila kršenja prava iz radnih odnosa i priliv predmeta na sudove.

Istovremeno, veliki priliv predmeta na sudovima iz oblasti radnih odnosa uzrokovan je i slabim korišćenjem mera koje prethode sudskom postupku, odnosno mehanizama alternativnog rešavanja sporova. Naime, dokazano je da pružanje usluga medijacije i drugih alternativnih metoda rešavanja sporova u sudovima rešava veći broj problema sa kojima se sudovi susreću, uključujući i veliki priliv predmeta, te značajno smanjuje troškove.

Alternativno rešavanje sporova odnosi se na metode rešavanja sporova na radnom mestu. Metode koje alternativno rešavanje sporova uključuje je su mirenje, medijacija i arbitraža, koje pokreće medijator odnosno arbitar. Mirenje podrazumeva postupke kroz koje treća strana ima ulogu da pomogne u međusobnoj komunikaciji između zavađenih strana. Medijacija uključuje postupak u kojem treća strana pomaže da se postigne sporazum između dvije ili većeg broja osoba u sporu, dok arbitraža uključuje sličan postupak, ali kod kojeg treća strana donosi obavezujuću odluku. Ovi vidovi alternativnog rešavanja sporova podrazumevaju vansudski oblik rešavanja sporova. Međutim, postoji i sudski oblik alternativnog rešavanja sporova koji podrazumeva angažman nekog pravnog tela, obično sudije, neposredno prije rasprave. Glavni cilj alternativnog rešavanja sporova jeste rešavanje spora što je pre moguće.

Dosadašnja praksa je pokazala da je alternativno rešavanje sporova uspešnije za određene vrste sporova koji su kompleksniji, višestraniji, kao što su nekorektno otpuštanje, diskriminacija na radnom mestu ili nasilje, dok u konkretnim slučajevima, kao što je neisplaćivanje plata, alternativno rešavanje sporova ima ograničen učinak. Jedna od osnovnih prednosti alternativnog rešavanja sporova jeste pružanje rešenja koja su prihvatljiva za obe strane u sporu i, time, osiguranje mira na radnom mestu. Na taj način, alternativno rešavanje sporova doprinosi većoj pravnoj sigurnosti i stabilizaciji socijalne situacije u društvu. Istovremeno, prednost alternativnog rešavanja sporova je i brzina rešavanja sporova i manji troškovi u poređenju sa dugotrajnim sudskim postupcima.

## ZAKLJUČAK

Pregled situacije u sudovima u BiH ukazuje na činjenicu da opštinski i osnovni sudovi koji deluju u većim gradovima ili su nadležni za opštine sa većim brojem stanovnika imaju veći broj predmeta iz oblasti radnih odnosa. Dugotrajni sudski procesi direktno povećavaju cenu samog postupka i time i cenu pristupa pravdi. Prema tome, dugotrajniji sudski procesi će koštati više i, istovremeno, pristup pravdi za građane lošijeg ekonomskog statusa će biti otežan.

Veliki priliv predmeta iz oblasti radnih sporova uzrokovan je, pre svega, slabim provođenjem opštih akata poslodavaca ili njihovom neusklađenošću sa zakonima, pogotovo ugovora o radu od strane poslodavaca, bez obzira na to da li poslodavac dolazi iz privatnog ili javnog sektora. U cilju što efikasnijeg rešavanja radnih sporova, neophodno je preduzeti sledeće mere:

- povećati broj sudija koji rade na predmetima iz oblasti radnih odnosa, kao i stručnih saradnika i pratećeg administrativnog osoblja;
- povećati dostupnost besplatne pravne pomoći;
- povećati dostupnost medijacije i drugih mehanizama za alternativno rešavanje sporova, posebno vansudskih oblika ovih metoda;
- edukovati građane o pravnim mehanizmima zaštite prava iz radnih odnosa i sudskih postupaka;
- aktivnije uključivati sindikate u rešavanje individualnih radnih sporova;
- specijalizacija sudova, odnosno formiranje radnih sudova ili bar formiranje posebnih odeljenja u sudovima;
- specijalizacija sudija: imenovanje i obuka sudija koji treba da rade samo na ovim predmetima;
- preventivno delovati u nadležnim institucijama u izvršnoj vlasti (usaglašavanje kolektivnih ugovora sa zakonskim propisima; jačanje uloge i nadležnosti inspekcija i poreskih uprava).

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## THE EFFICIENCY OF LABOUR DISPUTES RESOLUTION IN BOSNIA AND HERZEGOVINA

**Summary:** *Lengthy and slow judicial proceedings involve delays in the resolution of disputes after the legally set deadlines. The problem of lengthy judicial proceedings, when it comes to resolving the labour disputes, is common in BiH courts, and it is a significant problem. Labour disputes are cases which the judges are required to resolve in an expedited procedure and they have priority. However, these disputes, which should be urgent, are often processed for several years. This is how the urgent cases become lengthy trials which often question the judicial proceedings given that time plays an important role in the exercise of rights. The practice in the developed countries has shown that the introduction of specialized courts or special departments for labour disputes positively affects the uniform application of the law, a significant acceleration of proceedings, as well as the effective enforcement of court decisions. Unfortunately, a negligible number of courts in BiH have formed special departments for labour disputes or have judges who exclusively deal with labour relations cases. This means that the vast majority of courts in BiH have not established special departments for cases concerning labour relations, although this measure is recommended to the courts by the leading judicial institutions.*

**Key words:** *labour disputes, resolution efficiency, labour relations*

**JEL classification:** *K23, K29*

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## INTRODUCTION

The industrial relations system in BiH is a subsystem of general economic, social and legal system of BiH and its entities, that is the Republic of Srpska (RS), the Federation of Bosnia and Herzegovina (FBiH) and Brčko District (BD). It is based on legal provisions and collective agreements of various entities and the District, and it regulates the establishment of labour relations and other relevant issues, the resolution of labour disputes (mediation, conciliation, arbitration), the implementation of the tripartite and bipartite social dialogue (i.e. collective bargaining) and issues concerning strike.

At the state level there are only regulations that regulate the labour relations of civil servants and employees who work in the institutions of BiH. In the entities and in the District, the Labour Law enabled the establishment of the Social and Economic Council on a tripartite basis, while in the Republic of Srpska the Law on Social and Economic Council has been adopted. The same laws allow for collective bargaining in order to conclude the general, sectorial and collective agreements at the company level, as well as at the level of one or more cantons within the FBiH. If the peaceful resolution of disputes fails, labour disputes are resolved before a court. In Bosnia and Herzegovina (the state level, entity level and district level) there are no labour courts or special departments for the resolution of labour disputes in the framework of the regular court system. Such disputes are resolved by the courts of general jurisdiction, which deal with civil disputes. The weaknesses of the judicial system include judicial proceedings which last for a very long time, lack of awareness of the parties to the dispute, high cost and the fact that the employee has the burden of proof. There are currently no specific laws relating to alternative dispute resolution in Bosnia and Herzegovina and its entities. These issues are regulated by the relevant Labour Law, the laws on strikes, Law on Social and Economic Council of the Republic of Srpska, the general and sectorial collective agreements and collective agreements at the company or canton level, as well as the labour regulations at the enterprise level.

The slowness and inefficiency of the judiciary can be seen in the segment of labour disputes. It shows that we should look for other ways of resolv-



ing labour disputes. Given their significance and character, the requirements for establishing special - specialized labour courts are justified in order to facilitate more effective resolution of disputes which do not have only a legal nature, but deep social and existential nature. Finally, these requirements are based on theoretical standpoints, as well as the positive results of the practice of countries which have such courts.

## **1. RESOLUTION OF LABOUR DISPUTES BEFORE A COURT**

The courts are authorised on behalf of the state to seek and punish entities that have violated laws and legal norms, and to resolve disputes that have occurred as a result of certain standardized relations between individuals and legal entities. When it comes to labour relations, the role of the court is to provide a quick, efficient, and independent protection of guaranteed rights so as to avoid, prevent or compensate for bad consequences for employees, employers/companies and the economy (Centre for Judicial and Prosecutorial Training of the Republic of Srpska 2011, 5). In this regard, the courts ensure the application of the current regulations to individual cases and resolve labour disputes that arise between employees and employers, or between trade unions and employers or employers' associations concerning the violation of rights, interests, or non-performance of obligations under the employment contract. The courts provide, in terms of individual labour disputes, three forms of protection (Tadić 2012, 203):

- a) declaratory protection, which determines the existence or non-existence of employment or certain rights from that relationship,
- b) condemnatory protection, within which the court orders the defendant to do something/undergo/pay or miss, and
- c) constitutional protection, which includes the imposition of some legal changes (Demir 2011, 27).

At the same time, in the case of collective labour dispute, the parties to the collective agreement can seek legal protection before a court. Resolving individual and collective disputes is regulated by two laws: Labour Law and the Law of Civil Procedure, while judicial proceedings are conducted before the regular courts in civil proceedings.

In BiH, there are no specialized labour courts. In the first instance the competent court is the municipal court (Federation of BiH) or the Court of

General Jurisdiction (Republic of Srpska) which have a general jurisdiction over the defendant. Given the nature of individual labour disputes, the employee is always a plaintiff and the employer is a defendant. When the employee is a plaintiff in a labour dispute, then, in addition to the court which has general territorial jurisdiction for the defendant, the following courts also have jurisdiction:

- a) the court which has jurisdiction in the territory where the work was or is performed,
- b) the court which has jurisdiction in the territory where the work must be performed,
- c) the court which has jurisdiction in the territory where the employment started (Demir 2011, 28).

Appeals against the decisions of municipal or court of general jurisdiction are processed by the cantonal (Federation of BiH) or the district court (Republic of Srpska).

The Supreme Court of the Federation of BiH or the Supreme Court of Republic of Srpska decides against the decision of the cantonal/district courts which in this case are authorised to make decisions on a regular legal remedy. Judicial proceedings is not linked to a prior request for the protection of the rights submitted to the employer. The judicial protection emerges as a continuation of the legal protection of employment, if it has not been realized with the employer (Gradašćević-Sijerčić et al. 2007, 37). The merit of employees' claim in the judicial proceedings is evaluated in relation to the decisions and actions of the employer, so that the process of achieving the protection of labour rights, regardless of what takes place in two forms, is one unity. It is especially important that the litigation of a labour dispute before the court against the decision of the employer does not have a suspensive action in relation to this decision. Its effects are reversed only after the enactment of a final court judgement which declares such decision void, or its abrogation by the employer.

The judicial protection of their rights and the procedure is started by an employee's lawsuit to establish that the act of the employer by which the employer decided on rights and obligations arising from employment is not permitted, and by a condemnatory request to return to the job or exercise other rights. The point of the claim is to return the employee to the

legal status prior to unlawful decision of the employer (Demir 2011, 29). If the employee does not want to return to work for the employer, he/she is entitled to the declaratory protection that will enable him/her to establish and exercise the labour relations rights. The deadline for submitting claims is one year from the date of learning of such violation, and not later than 3 years from the date of the violation. Upon the expiry of the deadline the right to judicial protection is lost. It is also important to point out that the courts are required to resolve labour disputes in accordance with the regulations, in an expedited procedure.

## **2. ANALYSIS OF THE EFFICIENCY OF LABOUR DISPUTES RESOLUTION IN BIH**

Analysis of the efficiency of labour disputes resolution in Bosnia and Herzegovina included 54 courts, as follows: The Supreme Court of RS, the Supreme Court of the Federation of BiH, Appellate Court of the Brčko District, Courts of General Jurisdiction in Bijeljina, Brčko, Vlasenica, Teslić, Derventa, Sokolac, Kotor Varoš, Doboj, Prijedor, Trebinje, Banja Luka; Municipal Courts in: Konjic, Goražde, Mostar, Visoko, Tešanj, Zenica, Velika Kladuša, Kalesija, Cazin, Travnik, Bugojno, Sanski Most, Foča, Sarajevo, Kiseljak, Tuzla, Široki Brijeg, Žepče, Bosanska Krupa, Gradačac, Zavidovići, Ljubuški, Orašje, Kakanj, Livno; District Courts in: Bijeljina, East Sarajevo, Banja Luka, Doboj, Trebinje; Cantonal Courts in: Sarajevo, Novi Travnik, Bihać, Goražde, Livno.

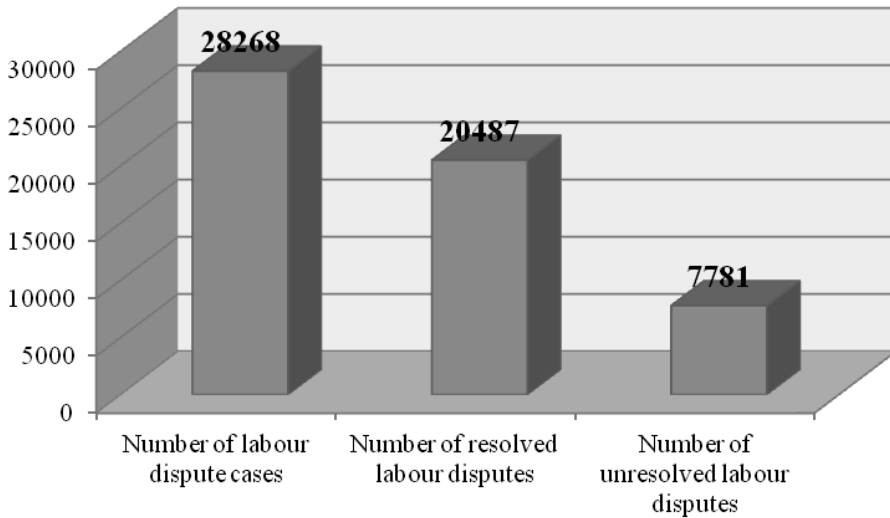
The main factor affecting the efficiency of the judiciary in BiH when it comes to the protection of labour rights is the large number of cases in this area but also generally large number of cases in the courts, and a significant number of them are old or backlog cases (the High Judicial and Prosecutorial Council of Bosnia and Herzegovina 2014, 3). Overview of the situation in the courts in BiH points to the fact that municipal and courts of general jurisdiction operating in major cities or in municipalities with large population have higher number of cases concerning the labour relations.

At the same time, these courts have insufficient number of judges. For example, the Municipal Court in Mostar at the beginning of 2014 had 44,187 cases, of which 4,088 disputes in the area of labour relations, while only

3 judges work exclusively on these cases. Municipal Court in Visoko processes about 36,936 cases, with 228 cases in the area of labour relations, and there are 6 judges working on these disputes but also on other cases. Municipal Court in Sarajevo has 843,347 cases, of which 3,981 are labour disputes and there are 7 judges within the Civil Department working on these and other cases. Accordingly, it is not surprising that the main issue that the courts have when it comes to resolving labour relations disputes is the insufficient number of judges due to the volume of work.

Resolving the issue of backlog of cases in the courts, including labour disputes, is provided by the authorities in BiH in their strategic documents. The Justice Sector Reform Strategy (JSRS) in BiH contains certain measures that should contribute to more efficient operation of courts and resolving backlog of cases. The measures directly related to the backlog of cases include: the introduction of a case management system, the introduction of time frames for the cases, and increase of number of judges. The introduction of the case management system should enable the exchange of information and collection of statistics, recording significant trends, ensure greater uniformity in the way of court management and opportunities for the exchange of the best practices.

In 2009, the High Judicial and Prosecutorial Council (HJPC) of Bosnia and Herzegovina has made a decision to increase the number of judges in the courts in order to, among other things, improve the efficiency of the courts in resolving the backlog of cases, so it was suggested that the number of judges in the first instance courts should be increased by 21%, while in the appellate courts the number of judges should be increased by 34%. It was also suggested to increase the number of professional staff in the courts by 102%.



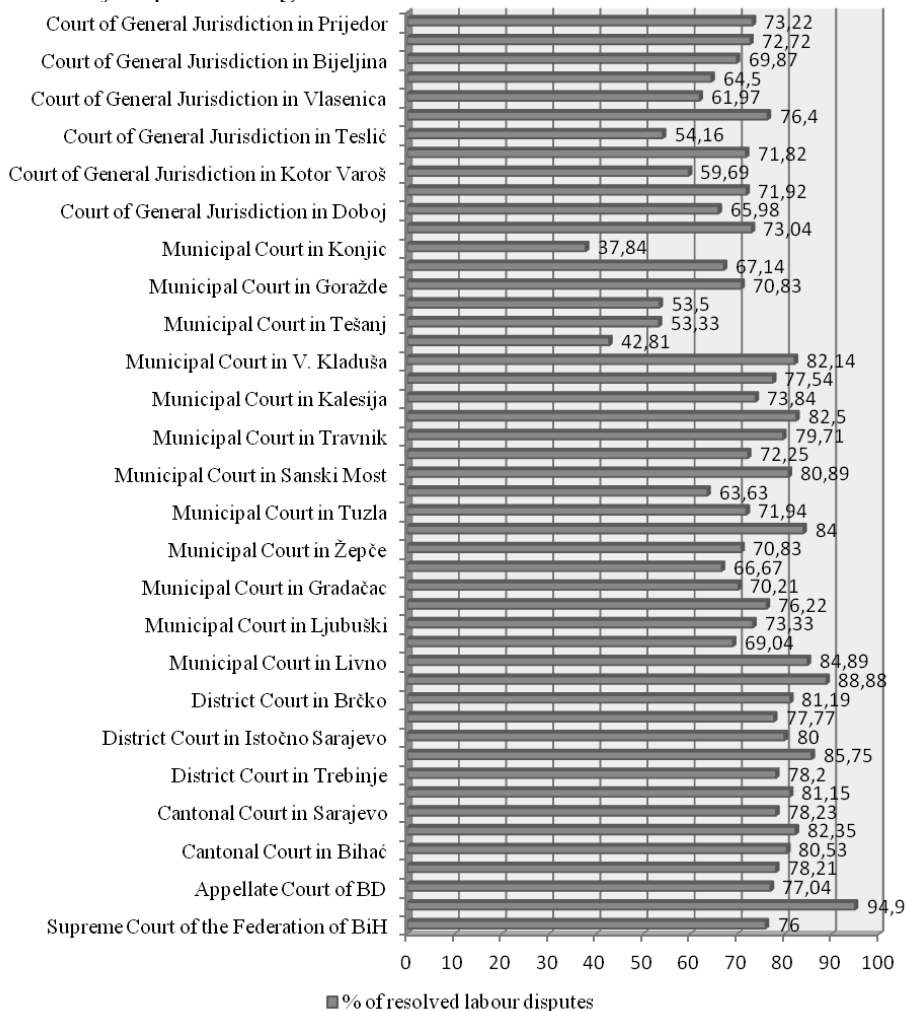
Graph 1. The total number of resolved and unresolved labour disputes in 2014 (author)

However, this measure has not yet shown any results and good practices also show the limited impact of this measure. In the study on the management of backlog of cases in the courts, which was recently conducted, it is pointed to the fact that it would take years to employ all the judges, so the increase of number of judges does not have a positive effect on the number of resolved cases. The authors of the study suggested introducing a system of evaluation of the work of the judges and courts. This method, already widely applied in developed countries has shown great results when it comes to the efficiency of the courts (Bečirović, Demirović, Šabeta 2014, 65).

Also, the introduction of time frames for the cases proved as partially effective method in several countries, as well as the introduction of individual calendars for the judges through which it is possible to monitor each case and the time that the judge devotes to resolving a dispute (Demir 2011, 31). Lengthy and slow judicial proceedings involve delays in the resolution of disputes after the legally set deadlines. The problem of lengthy judicial proceedings, when it comes to resolving the labour disputes, is common in BiH courts, and it is a significant problem.

Labour disputes are cases which the judges are required to resolve in an expedited procedure and they have priority. However, these disputes, which

should be resolved in an expedited procedure, are often resolved after several years in BiH: even between 3 and 5 years, i.e. there is not a single case that was resolved in an expedited procedure. This is how the urgent cases become lengthy trials which often question the judicial proceedings given that time plays an important role in the exercise of rights. At the same time, each delayed proceedings is an unresolved case.



Graph 2. The percentage of resolved cases in 2014 (author)

Good practices in the world confirm that computerization can help to speed up the process of resolving labour disputes. Also, the practice in the world has shown that, besides computerization, training in management can also significantly decrease the number of cases in courts and speed up the resolution of labour disputes. Also, work procedures (filing a lawsuit, case processing, etc.) should be analysed and reviewed in order to reduce delays and costs (Düvel et al. 2005, 27). In addition, the practice in developed countries has shown that the introduction of specialized labour courts or special departments for labour disputes positively affect the uniform application of the law, and a significant acceleration of procedures (Botero et al. 2003, 41), as well as the prompt implementation of court decisions. Unfortunately, a negligible number of courts in BiH have formed special departments for labour disputes (only 3 out of 54 courts that were analysed) or have judges who exclusively deal with labour relations cases. This means that the vast majority of courts in BiH have not established special departments for cases concerning labour relations, although this measure is recommended to the courts by the leading judicial institutions. When it comes to labour disputes, the common occurrence and problem is the failure to execute court decisions. According to the Law on Enforcement Procedure (Official Gazette of BiH no. 32/03 and 33/06) the payment of these funds is possible only if there are funds provided for this purpose in the budgets of the institutions, and considering that these funds are constantly decreased in the budgets, their payment is questionable. Also, the problem of non-execution of court decisions occurs when it comes to the mode of payment related to the processes which were won by people against the Republic of Srpska and the Federation of BiH, which is regulated by the Law on Establishment and Mode of Settlement of the Internal Obligations of the Federation of BiH (Official Gazette of Federation of BiH no. 9/04) and the Law on Establishment and Settlement of Internal Debt of the Republic of Srpska (Official Gazette of the Republic of Srpska no. 28/13, 41/13, 59/13). These payments are made in bonds and the parties are not satisfied with the circumstances or deadlines. A common problem, particularly relevant for labour relations, is the inability of citizens to realize their receivables due to insolvency of the company where they worked. A large influx of labour disputes cases is caused primarily by poor

implementation of general acts of employers or their incompatibility with the laws - particularly the employment contract - by employers, regardless of whether the employer comes from the private or public sector. Thus, a great number of violations of labour rights are the underlying causes of the large number of cases in the courts.

In this regard, it is important to act preventively in order to relieve the courts but also to prevent the violations. As the courts cannot do much in this regard, preventing the widespread practice of violating labour rights will require a systematic approach to the problem by the executive authority and the authorities that monitor the implementation of laws. Therefore, it is important to consider that, when it comes to labour disputes, resolving problems in the courts should be accompanied by reforms in other areas. First of all, the relevant institutions should work to strengthen the institutions and procedures in accounting and auditing in the private and public sectors. Information on employers who violate the rights of their employees should become public, and such companies must not be the beneficiaries of benefits or subsidies awarded by the institutions of the government (Kazić 2011, 63).

In addition to strengthening institutions and procedures in accounting and auditing, it is necessary to increase the competence of the labour inspection and penalties imposed by these institutions. These public institutions responsible for monitoring of the implementation of the law are powerless at the moment. The work of administrations for inspection affairs is inefficient because their jurisdiction is limited and penal policy they apply is weak (Duraković 2011, 55). So, the inspection fines the employer of the employees who work "off the books" with about 1,000 BAM, regardless of whether there are one or 300 such employees. Small fines and high taxes for contributions affect the fact that a large number of employers, including even public institutions and companies, consider paying fines much lower expenditure than regular fulfilment of legal obligations to register and pay social and pension benefits to the employees (Initiative and Civil Action 2009, 7).

At the same time, the protection of labour rights through collective action is considerably weaker. Union organizing is often denied right by the employers, while the institutions of councils of employees are almost rarely,



if at all, used within the company. At the same time, the unions often complain about regulations related to the strikes. In order to strengthen the application of these mechanisms of collective action, it is necessary to work on strengthening of the social dialogue, especially through the social and economic councils. The role of the Social and Economic Councils (SECs) in the Federation of BiH and the Republic of Srpska, and at the state level, is to harmonize economic and social policies, and to conclude and implement collective agreements (Demir 2011, 33). Consequently, these councils have the authority to ask for information and monitor the implementation of policies, laws and general agreements. Strengthening social and economic councils at the state level would enable a greater impact of the union on decision-making processes in the area of labour and thereby reduce violations of labour rights and the influx of cases to the courts.

At the same time, a large influx of cases in the courts in the area of labour relations is also caused by the poor utilization of measures prior to judicial proceedings or alternative dispute resolution mechanisms. It has been proven that mediation services and other alternative methods of dispute resolution in the courts solve a large number of problems that the courts face, including a large influx of cases, and significantly reduce costs.

Alternative dispute resolution refers to methods of resolving disputes in the workplace. The methods of alternative dispute resolution includes the conciliation, mediation and arbitration, which are started by a mediator or arbitrator. Mediation involves processes through which a third party has a role to assist in communication between the feuding parties. Mediation involves a procedure in which a third party helps to reach an agreement between two or more people in a dispute, and arbitration involves a similar process but in arbitration a third party makes a binding decision. These types of alternative dispute resolution include non-judicial form of dispute resolution. However, there is also a judicial form of alternative dispute resolution which includes the involvement of a judicial authority, usually a judge, immediately before a hearing. The main aim of alternative dispute resolution is a resolution of the dispute as soon as possible.

Past practice has shown that the alternative dispute resolution is more successful for certain types of disputes which are more complex, more versatile, such as unspecific dismissal, discrimination in the workplace or

violence, while in specific cases, such as non-payment of salaries, the alternative dispute resolution has a limited effect. One of the primary benefits of alternative dispute resolution is to provide solutions that are acceptable to both parties to the dispute and thus ensure peace in the workplace. In this way, alternative dispute resolution contributes to greater legal security and stabilization of the social situation in the society. At the same time, the advantage of alternative dispute resolution is the speed of resolving disputes and lower costs compared to the lengthy court proceedings.

## **CONCLUSION**

Overview of the situation in the courts in BiH points to the fact that municipal and courts of general jurisdiction operating in major cities or in municipalities with large population have higher number of cases in the area of labour relations. Lengthy court proceedings directly increase the costs of the procedure and the time and cost of access to justice. Accordingly, lengthy trials will cost more, and at the same time the access to justice for the citizens of poor economic status will be difficult.

A large influx of cases in the area of labour disputes is caused primarily by poor implementation of general acts of employers or their incompatibility with the laws, especially the employment contract, by employers, regardless of whether the employer comes from the private or public sector. In order to efficiently resolve labour disputes, it is necessary to take the following measures:

- Increase the number of judges working on labour relations cases, as well as associates and supporting administrative staff;
- Increase the availability of free legal aid;
- Increase the availability of mediation and other mechanisms for alternative dispute resolution, particularly extra judicial forms of these methods;
- Educate citizens on legal mechanisms for the protection of labour rights and judicial proceedings;
- Involvement of the trade unions in resolving individual labour disputes;
- Specialization of the courts and the establishment of labour courts, or at least establishment of special departments within the courts;

- Specialization of judges: appointment and training of judges who should work only on these cases;
- Preventive work within the relevant institutions in the executive authorities (the harmonization of collective agreements with the legislation; strengthening the role and jurisdiction of the inspections and tax administration).

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## RADNI SPOROVI KAO DEO RADNOG ANGAŽOVANJA SUDSTVA U BIH

**Rezime:** *Radni odnosi u BiH regulisani su setom zakona koji su usvojeni za četiri jurisdikcije unutar BiH: Zakon o radu FBiH, Zakon o radu RS, Zakon o radu Brčko Distrikta, i zakoni o radu u institucijama BiH, kao i setom drugih zakona koji se direktno odnose na oblast rada. Usvajanjem navedenih zakona o radu uređen je opšti sistem radnih odnosa u BiH. Istovremeno, izvor regulative u oblasti radnih odnosa su i konvencije – međunarodne i regionalne – koje je BiH potpisala i time se obavezala na primenu istih. U oblasti rada i zapošljavanja, posebno su značajne konvencije Međunarodne organizacije rada, kao i sporazumi potpisani sa Evropskom unijom. U ovom pogledu, bitno je dodati da je primena konvencija i sporazuma u BiH problematična, s obzirom na to da domaće zakonodavstvo nije u potpunosti usklađeno sa međunarodnom regulativom, te da se monitoring i evaluacija primene istih sprovode u retkim slučajevima i sporadično od strane nadležnih institucija.*

**Ključne reči:** *radni sporovi, radno angažovanje, sudstvo.*

**JEL klasifikacija:** *K23, K29.*

### UVOD

Radni sporovi su sporovi između radnika i poslodavca, ili sindikata i poslodavca, tj. udruženja poslodavaca, povodom povrede prava ili interesa,

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odnosno neizvršavanja obaveza iz radnog odnosa, tj. ugovora o radu, koji se rešavaju pred trećim nepristrasnim organom izvan radne sredine (Srđić 2006, 27). Ovaj pojam radnog spora sadrži dve temeljne materijalpravne karakteristike: da je pravo koje je predmet spora kao takvo utvrđeno, odnosno da nije izvršena utvrđena obaveza; i da pravo, tj. neposredni interes odnosno obaveza, proističu neposredno iz rada, odnosno iz radnog odnosa ili da su u vezi s ovim odnosom (Dedić, Gradašćević Sijerčić 2003, 26).

Ovaj pojam nije potpun ukoliko mu se ne dodaju i procesnopravni elementi u rešavanju radnih sporova (organi, nadležnost i postupak), a na njihovom osnovu se dolazi do opšteg pojma radnog spora. Pretpostavka za pojavu radnih sporova je evidentnost postojanja međusobno suprotstavljenih interesa radnika i poslodavaca, jer realizovanje interesa jednog subjekta istovremeno znači, u principu, nemogućnost realizacije interesa drugog subjekta.

Svako značajnije ulaganje u ljudski faktor – radni kolektiv (veće nadnice, ulaganje u zaštitu na radu, obrazovanje, penzione fondove, obezbeđenje prava u slučaju tehnoloških viškova, povećanje premije i dr.) kao posledicu donosi smanjenje dobiti poslodavca, odnosno vlasnika preduzeća. U pitanju je permanentni sukob realnih materijalnih interesa između radnika i poslodavca, koji objektivno proizlazi iz nemogućnosti da putem proizvodnog procesa obezbedi zadovoljavanje svih potreba, odnosno zahteva radnika. Prema tome, radni sporovi su posledica objektivno različitog položaja socijalnih partnera, legitimnosti njihovih različitih ekonomskih, socijalnih, profesionalnih i drugih interesa. Konkretnije, radni sporovi su nerazdvojni deo obavljanja zavisnog rada, tj. prirode odnosa na tržištu rada, gde se, s jedne strane, nalaze vlasnici kapitala – poslodavci koji organizuju rad, a s druge zaposleni i njihovi predstavnici (Brajčić 1991, 41).

Konkretna manifestacija izostanka zadovoljavanja individualnih ili kolektivnih interesa aktera radnih odnosa manifestuje se u vidu konflikata i spornih pitanja u relacijama socijalnih partnera. Zbog toga, svaki spor suprotstavlja strane radnog odnosa u vezi sa predmetom spora, dovodeći ih u pozicije u kojima ističu kontradiktorne zahteve. Šire gledano, svako pitanje oko koga zaposleni ulazi u sukob s poslodavcem može se, u slučaju da ga rešava treće neposredno lice, smatrati radnim sporom.

## 1. KARAKTERISTIKE RADNIH SPOROVA

U teoriji radnog prava, navodi se da je neposredna veza sa pravima, obavezama i odgovornostima iz radnog odnosa bitan element koji čini naj-suptilniju karakteristiku radnog spora. U tom smislu, s obzirom na predmet radnog spora, bitno je da je došlo do povrede prava, interesa ili obaveza koji proističe iz radnog odnosa, tj. iz prava na radu i u vezi sa radom; da su pravo, tj. neposredni interes, odnosno obaveze utvrđene heteronomnim ili autonomnim propisom; te da se radi o sporu koji nastaje povodom utvrđivanja prava i obaveze iz radnog odnosa, odnosno povodom regulisanja radnog odnosa (Jovanović 2012, 36).

U teoriji i sudskoj praksi, deoba radnih sporova vrši se s obzirom na njihova specifična obeležja: stranke, predmet, prirodu, organe i postupak za njihovo rešavanje. S obzirom na subjekte i predmet spora, radni sporovi se dele na individualne i kolektivne radne sporove (Srđić 2006, 46). Ako se pođe od prirode, odnosno specifičnih obeležja spora, tada imamo podelu na pravne i interesne (ekonomske) sporove. U odnosu na organe i postupak za rešavanje sporova, radni sporovi se dele na radne sporove koji se rešavaju od strane sudova u sudskom postupku, sporove koji se rešavaju od strane vansudskih organa u postupku mirenja i arbitraže, te sporove koji se rešavaju metodama kolektivne akcije bilo zaposlenih, bilo poslodavaca (Dedić, Gradašćević Sijerčić 2003, 34).

## 2. VRSTE RADNIH SPOROVA

S obzirom na sva ova specifična obeležja, posmatrajući radnopravnu teoriju, ali i praksu, uobičajena je podela radnih sporova na dve grupe: individualne radne sporove i kolektivne radne sporove.

Uspostavljanje delotvornih institucionalnih mehanizama za rešavanje radnih sporova, kao i efikasnih mera u cilju prevencije njihovog nastanka, osnovni su preduslovi za postizanje socijalnog i industrijskog mira u demokratskom društvu. Radni sporovi primarno predstavljaju neslaganje oko određenih pitanja ili grupe pitanja između zaposlenih i poslodavaca. Za ove je pozicije karakteristično da su suprotstavljene u pogledu prava i obaveza koje proizlaze iz njihovog pravnog odnosa (odnosno provođenja

zakonskih prava) ili predstavljaju neusaglašene zahteve za preraspodelu ekonomskih resursa kroz pregovaranje (Rezolucija br. 15. Međunarodne organizacije rada, koja se odnosi na pitanje štrajka, lokauta i drugih posledica nastalih usled radnih sporova).

U samoj srži radnog spora podrazumevamo postojanje tri esencijalne komponente: strane u sporu, predmet spora i efekti spora. Kako u Zakonu o radu, kao opštem zakonu, nije sadržana opšta definicija radnog spora, tada se može reći da je koncept radnih sporova utemeljen na osnovu aktuelne pravne doktrine i specifičnosti radnih sporova koje proizlaze iz analize pravnih propisa kojima su regulisani (ili preciznije, zakona kojima se ova materija bliže uređuje).

Teorija radnog prava razlikuje tri načina klasifikacije radnih sporova: prema stranama u radnom sporu (subjektivni kriterijum), tipu radnog spora (objektivni kriterijum) i predmetu povrede prava.

Jedna od važnijih podela radnih sporova jeste podela u odnosu na predmet spora, pa tako možemo razlikovati sporove u vezi s pitanjem prava (radni sporovi o utvrđivanju prava čiji je predmet propisan pravima i obavezama iz radnih odnosa) i sporove koji nisu pravne prirode, odnosno radni u vezi s pitanjem interesa (predmet ovih sporova je uspostavljanje novih prava i obaveza o radu, a odnose se na nove propise o interesima stranaka u radnom odnosu i najčešće nastaju kao rezultat neuspešnog kolektivnog pregovaranja).

Druga podela je na kolektivne i individualne radne sporove. Kolektivni radni sporovi predstavljaju sporove između strana koje su u kolektivnom radnom odnosu (grupa radnika ili organizacija radnika sa jedne strane i poslodavca sa druge), te njihov predmet može biti ostvarivanje kolektivnih prava ili se odnose na opšte interese. Individualni radni sporovi mogu se definisati kao sporovi koji se javljaju između stranaka i odnose se na pojedinačni radni odnos (zaposleni i poslodavac) i njihov predmet su prava i obaveze koji izražavaju pojedinačne interese ovih stranaka (Međunarodna organizacija rada, Substantive provision of labour legislation: Settlement of collective labour disputes).

Uobičajeni pristupi u rešavanju radnih sporova, izuzimajući sudski način rešavanja, koji su prepoznati u pravnoj doktrini i uporednom pravu jesu alternativni (vansudski) načini rešavanja sporova. Alternativno rešavanje



radnih sporova obuhvata različite postupke koji se odvijaju van suda, najčešće uz pomoć treće neutralne strane, koja, u zavisnosti od vrste postupka, može imati različite uloge i različit nivo uticaja na rešenje spora. Primena ovih metoda u rešavanju radnih sporova doprinosi ostvarivanju socijalne pravde, pronalaženju funkcionalnog rešenja, pri čemu se vodi računa o svim elementima spora i o pravičnosti, te su, samim tim, prilagodljivi i mogu se koristiti u svim situacijama (Jašarević 2000, 39).

### 3. SISTEM RADNOG ZAKONODAVSTVA U BIH

Sistem industrijskih odnosa u BiH predstavlja deo sistema opšteg ekonomskog, društvenog i pravnog uređenja BiH i njenih entiteta, odnosno Republike Srpske (RS), Federacije Bosne i Hercegovine (FBiH) i Brčko Distrikta (BD). Utemeljen je na zakonskim aktima i kolektivnim ugovorima entiteta i Distrikta i reguliše uspostavljanje radnog odnosa i druga značajna pitanja, rešavanje radnih sporova (posredovanje, mirenje, arbitraža), sprovođenje tripartitnog i bipartitnog socijalnog dijaloga (tj. kolektivnog pregovaranja) i pitanja u vezi sa štrajkom. Na nivou države postoje samo akta koja regulišu radni odnos državnih službenika i nameštenika koji su zaposleni u institucijama BiH. U entitetima i Distriktu, Zakon o radu omogućio je osnivanje Socijalno-ekonomskog savjeta na tripartitnoj osnovi, dok je u Republici Srpskoj usvojen Zakon o Socijalno-ekonomskom savjetu. Isti zakoni omogućavaju kolektivno pregovaranje radi zaključivanja opšteg, granskih i kolektivnih ugovora na nivou preduzeća, kao i na nivou jednog ili više kantona u okviru FBiH.

Prema Aneksu IV Dejtonskog mirovnog sporazuma, koji predstavlja Ustav Bosne i Hercegovine, nadležnost nad socijalnom politikom i radnim zakonodavstvom poverena je entitetima. U Federaciji BiH, a po njenom Ustavu, ova oblast je u zajedničkoj nadležnosti entitetskih i kantonalnih nivoa vlasti. Dakle, oblast radnog zakonodavstva se uređuje entitetskim propisima. U Federaciji BiH, propisi iz oblasti radnog zakonodavstva obuhvataju:

- Zakon o štrajku (*Službene novine FBiH* br. 14/00);
- Zakon o upošljavanju stranaca (*Službene novine FBiH* br. 8/99);
- Zakon o posredovanju u upošljavanju i socijalnoj sigurnosti neuposlenih osoba (*Službene novine FBiH* br. 55/00, 41/01, 22/05, 09/08);

- Zakon o zaštiti na radu (*Službeni list BiH* br. 22/90).
- U Republici Srpskoj, oblast radnog zakonodavstva uređena je:
- Zakonom o radu Republike Srpske iz 2000. godine (*Službeni glasnik RS* br. 55/07);
- Opštim kolektivnim ugovorom RS (*Službeni glasnik RS* br. 27/06, 31/06);
- Zakonom o savjetima radnika (*Službeni glasnik RS* br. 26/01);
- Zakonom o zapošljavanju (*Službeni glasnik RS* br. 54/05, 64/06);
- Zakonom o zaštiti na radu (*Službeni glasnik RS* br. 1/08);
- Zakonom o štrajku (*Službeni glasnik RS* br. 10/98);
- Zakonom o zapošljavanju stranih državljana i lica bez državljanstva (*Službeni glasnik RS* br. 96/05, 123/06);
- Zakonom o profesionalnoj rehabilitaciji i zapošljavanju invalida (*Službeni glasnik RS* br. 98/04, 91/06).
- Na području Brčko Distrikta BiH, oblast radnog zakonodavstva regulisana je sledećim propisima:
- Zakonom o radu Brčko Distrikta (*Službeni glasnik BD* br. 19/06, 19/07, 25/08);
- Zakonom o zaštiti na radu (*Službeni glasnik BD* br. 31/05, 35/05);
- Zakonom o zapošljavanju i pravima za vrijeme nezaposlenosti (*Službeni glasnik BD* br. 33/04, 19/07, 25/08);
- Zakonom o zapošljavanju stranaca (*Službeni glasnik BD* br. 15/09, 19/09).
- Zakon o radu Federacije BiH (*Službene novine FBiH* br. 43/99, 32/00, 29/03);
- Opšti kolektivni ugovor za teritoriju Federacije BiH (*Službene novine FBiH* br. 54/05);
- Zakon o vijeću uposlenika (*Službene novine FBiH* br. 38/04);

U Bosni i Hercegovini su, paralelno sa domaćim pravom, na snazi mnogobrojni međunarodni akti odnosno ugovori. Prema Ustavu, međunarodni ugovori koji su sastavljeni i potvrđeni u skladu s Ustavom i objavljeni, sačinjavaju deo unutrašnjeg poretka, a po pravnoj snazi nalaze se iznad zakona. Njihove odredbe mogu da se menjaju ili ukidaju isključivo uz uslove i način koji su u njima definisani ili u skladu sa opštim pravilima međunarodnog prava.

U velikom broju zemalja Zapadne Evrope, na snazi je monistički princip, po kojem domaće i međunarodno pravo sačinjavaju jedinstveni sistem. U ovom slučaju, međunarodni ugovori koji su ratifikovani od strane države ne moraju biti usvojeni posebnim nacionalnim zakonskim aktima i konvertuju se u nacionalno pravo ratifikacijom. Oni tako po automatizmu postaju deo pravnog sistema dotične zemlje. S druge strane, prema dualističkoj teoriji, smatra se da međunarodno i domaće pravo predstavljaju dva odvojena i nezavisna pravna poretka. Da bi međunarodno pravo postalo obavezujuće i primenjivo na području jedne države, treba prethodno da postane deo pravnog poretka te zemlje. Zato je neophodno posebno ozakonjenje ugovora.

Pod pritiskom upućenih prigovora, monistička i dualistička teorija su ublažile svoja stajališta u današnje doba. Praktična primena tih teorija usmerena je na uzajamni odnos pravila domaćeg i međunarodnog radnog prava. Pravna priroda tih normi je različita. Međunarodne možemo da podelimo na neposredno primenjive (pri čemu primena ne insistira na preduzimanju dodatnih zakonodavnih mera) i programske norme (koje su sastavljene od programskih izjava ili pravila i od opštih termina neodređenog značenja, pa ih nije moguće direktno primenjivati, niti je moguće da se pozivanjem na njih pred sudom ostvari bilo kakvo subjektivno pravo ili preuzme bilo kakva obaveza).

Veliki broj ekonomskih i socijalnih prava u međunarodnim ugovorima je uređen pomoću programskih normi, što podrazumeva da država preuzima obavezu da, preko vlade, sprovodi odgovarajuću politiku prema postepenom realizovanju međunarodne norme.

Po Aneksu IV Dejtonskog mirovnog sporazuma, Evropska konvencija o ljudskim pravima i osnovnim slobodama ima neposrednu primenu u Bosni i Hercegovini. Ustavom Federacije BiH je definisano da sledeći instrumenti, značajni za zaštitu ljudskih, odnosno radnih prava, imaju pravnu snagu jednaku pravnoj snazi ustavnih odredaba. To su: Evropska socijalna povelja iz 1961. godine i Protokol I, Međunarodni ugovor o privrednim, socijalnim i kulturnim pravima iz 1966. i dodatni protokoli iz 1989. godine, Međunarodna konvencija o ukidanju svih oblika rasne diskriminacije iz 1965. godine, Međunarodna konvencija o ukidanju svih oblika diskriminacije žena iz 1979. godine, Deklaracija Ujedinjenih nacija o ukidanju svih oblika netolerancije i diskriminacije zasnovane na uverenju iz 1981. godine.

Ustav Republike Srpske takođe štiti prava na rad, kao i povezana prava. Utvrđeno je da zaposlenima radni odnos može da prestane isključivo pod uslovima koji su utvrđeni zakonom i kolektivnim ugovorom, kao i pravo na zaradu stečeno po osnovu rada. Zaposleni, prema Ustavu, uživaju pravo na ograničeno radno vreme, na plaćeni godišnji odmor i odsustva, zaštitu na radu, posebnu zaštitu omladine, žena i invalida.

Zagarantovana je i sloboda sindikalnog organizovanja i pravo na štrajk, pravo na socijalnu sigurnost i socijalno osiguranje zaposlenih i njihovih porodica, pravo na materijalno osiguranje za vreme privremene nezaposlenosti, sve pod uslovima koji su definisani zakonom.

Međunarodne konvencije legislativnog karaktera pružaju optimalne uslove za zaštitu i unapređenje poštovanja radnih prava. Pojedinaac u ovom slučaju pred nadležnim organima može da se pozove na svoja prava i ista efikasno da brani. Ipak, kada je međunarodni plan u pitanju, suština je da mehanizmi nadzora koji su do sada prihvaćeni nemaju neograničeni domet.

Regularni nadzor, odnosno međunarodni nadzor koji se obavlja po osnovu izveštaja koje države podnose u vezi s primenom ratifikovanih konvencija u oblasti ljudskih i radnih prava, kao i specijalni nadzori, bez obzira na to da li su oni sudskog karaktera ili ih realizuju odgovarajuća tela UN, u suštini se svode na politički pritisak koji se putem preporuka nadležnih organa UN vrši na države članice.

Bosna i Hercegovina je ratifikovala ukupno 68 konvencija Međunarodne organizacije rada koje je u obavezi da implementira u pozitivno zakonodavstvo. Veliki broj ratifikovanih konvencija bavi se regulisanjem rada, radnih odnosa i zaštite na radu u pomorskim delatnostima, što za Bosnu i Hercegovinu trenutno nije od krucijalnog značaja. Takođe, Bosna i Hercegovina je ratifikovala neke od najrelevantnijih konvencija Međunarodne organizacije rada značajnih za domen rada, radnih odnosa i zaštite na radu. Može se govoriti da su entitetski zakoni o radu uglavnom zasnovani na temeljnim principima usvojenih konvencija. Ipak, bilo bi neophodno osigurati veći stepen usklađenosti propisa o radu s usvojenim konvencijama, a samim tim i napredak u realizaciji većeg stepena socijalne pravde. Ovo se, pre svega, tiče Konvencije o plaćenom godišnjem odmoru br. 132, Konvencije o minimalnoj starosnoj dobi br. 138, Konvencije o zaštiti ma-

terinstva br. 103, Konvencije o jednakosti nagrađivanja muške i ženske radne snage za rad jednake vrednosti br. 100, Konvencije o zaštiti na radu i zdravlju br. 155. i dr.

U Federaciji BiH, najnovijim Zakonom o izmenama i dopunama Zakona o radu, koji je upućen u zakonsku proceduru, predviđene su i nove odredbe koje detaljnije uređuju zabranu diskriminacije i vrste diskriminacije u oblasti rada i zapošljavanja, zabranu uznemiravanja ili seksualnog uznemiravanja, nasilje po osnovu pola, kao i sistematsko uznemiravanje na radu i u vezi sa radom, uključujući mobing kao specifičan oblik sistematskog uznemiravanja. Navedenim je predviđena mogućnost sudskog procesuiranja slučajeva diskriminacije u smislu odredaba ovog zakona, gde je teret dokazivanja na poslodavcu, kao i pravo na nadoknadu štete u slučaju osnovanosti tužbe.

Takođe je predviđen novi član koji nedvosmisleno propisuje da je poslodavac u obavezi da radnicima isplati jednake nadoknade za rad jednake vrednosti bez obzira na njihovu nacionalnu, versku, polnu, političku i sindikalnu pripadnost. Pod radom jednake vrednosti podrazumeva se rad koji zahteva jednak stepen stručne sprema, istu radnu sposobnost, odgovornost i fizički i intelektualni rad.

U slučaju nepoštovanja zakonskih propisa, predviđena je novčana kazna za prekršaj za poslodavca – pravno lice, poslodavca – fizičko lice, kao i odgovorno lice u pravnom licu.

Ovakvim predlozima zakonskih rešenja zakonodavac nastoji, kroz preciznije i detaljnije pravno uređenje, konkretnije da deluje na pitanje unapređenja jednakosti i ravnopravnosti polova i njegovu primenu u ovoj veoma značajnoj oblasti društvenih odnosa. Nadalje, opšti propisi o radu ipak jednim delom nisu usaglašeni sa konvencijama Međunarodne organizacije rada (Konvencija 29. o prinudnom radu i Konvencija 105. o ukidanju prinudnog rada), kojim se zabranjuju svi oblici prinudnog ili obaveznog rada u svim njegovim oblicima. Naime, članom 32. stav 1. Zakona o radu Federacije BiH (*Službene novine FBiH* br. 43/99, 32/00, 29/03) i članom 43. Zakona o radu Republike Srpske (*Službeni glasnik RS* br. 38/00, 40/00, 47/02, 38/03, 66/03, 20/07), u slučaju više sile (požar, potres, poplava) i iznenadnog povećanja posla, kao i u drugim slučajevima neophodne potrebe, zaposleni je, na zahtev poslodavca, u obavezi da radi

duže od punog radnog vremena, tj. da radi prekovremeno, a maksimalno deset sati nedeljno. Ova odredba Zakona o radu predstavlja najčešće zloupotrebljavanu odredbu od strane poslodavaca tako da se od zaposlenih neretko traži da rade duže od punog radnog vremena, pozivajući se na iznenadno povećanje obima posla. U ovakvim slučajevima, gde je radno zakonodavstvo dozvolilo mogućnost manipulacije u periodu velike nezaposlenosti, tj. manjka radnih mesta i straha od gubitka zaposlenja, poslodavac može lako da zloupotrebljava propise i da rad mimo zvaničnog radnog vremena lako pravda pred inspekcijom rada.

#### **4. RADNI SPOROVI U BIH**

Radno zakonodavstvo je danas, u velikom broju država, veoma razvijeno. Konstantna težnja je permanentno unapređivanje pravne regulative kojom se uređuju i štite prava zaposlenih. Veliki doprinos tome donosi i stalna aktivnost Međunarodne organizacije rada u Ženevi, koja se ogleda, pre svega, u vidu donošenja konvencija i preporuka iz ove oblasti, a koje je veliki broj zemalja implementirao u svoje zakonodavstvo. Ipak, tradicionalno naviknuti na jednostrano određivanje normi ponašanja u preduzećima, poslodavci u velikom broju zemalja i dalje pružaju otpor i neretko krše prava zaposlenih. Zbog toga je neophodno da se radnicima omogući efikasna i nepristrasna, a nadasve brza zaštita prava iz radnog odnosa, kako bi se na taj način izbegli radni sporovi većih ili manjih razmera, a koji sa sobom donose brojne štetne posledice po radnika i njegovu porodicu, kompaniju, region, a neretko mogu imati štetan uticaj i na ekonomiju cele države.

Sudska zaštita predstavlja jedan od uobičajenih načina zaštite prava iz radnih odnosa. Njen cilj je da se propisi radnog zakonodavstva pravilno primene na konkretan slučaj. U uporednom radnom pravu, radne sporove rešavaju: specijalizovani radni sud, radni tribunali, sud opšte nadležnosti i u nekim zemljama Upravni sud (Srđić 2006, 188).

U poslednje vreme se sve više govori o neophodnosti uspostavljanja specijalizovanih sudova za radne sporove, za šta postoji više razloga. Najznačajniji se odnose na postojanje nepoverenja radničkih udruženja, asocijacija i sindikata u redovne sudove, za koje se smatra da uglavnom zanemaruju interese radnika i štite interese poslodavaca. Procedura pred

redovnim sudom neretko je komplikovana, dugo traje, uz često nerealno velike troškove, što je, kada se uzme sve zajedno u obzir, čini neefikasnom. Uz to, sudije koje su sudile u radnim sporovima često nisu dovoljno specijalizovane za probleme ove vrste, naročito ukoliko se radi o kolektivnim radnim sporovima. Gore navedeni razlozi bili su presudnog značaja da se zakonodavac u nemalom broju država odluči na formiranje radnih sudova, koji se bave radnim sporovima.

Radnih sudova ima u mnogo država i rasprostranjeni su po celom svetu. Ipak, četiri sistema zaštite prava iz radnog odnosa danas imaju najveći uticaj: francuski, nemački, britanski i švedski. Treba napomenuti da se u mnogim zemljama sporovi vezani za prava radnika u vezi s pitanjem socijalnog osiguranja ne smatraju radnim sporovima, pa se i njima bave posebni sudovi – sudovi socijalnog osiguranja. Oni postoje u Nemačkoj i Francuskoj, a postojali su i kod nas u periodu između dva svetska rata pa do 1950. godine (Petrović 2009, 72).

Radni sudovi se obično bave rešavanjem individualnih i pravnih sporova, jer su ti sporovi pogodni za suđenje, pošto se radi o primeni i tumačenju definisanih prava. Individualni radni sporovi nastaju u vezi s povredom prava ili interesa pojedinačnog radnika, dok se kod kolektivnih sporova radi o povredi prava grupe radnika. Pravni sporovi bi se mogli odrediti kao sporovi u vezi s primenom ili interpretacijom pravila o pravima zaposlenih utvrđenih zakonskim propisima i kolektivnim ugovorima. Interesni sporovi, koji se odnose na sferu radnih sporova vezanu za utvrđivanje novih ili izmenu postojećih uslova rada, nisu toliko pogodni za suđenje. Zbog toga se ovi sporovi najčešće rešavaju mirenjem, posredovanjem i arbitražom, a radni sudovi se njima retko bave, i to u Portugaliji, Španiji, Danskoj i Izraelu. Najviše radnih sporova u praksi nastaje u vezi sa sledećim (Šunderić 2001, 110):

- prestankom radnog odnosa,
- zaradama,
- disciplinskim merama,
- pravima sindikalnih aktivista i drugih radničkih predstavnika,
- naknadom štete,
- bolovanjima,
- penzijama i ostalim pojedinačnim pravima iz radnog odnosa.

Jedna od osnovnih karakteristika postupka u radnim sporovima je i ostavljanje mogućnosti sudu da odredi privremene mere, kako bi se izbegla šteta čije se posledice kasnije ne mogu nadoknaditi. U pogledu informacija koje su saznali u toku suđenja, sudije radnog suda uglavnom imaju obavezu čuvanja tajne. Prilikom donošenja odluke u radnom sporu teži se njenom jednoglasnom donošenju. Uz to, teži se i tome da sudije radnog suda deluju neutralno, a ne kao zastupnici svoje socijalne grupe. U pojedinim državama, neutralni član veća glasa tek ukoliko se između predstavnika radnika i poslodavaca ne postigne dogovor. Radni odnosi, kao specifični društveni odnosi, insistiraju na brzom rešavanju sporova koji su nastali u tim odnosima. Imajući u vidu da je postojeća sudska zaštita poprilično spora i neefikasna, u novije vreme implementiraju se novi modeli za rešavanja sporova, u nadi da bi oni mogli da ispune očekivanja, odnosno da ubrzaju postupak i, samim tim, dovedu do okončanja spora.

## ZAKLJUČAK

Radni odnosi u BiH regulisani su setom zakona koji su usvojeni za četiri jurisdikcije unutar BiH: Zakon o radu FBiH, Zakon o radu RS, Zakon o radu Brčko Distrikta, i zakoni o radu u institucijama BiH, kao i setom drugih zakona koji se direktno odnose na oblast rada. Pored navedenog, izvori prava u oblasti rada su i kolektivni ugovori, kao i opšti akti poslodavaca, kao što su pravilnici o radu, sporazumi između veća zaposlenih i poslodavaca, kao i ugovori o radu. Naime, zakonodavstvo koje usvajaju institucije vlasti predstavlja samo minimum zaštite u pogledu individualnih i kolektivnih prava na radu i u vezi sa radom, odnosno trebalo bi da bude okvir za zaštitu zaposlenih koji nisu obuhvaćeni kolektivnim radnim pravom, dok se kolektivni ugovori, pravilnici o radu i ugovori o radu moraju pojavljivati kao najvažniji izvori radnog zakonodavstva i pokretačka snaga za modernizaciju u sistemu radnih odnosa koji moraju pratiti globalizaciju tržišta rada.

Prava iz oblasti rada dele se na individualna i kolektivna. Individualna prava obuhvataju pitanje plate, radnog vremena, odmora, zaštite na radu i sigurnosti zaposlenja, dok kolektivna prava sadrže odredbe koje se odnose na sindikalno udruživanje, kolektivno pregovaranje, participaciju u odlučivanju, rešavanje nastalih sporova, štrajk, i pravo participacije u



usvajanju autonomnih akata poslodavaca (pravilnika o radu, ugovora o radu). Navedena pitanja individualnih i kolektivnih prava obrađuju zakoni o radu BiH, koji, pored navedenog, sadrže i odredbe koje se odnose na zabranu diskriminacije, sadržaj ugovora o radu ili pisane potvrde, ugovor o radu na određeno vreme, jednakost plaćanja žena i muškaraca, zbrinjavanje viškova, rad u nepunom radnom vremenu, i prava iz zaštite materinstva, koje su potpuno ili delimično usklađene sa međunarodnim radnim standardima i sa direktivama EU.

Vidljivo je da je sistem prava iz radnih odnosa razvijen u BiH iako nije u potpunosti usklađen sa međunarodnim i regionalnim konvencijama, a javlja se i problem usklađenosti zakona unutar BiH. Ipak, ovaj sistem pruža zakonski zagarantovanu zaštitu prava – individualnih i kolektivnih – u oblasti rada. Rešavanje individualnih i kolektivnih sporova uređeno je sa dva zakona: zakonom o radu i zakonom o parničnom postupku, dok se sudski postupak vodi pred redovnim sudovima u parničnom postupku. U BiH ne postoje specijalizovani radni sudovi. U prvom stepenu nadležan je opštinski (Federacija BiH) odnosno osnovni sud (Republika Srpska), koji je opštenadležan za tuženog (na osnovu prebivališta, boravišta, sedišta).

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Review

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## LABOUR DISPUTES AS PART OF WORK ENGAGEMENT OF THE JUDICIARY IN BIH

**Summary:** *Labour relations in BiH are regulated by a set of laws that have been adopted in four jurisdictions within BiH: Labour Law of FBiH, Labour Law of RS, Labour Law of the Brčko District, and Labour Law in Institutions of BiH, as well as a set of other laws that are directly related to the area of labour. The general system of labour relations is governed by the adoption of the mentioned labour laws in BiH. At the same time, the source of legislation in the field of labour relations are also the conventions - international and regional - signed by BiH, which means that BiH is committed to their implementation. In the area of labour and employment, the International Labour Organization conventions are particularly significant, as well as agreements signed with the European Union. In this regard, it is important to mention that the implementation of conventions and agreements is problematic in BiH since the domestic legislation is not yet fully harmonized with international regulations and the monitoring and evaluation of their implementation is performed in rare occasions and sporadically by the competent institutions.*

**Key words:** *labour disputes, work engagement, judiciary*

**JEL classification:** *K23, K29*

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## INTRODUCTION

Labour disputes are the disputes between employees and employers, or between trade union and the employer, i.e. employers' associations, concerning the infringement of rights or interests, or non-performance of obligations, i.e. employment contracts, which are resolved before the independent impartial authority outside the work environment (Srđić 2006, 27). This definition of a labour dispute contains two fundamental substantive characteristics: that the right which is the subject of dispute, as such, has been determined, or that an obligation was not carried out; that the right, i.e. direct interest or obligation arise directly from labour or from labour relations or that they are related to this relationship (Dedić, Gradašćević-Sijerčić 2003, 26).

This term is not complete unless it is not added legal and procedural elements in the resolution of labour disputes (authorities, jurisdiction and procedure), and unless their basis provides a general idea of a labour dispute. The prerequisite for the occurrence of labour disputes is the evidence of the existence of conflicting interests of employees and employers, because the realization of interests of one subject at the same time means, in principle, the impossibility of the realization of the interests of the other subject. Any significant investment in human factor-work collective (salary increases, investment in occupational health and safety, education, pension funds, rights in case of redundancy, increase of premiums, etc.) results in a decrease in profit of the employer, or company owners. It is a permanent clash of real material interests between employees and employers, which objectively results from the inability to ensure the satisfaction of all the needs or demands of employees through the production process. Therefore, labour disputes are the result of objectively different positions of the social partners, the legitimacy of their different economic, social, professional and other interests. More specifically, labour disputes are an inseparable part of the performance of the dependent labour, i.e. the nature of relations in the labour market, where, on the one hand, there are owners of the capital - employers who organize labour, and on the other there are employees and their representatives (Brajčić 1991, 41).

A concrete manifestation of failure to satisfy individual or collective interests of those who take part in labour relations is manifested in the form of conflicts

and contentious issues in the relations of the social partners. Therefore, any dispute opposes the parties to the labour relations regarding the subject of the dispute, putting them in positions in which they have contradictory requirements. Broadly speaking, any issue which is a subject of dispute between employee and employer, if it is solved by a third party, may be considered a labour dispute.

## **1. CHARACTERISTICS OF LABOUR DISPUTES**

In the theory of the labour law it is said that the direct link with the rights, obligations and responsibilities arising from labour relations, is an essential element that makes the most subtle characteristic of a labour dispute. In this regard, considering the subject of a labour dispute, the important things are: that there has been a violation of the rights, interests or obligations arising from labour relations, i.e. from the right to work and related to work; that the law, i.e. the immediate interest or the obligations are set out in heteronomous or autonomous regulations; that it is a dispute arising from determining the rights and obligations arising from labour relations or from regulating the labour relations (Jovanović 2012, 36).

In theory and judicial practice, the division of labour disputes is made with regard to their specific features: parties, subject, nature, authorities and procedures for their resolution. With regard to the parties and the subject of a dispute, labour disputes are divided into individual and collective labour disputes (Srđić 2006, 46). If we start from the nature or specific features of the dispute, then we have a division into legal and interest (economic) disputes. In relation to the authorities and procedures for resolving the disputes, labour disputes are divided to labour disputes which are resolved by the courts in judicial proceedings, disputes which are resolved by non-judicial authorities in the process of conciliation and arbitration, and disputes which are resolved using the methods of collective action taken by employees, or employers (Dedić, Gradašćević-Sijerčić 2003, 34).

## **2. TYPES OF LABOUR DISPUTES**

Considering all of these specific features, and observing the labour-legal theory and practice, a common division of labour disputes is in two groups: individual labour disputes and collective labour disputes.

The establishment of effective institutional mechanisms for resolving labour disputes, as well as effective measures in order to prevent their occurrence are basic prerequisites for the achievement of social and industrial peace in a democratic society. Labour disputes are primarily a disagreement on certain issues or groups of issues between employees and employers. For these positions it is typical that they are opposed with respect to the rights and obligations arising from their legal relationship (i.e. enforcement of legal rights), or they represent conflicting demands for the redistribution of economic resources through negotiation (Resolution no. 15 of International Labour Organization concerning the issues of strikes, lockouts and other action due to labour disputes).

At the very heart of the labour dispute there are three essential components: parties to the dispute, the subject of the dispute and the effects of the dispute. As the Labour Law, as a general law, does not contain general definition of a labour dispute, it can be said that the concept of labour disputes is based on the basis of the current legal doctrine and peculiarities of labour disputes arising from the analysis of legal regulations which regulate them (or more precisely, laws which are more closely related to this topic).

The theory of labour law distinguishes between three groups of classifications of labour disputes: according to the parties in a labour dispute (a subjective criterion), according to the type of labour dispute (objective criterion) and according to the subject of the violation of rights.

One of the most important division of labour disputes is the division in relation to the subject of the dispute, so we can distinguish between disputes concerning the rights (labour disputes on establishing rights in which the subject is prescribed through rights and obligations arising from labour relations), and disputes which are not of a legal nature, they are labour disputes according to the issue of interest (the subject of these disputes is the establishment of new rights and obligations of labour, and they are related to the new regulations on the interests of the parties to the labour relationship, and they usually occur as a result of unsuccessful collective bargaining).

Another division is into the collective and individual labour disputes. Collective labour disputes are disputes between the parties that are in the col-

lective labour relationship (a group of employees or employees' organization on one side and employers on the other), and their subjects can be collective rights or relating to general interests. Individual labour disputes can be defined as disputes arising between the parties and related to the individual labour relationship (employee and employer) and their subjects are rights and obligations which reflect the individual interests of the parties (the International Labour Organization, Substantive provision of labour legislation: Settlement of collective labour disputes).

Conventional procedures in resolving labour disputes, excluding judicial means of resolving a dispute that have been recognized in legal doctrine and comparative law, are alternative (non-judicial) methods of dispute resolution. Alternative dispute resolution includes various procedures that take place outside the court, usually with the help of a neutral third party, that, depending on the type of procedure, can have different roles and different levels of impact on the resolution of the dispute. Application of these methods in the resolution of labour disputes contribute to the achievement of social justice, to finding a functional solutions, while taking into account all the elements of the dispute and justice. Therefore they are adaptable and can be used in all situations (Jašarević 2000, 39).

### **3. SYSTEM OF LABOUR LEGISLATION IN BIH**

The industrial relations system in BiH is a part of the system of general economic, social and legal organization of BiH and its entities, that is the Republic of Srpska (RS), the Federation of Bosnia and Herzegovina (FBiH) and Brčko District (BD). It is based on legal acts and collective agreements of various entities and the District, and it regulates the establishment of labour relations and other important issues, the resolution of labour disputes (mediation, conciliation, arbitration), the implementation of the tripartite and bipartite social dialogue (i.e. collective bargaining) and issues concerning strike. At the state level there are only acts that regulate the labour relations of civil servants and employees who are employed in the institutions of BiH. In the entities and in the District, the Labour Law enabled the establishment of the Social and Economic Council on a tripartite basis, while in the Republic of Srpska the Law on Social and Economic

Council has been adopted. The same laws allow for collective bargaining in order to conclude the general, sectorial and collective agreements at the enterprise level, as well as at the level of one or more cantons within the FBiH. According to Annex IV of the Dayton Peace Agreement, which is the Constitution of Bosnia and Herzegovina, the jurisdiction over social policy and labour legislation is entrusted to the entities. In the Federation of BiH, according to its Constitution, this is a part of joint jurisdiction of the entity and cantonal levels of government. Thus, the area of labour legislation is governed by the entity regulations. In the Federation of BiH, the regulations in the area of labour legislation include:

- Labour Law of the Federation of BiH (Official Gazette of FBiH no. 43/99, 32/00, 29/03)
- General Collective Agreement for the territory of Federation of BiH (Official Gazette of FBiH no. 54/05)
- Law on Employees' Council (Official Gazette of FBiH no. 38/04)
- Law on Strike (Official Gazette of FBiH no. 14/00)
- Law on Employment of Foreigners (Official Gazette of FBiH no. 8/99)
- Law on Mediation in Employment and Social Security of Unemployed Persons (Official Gazette of FBiH no. 55/00, 41/01, 22/05, 09/08)
- Law on Occupational Health and Safety (Official Gazette of BiH no. 22/90).

In the Republic of Srpska the field of labour legislation is regulated by:

- Labour Law of the Republic of Srpska 2000 (Official Gazette of RS no. 55/07)
- General Collective Agreement of RS (Official Gazette of RS no. 27/06, 31/06)
- Law on Employees' Councils (Official Gazette of RS no. 26/01)
- Law on Employment (Official Gazette of RS no. 54/05, 64/06)
- Law on Occupational Health and Safety (Official Gazette of RS no. 1/08)
- Law on Strike (Official Gazette of RS no. 10/98)
- Law on Employment of Foreigners and Stateless Persons (Official Gazette of RS no. 96/05, 123/06),
- Law on Professional Rehabilitation and Employment of Persons with Disabilities (Official Gazette of RS no. 98/04, 91/06).



In Brčko District the field of labour legislation is governed by the following regulations:

- Labour Law of Brčko District (Official Gazette of BD no. 19/06, 19/07, 25/08)
- Law on Occupational Health and Safety (Official Gazette of BD no. 31/05, 35/05)
- Law on Employment and Rights During Unemployment (Official Gazette of BD no. 33/04, 19/07, 25/08)
- The Law on Employment of Foreigners (Official Gazette of BD no. 15/09, 19/09).

In Bosnia and Herzegovina, together with the domestic law, there are numerous international laws and treaties in force. According to the Constitution, international treaties that have been drawn up and ratified in accordance with the Constitution and published are part of the internal order and their legal power is higher than the law. Their provisions may be changed or repealed only under conditions and manner as defined in them or in accordance with the general rules of international law.

In many countries of the Western Europe, the monistic principle is in force. It means that domestic and international law constitute a single system. In this case, international treaties ratified by the state do not have to be approved by special national legal acts and are converted into national law by ratification. They also automatically become part of the legal system of the country concerned. On the other hand, according to the dualistic theory, it is considered that international and domestic law are two separate and independent legal systems. In order for international law to become binding and applicable in the territory of a country, it first has to become a part of the legal system of that country. That is why the legalization of a treaty is necessary.

Under pressure of the complaints, the monistic and dualistic theories softened their views recently. The practical application of these theories is focused on the mutual relationship of the rules of domestic and international labour law. The legal nature of these standards is different. International standards can be divided into directly applicable (where the application does not insist on taking additional legislative measures) and program standards (which are made up of program statements or rules and general

terms of undetermined significance, and they cannot be directly applied, nor is it possible to realize any subjective right or assume any obligation by referring to them before a court).

A large number of economic and social rights in international treaties is regulated by means of the program standards, which means that the state undertakes, through the government, to implement an appropriate policy towards the gradual realization of international standards.

According to Annex IV of the Dayton Peace Agreement, the European Convention on Human Rights and Fundamental Freedoms has direct application in Bosnia and Herzegovina. The Constitution of the Federation of BiH defines that the following instruments, important for the protection of human or labour rights, have the legal force equal to the legal force of constitutional provisions. These are: The European Social Charter of 1961 and Protocol I, the International Covenant on Economic, Social and Cultural Rights of 1966 and the Additional Protocols of 1989, the International Convention on the Elimination of All Forms of Racial Discrimination of 1965, the International Convention on the Elimination of all Forms of Discrimination Against Women of 1979, the United Nations Declaration on the Elimination of all Forms of Intolerance and of Discrimination Based on Religion or Belief of 1981.

The Constitution of the Republic of Srpska also protects the right to work and related rights. It was established that the employees' employment can cease only under the conditions specified by law and collective agreement, as well as the right to earnings gained through work. Employees, under this Constitution, have the right to limited working hours, paid annual vacation and leave, safety at work, special protection of youth, women and the disabled.

The freedom of union organization and the right to strike is also guaranteed, as well as the right to social security and social insurance of employees and their families, the right to insurance during temporary unemployment, all under conditions defined by law.

The international conventions of legislative character provide optimal conditions for the protection and promotion of respect for labour rights. The individuals in such cases can seek to satisfy their rights before the competent authorities and effectively defend them. However, when it comes to an

international plan, the point is that monitoring mechanisms that have been accepted so far do not have unlimited range.

Regular monitoring - or international monitoring carried out on the basis of reports submitted by states regarding the implementation of ratified conventions on human and labour rights, as well as special monitorings, regardless of whether they are of judicial nature or being implemented by the appropriate UN authorities, are essentially reduced to political pressure on the Member States, which is carried out through the recommendations of the UN authorities.

Bosnia and Herzegovina has ratified a total of 68 conventions of the International Labour Organisation (ILO) which it has to implement into the positive legislation. A large number of ratified conventions deal with the regulation of labour, labour relations, health and safety in maritime activities, which currently is not crucial for Bosnia and Herzegovina. Also, Bosnia and Herzegovina has ratified some of the most relevant ILO conventions relevant to the domain of labour, labour relations and occupational health and safety.

It can be said that the entity labour laws are based mainly on the fundamental principles of the adopted conventions. However, it would be necessary to ensure a higher degree of compliance of labour laws with adopted conventions, and thus the progress in the realization of a greater degree of social justice. This primarily concerns the Holidays with Pay Convention no. 132, the Minimum Age Convention no. 138, the Maternity Protection Convention no. 103, Convention concerning Equal Remuneration for Men and Women Workers for Work of Equal Value no. 100, Occupational Safety and Health Convention no. 155 and others.

In the Federation of BiH, some new provisions are foreseen in the latest Law on Amendments to the Labour Law, which was submitted to the legislative procedure, which further regulate the prohibition of discrimination and types of discrimination in the area of labour and employment, the prohibition of harassment or sexual harassment, gender-based violence, as well as systematic harassment at work or related to work, including mobbing as a specific form of systematic harassment. The aforementioned foresees the possibility of prosecution of cases of discrimination in the context of this Law, where the employer has the burden of proof and the right to compensation if the claim is merited.

There is also a new article which ambiguously provides that the employer is obliged to pay equal remuneration for work of equal value to the employees, regardless of their national, religious, gender, political or trade union affiliation. Work of equal value means work which requires the same degree of education, the same working ability, responsibility and physical and intellectual work.

In the case of non-compliance with the legislation a fine is foreseen for the offence for employer-legal entity, for employer-individual and for the responsible person within the legal entity.

With such proposals of legislation the legislator seeks, through more precise and detailed legal regulation, to act better regarding the issue of promoting gender equality and its application in this very important area of social relations. Furthermore, the general labour regulations partly still do not comply with the ILO Conventions (Forced Labour Convention no. 29 and Abolition of Forced Labour Convention no. 105), which prohibit all forms of forced or compulsory labour in all its forms. Specifically, Article 32, Paragraph 1 of the Labour Law of the Federation of BiH (Official Gazette of FBiH no. 43/99, 32/00, 29/03) and Article 43 of the Labour Law of the Republic of Srpska (Official Gazette of RS no. 38/00, 40/00, 47/02, 38/03, 66/03, 20/07) prescribes that in the case of force majeure (fire, earthquake, flood) and a sudden increase of workload, or in other cases of necessary need, at the request of the employer, the employee is obliged to work longer than full-time, i.e. to work overtime, but no more than ten hours a week. This provision of the Labour Law is the most frequently abused provision by employers so that the employees are often required to work more than full time referring to the sudden increase in workload. In such cases where the labour laws allow for the possibility of manipulation in a period of high unemployment rate, i.e. the lack of jobs and the fear of loss of employment, the employer can easily abuse the regulations and easily justify overtime work before the inspection.

#### **4. LABOUR DISPUTES IN BIH**

Today, the labour legislation is highly developed in a number of countries. There is a constant pursuit of a permanent improvement of legislation that regulates and protects the rights of employees. A major contribution is

made by the constant activity of the International Labour Organization in Geneva, which is reflected primarily in the form of the adoption of conventions and recommendations in this field, which were implemented by a large number of countries in their legislation. However, traditionally used to unilaterally determination of standards of conduct in companies, employers in many countries continue to resist and frequently violate the rights of employees. It is therefore essential that the employees are provided with an effective and impartial, and, above all, quick protection of labour rights, in order to avoid labour disputes of large and small scale, and which bring with them a number of adverse effects on the workers and their families, on the company, on the region, and often can have a detrimental effect on the economy of the entire country.

Court protection is one of the common ways of protection of labour rights. Its aim is to correctly apply labour legislation to the presented case. In comparative labour law the labour disputes are resolved by: specialized labour courts, labour tribunals, the courts of general jurisdiction, and in some countries the Administrative Court (Srđić 2006, 188).

Recently, there has been more and more talk about the necessity of establishing specialized courts for labour disputes, and there is a number of reasons to do this. The most significant ones relate to the existence of mistrust of labour organizations, associations and trade unions in the regular courts, which are considered to mostly neglect the interests of employees and protect the interests of employers. The procedure before the regular courts is quite often complicated, lengthy and often unrealistically expensive, which, when you take all the mentioned facts into account, makes them seem inefficient. In addition, the judges who judged in cases of labour disputes are often not sufficiently specialized in problems of this kind, especially in case of collective labour disputes. The above reasons were crucial for the legislators in many countries to decide to establish labour courts, which deal with labour disputes.

Labour courts exist in many countries and are spread all over the world. However, there are four systems of protection of labour rights today which have the greatest influence: French, German, British and Swedish. It would not hurt to mention that in many countries, disputes related to the rights of employees regarding the social security are not considered to be labour

disputes, so special courts deal with them - social security courts. They exist in Germany and France, and they existed here in the period between the world wars, until 1950 (Petrović 2009, 72).

Labour courts usually deal with the individual and legal disputes because such disputes are suitable for the trials, since they concern the application and interpretation of defined rights. Individual labour disputes arise in relation to the violation of the rights or interests of individual employees, while the collective disputes involve the violation of the rights of groups of employees. Legal disputes could be defined as disputes concerning the application or interpretation of the rules on the rights of employees established by legislation and collective agreements. Interest disputes, pertaining to the sphere of labour disputes in connection with the establishment of new or modification of existing working conditions, are not as suitable for the trial. Therefore, these disputes are usually resolved by conciliation, mediation and arbitration, and labour courts rarely deal with them as in Portugal, Spain, Denmark and Israel. Most labour disputes in practice arise in relation to (Šunderić 2001, 110):

- termination of employment,
- salaries,
- disciplinary measures,
- rights of trade union activists and other employees' representatives,
- compensation for damages,
- sick leave,
- pensions and other individual rights arising from employment.

An important source of labour disputes are the rights and obligations of employees as defined by collective agreements and the collective bargaining. Basic features of the proceedings before the labour courts are flexibility and informality. Compared to the regular courts, the proceedings before the labour courts are quicker, more accessible and less expensive.

Special procedures which take care of the speed and simplicity of the proceedings in labour disputes are in force in Argentina, Austria, Italy, France, Greece, Great Britain, Denmark and many other countries. In order to complete the proceedings of labour disputes as soon as possible, in some countries the deadlines are established for the completion of certain procedural actions and to end the labour dispute. Thus, in Italy, in 1970, the deadline for resolving the dispute in the first instance was reduced to 60

days, and in Switzerland labour courts have the duty to take care to avoid unreasonable postponing and delays in the proceedings (Srdić 2006, 192). In practice, the speed of resolving labour disputes depends on the type, the number of persons involved in the dispute, as well as the complexity of the matters at issue. The quickest are the labour courts in Germany and Switzerland. The disputes there are resolved in about three months. The detail of the proceedings which makes it special before the labour court is its gratuitousness. More specifically, the parties are exempt from paying taxes, each of which bears the cost of its procedural actions during the proceedings. The practice is that the losing party is obliged to reimburse the costs of the other party.

Significant specificity of a labour dispute is the fact that the courts, almost without exception, try to conciliate the parties. It is mandatory to attempt mediation in Germany, Belgium, Spain, France, Greece, Portugal, Sweden and many African countries, and it is optional in the UK, Denmark and Ireland (Blainpain, Hendrickx 2002, 163). If a labour dispute is settled through conciliation, the dispute is significantly shortened, and the relationship between the parties is considerably less damaged than after the trial.

Another specific feature of a labour dispute is that in the first instance it is usually not required, and even avoided, to hire a lawyer, and in some Swiss cantons (Geneva, Fribourg, Valais and Zürich) (Ivošević 2010, 94) it is strictly prohibited.

One of the main characteristics of the proceedings in labour disputes is to leave a possibility for the court to order temporary measures in order to avoid damage which cannot be reimbursed later. In terms of the information they learn during the course of the trial, the judges of the labour court mostly have an obligation of confidentiality. When making a decision in a labour dispute the aim is to make a unanimous decision. In addition, the aim is also to make judges of the labour court to act neutrally, not as representatives of their social group. In some countries the neutral member of the council votes only if the representatives of employees and employers do not reach an agreement. Labour relations as specific social relations insist on the quick resolution of disputes arising from these labour relations. Bearing in mind that the existing judicial protection is rather slow and inefficient, new models for the settlement of disputes are being implemented recently, with the hope that they would be able to live up to expectations, and to expedite the proceedings and thus bring about the resolution of disputes.

## CONCLUSION

Labour relations in BiH are regulated by a set of laws that have been adopted in four jurisdictions within BiH: Labour Law of FBiH, Labour Law of RS, Labour Law of the Brčko District, and Labour Law in Institutions of BiH, as well as a set of other laws that are directly related to the area of labour. In addition, the sources of law in the field of labour are also the collective agreements and general acts of employers, such as employment rulebooks, agreements between employees' councils and employers, as well as employment contracts. The legislation adopted by government institutions is only a minimum of protection of individual and collective labour rights and related to labour, or it should be the framework for the protection of employees not covered by collective labour law, while collective agreements, employment rulebooks and contracts must appear as the most important sources of labour legislation and the driving force for the modernization of the labour relations system which must follow the globalization of the labour market.

Labour rights are divided into individual and collective. Individual rights include the issues of salaries, working hours, holidays, occupational health and safety and job security, while collective rights contain provisions related to trade union organizing, collective bargaining, participation in decision making, resolving disputes, strike, and the right to participate in the adoption of autonomous acts of employers (rulebooks, employment contracts). The above issues of individual and collective rights are dealt by labour laws of Bosnia and Herzegovina, which in addition to the above also contain provisions related to non-discrimination, the contents of the employment contracts or written certificate, the employment contract for a limited time, equal pay for women and men, disposal of surplus, part-time employment, and rights of maternity protection - which are fully or partially compliant with international labour standards and the EU directives.

It is evident that the system of rights in labour relations is developed in BiH, although it is not fully in line with international and regional conventions, and there is also the problem of harmonization of laws within BiH. However, this system provides a legally guaranteed protection of rights - individual and collective - in the field of labour. Resolving individual and collective disputes is regulated by two laws: Labour Law and the Law of Civil Procedure, while judicial proceedings are conducted before the regular courts in civil proceed-



ings. In BiH, there are no specialized labour courts. In the first instance the competent court is the municipal court (Federation of BiH) or the court of general jurisdiction (Republic of Srpska) which have a general jurisdiction over the defendant (based on the place of residence, or place of head office registration).

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## INTERAKCIJE MAKROFITA I MAKROINVERTEBRATA

**Rezime:** *Makrofite predstavljaju značajnu komponentu u vodenim ekosistemima, zahvaljujući kojima postoji prisustvo većeg broja makroinvertebrata, tako da je njihova interakcija veoma značajna. Istraživanje makrofita i makroinvertebrata u rijekama, jezerima i akumulacijama nije samo od naučnog značaja već je značajno i za upravljanje i očuvanje vodenih ekosistema. Pored fizičko-hemijskih uslova, svako stanje vodenog sistema karakteriše se određenim vrstama ili grupama organizama, tzv. bioindikatorima. Vodena staništa spadaju u red najosetljivijih staništa, koja istovremeno trpe veoma jak uticaj antropogenog faktora, zbog čega je jako bitno vršiti istraživanja i odrediti diverzitet biljnih i životinjskih vrsta. Kvalitet slatkovodnih ekosistema je promjenljiv jer mnogi produkti koji nastaju kao posljedica ljudske aktivnosti završavaju u vodi, a takođe i drugi, koji se ispuštaju u vazduh ili zemljište, različitim procesima dopijevaju u vodene ekosisteme. Cilj ovog rada je da se predstave neka istraživanja koja ukazuju na značaj interakcije makrofita i makroinvertebrata.*

**Ključne riječi:** *makrofite, makroinvertebrate, prečišćavanje voda.*

**JEL klasifikacija:** *Q57.*

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## UVOD

Voda je u prirodi najrasprostranjenija supstanca i dijeli se na: površinsku, podzemnu i atmosfersku. Sastav površinskih voda je veoma različit zbog specifičnih fizičko-hemijskih i bioloških procesa koji se u njima odvijaju. Površinske vode podložne su promjenama, ali ne samo onim koje su posljedica geološkog starenja već i onima koje su, posebno u sadašnje vrijeme, izazvane djelovanjem čovjeka. Kvalitet slatkovodnih ekosistema je promjenljiv jer mnogi produkti koji nastaju kao posljedica ljudske aktivnosti završavaju u vodi, a takođe i drugi, koji se ispuštaju u vazduh ili zemljište, različitim procesima dopijevaju u vodene ekosisteme. Kvalitet vode određuje se na osnovu ispitivanja njenih fizičkih, hemijskih i bioloških karakteristika (Stevanović i Janković 2001, 126).

Površinske vode teško je dosljedno razvrstati samo prema jednom od kriterijuma. Tako se vode mogu podijeliti prema kriterijumu količine hranljivih materija i intenziteta primarne produkcije na: oligotrofne (slabo produktivne i siromašne hranljivim materijama), eutrofne (vrlo produktivne i bogate hranljivim materijama) i distrofne (slabo produktivne, siromašne, u izvjesnom smislu „odumiruće“ vode, bogate huminskim kiselinama, sa oskudnom vegetacijom i planktonom).

Biološki procesi imaju značajnu ulogu u održavanju ravnoteže vodenih ekosistema. Pored fizičko-hemijskih uslova, svako stanje vodenog sistema karakteriše se određenim vrstama ili grupama organizama, tzv. bioindikatorima.

Prema prilagođenostima na različite uslove života, u pojedinim dijelovima vodene sredine postoje različite adaptivne ili životne forme. Vodeni organizmi najčešće sadrže širok opseg životnih formi, koje obuhvataju:

- organizme dna (bentos) – pljosnati i prstenasti crvi, mekušci, rakovi i insekti;
- slobodnoplivajuće organizme (bakterioplankton, akvatične gljive, fitoplankton i zooplankton);
- biljne i životinjske vrste pričvršćene za plutajuće predmete (perifiton);
- organizme na samoj površini vode (neuston);
- životinjske vrste koje se aktivno kreću kroz vodu (nekton) i
- biljke (makrofite).

Vodena staništa spadaju u red najosjetljivijih staništa, koja istovremeno trpe veoma jak uticaj antropogenog faktora, zbog čega je vrlo važno vršiti istraživanja i odrediti diverzitet biljnih i životinjskih vrsta.

Činjenica je da se čovjek oduvijek suočavao sa izazovima opstanka ljudske vrste (Ilić i Praća 2012, 15).

Cilj ovog rada je da se predstave neka istraživanja koja ukazuju na značaj interakcije makrofita i makroinvertebrata.

## 1. AKVATIČNE MAKROFITE

Akvatične biljke obuhvataju složenu grupu različitih adaptivnih tipova biljaka koje naseljavaju različite vodene basene. Neki autori sve vodene vaskularne biljke, vodene mahovine i makroskopske alge obuhvataju imenom „akvatične makrofite“. Međutim, s obzirom na veličinu, vodene biljke se dijele na mikrofite (mikroskopske alge) i makrofite, koje obuhvataju sve više biljke i višćelijske alge iz reda *Charales*. Osim hara, tu se uključuje makroalga *Cladophora*, tresetne mahovine i paprati.

Makrofite vodenih ekosistema se, na osnovu njihove strukture i adaptacije na životnu sredinu, odnosno na osnovu položaja u vodi, javljaju u tri životne forme: helofite, hidrofite i amfifite. Osnovne odlike vodenih biljaka su: površina submerznih listova je povećana pri njihovoj maloj zapremini, heterofilija, mehanički elementi imaju centralni položaj, intercelularne šupljine su veoma razvijene, redukcija korijenovog sistema i vegetativno razmnožavanje (Stevanović i Janković 2001, 140). U vodenim ekosistemima postoji pojas emerznih, flotantnih i submerznih biljaka (Krischik i sar. 1999, 15; Valta-Hulkkonen i sar. 2003, 123). Emerzne makrofite sreću se u plitkim litoralnim zonama, do oko 1 m dubine. Biljke sa plutajućim listovima se uobičajeno nalaze na dubinama od 1 do 3 m, a submerzne biljke rastu od obale do granice fotičke zone i rijetko prelaze dubinu od 10 m.

Zahvaljujući ekofiziološkim adaptacijama vodenih biljaka, omogućena je intenzivna fotosinteza submerznih listova, što je uslovljeno abiotičkim uslovima i dubinom na kojoj se biljka nalazi. Najintenzivnija fotosinteza je kod biljaka koje se nalaze neposredno ispod površine vode. Submerzne biljke, koje nastanjuju relativno mali prostor vodenih ekosistema, prilagođavaju se smanjenoj količini Sunčevog zračenja, dok su flotantne

biljke izložene veoma intenzivnom zračenju na površini vodenog basena. Na velikim dubinama, u uslovima male osvjetljenosti, prisutne su samo primarne vodene biljke, odnosno alge koje se odlikuju prisustvom komplementarnih pigmentata koji im omogućavaju da obezbijede dovoljne količine Sunčeve energije talasnih dužina koje dopiru do tih dubina (Stevanović i Janković 2001, 160).

U zavisnosti od uslova vodene i vazdušne sredine, transpiracija može biti veoma intenzivna i kod flotantnih i kod emerznih listova (Stevanović i Janković 2001, 178).

Kao i svi primarni producenti, i ove biljke reaguju na kvalitet vode u kojoj rastu, pa su dobri bioindikator stanja površinskih voda. Rasprostranjenost akvatičnih makrofita zavisi od mnogih faktora, kao što su temperatura, svjetlost, hemijski sastav vode, pH, dubina vode, tip podloge, brzina vode i vodni režim (Weisner 1993, 94; Krischik et al. 1999, 12). Pored toga što doprinose zarastanju vodenog okna, smanjivanju protoka i prosvjetljenosti vodenog biotopa, a samim tim i narušavanju osnovnih ekoloških odlika, vodene makrofite imaju i višestruko pozitivnu ulogu.

Značaj vodenih biljaka je višestruk (Janković 1985, 112). Njihova uloga ogleda se u produkciji biomase, proizvodnji kiseonika i stvaranju specifične strukture vodene vegetacije. Makrofite su esencijalna komponenta u mnogim akvatičnim ekosistemima. To se ogleda kroz ekološku ulogu, jer su biljke (uzimajući u obzir alge) u vodenoj sredini primarni producenti, prva karika u lancima ishrane i svi drugi oblici života u akvatičnoj sredini zavise od biljaka. Osim obezbjeđivanja hrane za ribe, invertebrate, kao i vodene ptice, one predstavljaju i mjesta za mriješćenje riba, kao i sklonište za ribe i invertebrate koji se opet dalje uključuju u lance ishrane (Krischik et al. 1999, 9). Takođe, stvaraju veliki broj mikrostaništa neophodnih za životinjske vrste. Njihovu površinu na prostoru među korijenjem, stablom i lišćem nastanjuju brojne životne forme, bakterije i sesilne alge, fito i zooplankton, invertebrate, bilo da su pričvršćene ili nepričvršćene za površinu biljaka, zatim različite vrste riba, vodozemaca i gmizavaca, vodenih ptica i sisara. Na njima su razvijene nitrifikacione i denitrifikacione zajednice bakterija, zavisno od toga da li je njihova površina na svjetlosti ili u mraku, kao i mnogi drugi oblici (Kim 2004, 120). Savršena su podloga za razvoj perifitona, koji je vema značajan za makroinvertebrate.

## 2. AKVATIČNE MAKROINVERTEBRATE

Akvatične makroinvertebrate (vodeni beskičmenjaci) jesu grupa organizama koji naseljavaju dno (sedimente, detritus, makrofite, filamentozne alge) slatkovodnih ekosistema tokom cijelog svog života ili dijela svog životnog ciklusa. Veličina ovih organizama je od 200 do 500 mikrometara. Fauna dna (zajednica bentosnih makroinvertebrata) pripada akvatičnoj zoocenozi, pored planktonskih, perifitonskih, nektonskih i neustonskih organizama. Ovi organizmi igraju značajnu ulogu u proticanju energije i kruženju materije. Takođe, imaju široku primjenu u biomonitoringu vodenih ekosistema. Abiotički faktori u akvatičnom ekosistemu, izraženi kroz hidromorfološke i fizičko-hemijske odlike vodenih staništa, znatno utiču na strukturu zajednica bentosnih makroinvertebrata. Od fizičko-hemijskih faktora, najveći značaj imaju temperatura; koncentracije rastvorenog kiseonika, a s njima u vezi i vrijednosti kiseonične saturacije; pH vrijednost vode; koncentracije organskih materija i dr. Od hidromorfoloških parametara, na strukturu bentosne zajednice utiče, prije svega, tip podloge, brzina vode (u tekućim ekosistemima), vodni režim i drugo. Svi ovi faktori djeluju sinergistički na bentosne makroinvertebrate, a svaka vrsta posjeduje ekološku valencu u čijim granicama za dati parametar određena vrsta preživljava.

Vrste makroinvertebrata koje naseljavaju tekuće vode karakterišu određene adaptivne odlike, uglavnom su slabo pokretne, a neke su i sesilne. Da bi ostvarile što prisniji kontakt sa podlogom, a sa ciljem sprečavanja otplovljavanja, mnoge vrste su leđno-trbušno spljoštene (npr. *Plecoptera* i *Ephemeroptera*). Neke vrste, osim što su leđno-trbušno spljoštene, izlučuju i sluz (*Turbellaria*) i na taj način su još bolje vezane za podlogu. Vrste koje žive u najjačoj struji vode imaju posebne organe za prihvatanje (*Diptera*) ili poseban vijenac kukica za prihvatanje na kraju tijela (*Diptera*). Larve (*Trichoptera*) koje žive ispod kamenja pletu posebne mreže za lov kojima hvataju hranu, a neke vrste imaju kućice od zrnaca pijeska i kamenčića, pa zbog težine ne mogu biti odnesene strujanjem vode. Količina rastvorenog kiseonika je od posebnog značaja u vodenom ekosistemu. Prilagođenost bentosnih makroinvertebrata na variranje ovog ekološkog faktora odvijala se u različitim pravcima. Usljed intenzivne bakteriološke razgradnje u organski opterećenim vodama može doći do drastičnog smanjenja količine

kiseonika u vodi, što za posljedicu ima pojavu vrsta koje mogu opstati u vodi sa malo kiseonika, kao što su larve hironomida (*Diptera*) i oligohete iz porodice (*Tubificidae*). Te vrste u tjelesnoj tečnosti imaju posebnu vrstu hemoglobina pomoću kojeg mogu vezati dovoljno kiseonika za svoje potrebe i kod vrlo malih količina kiseonika u okolnoj sredini. Vrste (*Turbellaria*) nemaju nikakve prilagođenosti i posebne organe za disanje, jer primaju kiseonik preko površine tijela, a rakovi i insekti čija površina tijela je tvrda i onemogućava disanje preko kože imaju posebne organe za disanje – škrge.

### 3. INTERAKCIJA MAKROFITI I MAKROINVERTEBRATA

Sastav vrsta i populacija ili gustine individua po jedinici površine su uniformni u stabilnim vodenim sredinama, a do većih i manjih variranja može doći sezonski. Ove zajednice odgovaraju na promjenu sredine promjenom strukture zajednica. Zajednice faune dna reaguju na promjene životne sredine, naročito na promjene kvaliteta vode pod antropogenim uticajem, pa mogu poslužiti kao bioindikator stanja akvatičnih sistema. Dokazano je da makroinvertebrate mijenjaju strukturu zajednice u slučaju organskog opterećenja i toksično-hemijskog zagađenja.

Makrofite predstavljaju značajnu komponentu u vodenim ekosistemima i zahvaljujući njima postoji prisustvo većeg broja makroinvertebrata, tako da je njihova interakcija veoma značajna. Istraživanje makrofita i makroinvertebrata u rijekama, jezerima i akumulacijama nije samo od naučnog značaja već je značajno i za upravljanje i očuvanje vodenih ekosistema.

Na osnovu brojnih istraživanja sistematske pripadnosti, može se konstatovati da je najveća zastupljenost među makrofitskim makroinvertebratama vrsta iz klase *Insecta*.

Vodeni insekti su bogata i razovrsna grupa organizama koja naseljava različite tipove vodenih ekosistema, od malih površina privremenih (efemernih) stajaćih voda (npr. bare), preko izvora, potoka, velikih jezera, do velikih rijeka. U lentičkim, odnosno stajaćim vodama, akvatični insekti se javljaju na dnu dubokih jezera, uz vegetaciju, kao i u otvorenim vodama. U lotičkim ili tekućim vodama nalaze se ispod kamenja, opalog lišća i ostataka biljnog materijala, ili u pukotinama debala, zakopani u pijesku ili



sedimentu, gdje vode sedentarni način života ili puze. Vodeni insekti predstavljaju važnu komponentu akvatičnih lanaca ishrane. Usitnjavaju organsku materiju, a hrane se i raspadnutim dijelovima gljiva, mrtvih životinja i bakterija. Asimilacijom ovih materija, razlažući velike dijelove u manje, akvatični insekti stvaraju energiju i hranjive materije koje postaju dostupne drugim beskičmenjacima i kičmenjacima (npr. ribama, pticama). Bez obzira na njihov značaj u vodenim ekosistemima, samo rijetki predstavnici provode cijeli svoj život u vodi (*Coleoptera*). Najveći broj vodenih insekata vezan je za vodenu sredinu preko stadijuma larve, a adultni stadijumi su im terestrični (*Ephemeroptera*, *Plecoptera*, *Odonata*, *Trichoptera*, *Diptera*). Tipični odgovori zajednice akvatičnih insekata (zajedno sa ostalim organizmima makroinvertebrata) na svaku promjenu fizičkih i hemijskih faktora vodene sredine su sljedeći:

- a) kada sadržaj sedimenata u vodenom biotopu raste, relativna brojnost određenih vrsta *Ephemeroptera* i larvi *Trichoptera*, koje se hrane filtriranjem hrane, takođe raste;
- b) kada sadržaj rastvorenog kiseonika u vodi opada, broj larvi insekata koje sadrže hemoglobin raste (*Chironomidae*);
- c) sa porastom temperature vode opada broj larvi *Plecoptera*;
- d) dotok pesticida u vodenu sredinu utiče na smanjenje diverziteta vrsta;
- e) ako dođe do povećanog unosa organskih materija u vodenu sredinu (đubriva ili otpad sa farmi), doći će do povećanja brojnosti samo nekoliko vrsta, sa istovremenim padom diverziteta vrsta.

Vršena su brojna istraživanja kojima se dokazuje da su prisustvo makroinvertebrata i gustina populacija veći u prisustvu makrofita u odnosu na akvatične ekosisteme, gdje makrofite nisu prisutne. Naselja akvatičnih makrofita predstavljaju stanište velikog broja invertebrata u odnosu na mjesta bez vegetacije, kako u pogledu vrsta, tako i u pogledu ukupne biomase (Popijač 2003).

Gerrish i Bristow (1979) pratili su povezanost makroinvertebrata i makrofita. Njihovo istraživanje bazirano je na praćenju i upoređivanju prisustva makroinvertebrata na prirodnim biljkama *Myriophyllum exalbescens*, *Potamogeton richardsonii* i *Vallisneria americana* i vještačkim podlogama koje po izgledu podsjećaju na *Potamogeton richardsonii*, u dva različita perioda (jun i jul 1974). Nije uočena značajna razlika u gustini populacije

na prirodnim biljkama i vještačkim podlogama. Prema rezultatima analiza iz juna mjeseca, može se vidjeti da su najviše zastupljeni predstavnici *Chironomidae* i *Oligochaeta* na svim podlogama. *Oligochaete* su bile najbrojnije na *Myriophyllumu*, a njihovo prisustvo na vještačkoj podlozi je veće nego na prirodnom *Potamogetonu* i *Vallisnerii*. Za razliku od *Oligochaeta*, gustina populacija *Chironomidae* bila je najveća na *Potamogetonu* te na vještačkoj podlozi, dok je najmanja gustina populacija vezana za *Vallisneriu*. Na osnovu rezultata iz jula mjeseca, gustina populacija *Ephemeroptera* takođe je povećana, i to na prirodnim biljkama. Gustina populacija *Chironomidae* bila je manja na vještačkim podlogama u odnosu na prirodne biljke, dok je gustina populacija *Oligochaeta* bila veća na vještačkim podlogama u odnosu na prirodne biljke. Na osnovu ovih rezultata može se konstatovati da makrofite predstavljaju stanište makroinvertebrata i služe kao podloga za obrazovanje perifitona, koji makroinvertebrate koriste kao izvor hrane. U istraživanjima Forstera i Schlichting 1965. godine, utvrđeno je da svaka vrsta makrofita ima određene karakteristike zahvaljujući kojima dolazi do formiranja perifitona. U istraživanjima Gerich i Bristow (1979) konstatovano je da prirodne biljke i vještačke podloge mogu slično izvršiti kolonizaciju perifitona i da gustina populacija makroinvertebrata zavisi od morfoloških karakteristika makrofita.

Marcel i saradnici su 1997. godine analizirali odnos makroinvertebrata i potopljenih *Charophyta* u dva eutrofna jezera Veluwemeer i Wolderwijd u Holandiji. Biomasa, sastav vrsta i vegetacioni period makrofita utiče na sastav i gustinu populacije makroinvertebrata. Kako pokazuju istraživanja krajem 1960-ih godina, podvodna vegetacija u pomenutim jezerima bila je smanjena zbog eutrofikacije. Tokom 70-ih i 80-ih godina javljaju se vrste *Potamogeton pectinatus* L. i *Potamogeton perfoliatus* L., a nakon sanacije jezera 1979. godine dolazi do pojave *Charophyta*, i to vrsta *Chara aspera* u jezeru Veluwemeer i *Chara contraria* i *Chara vulgaris* u jezeru Wolderwijd (Hosper, Meijer 1986, 184). U istom periodu dolazi do smanjenja gustine populacije *Potamogeton pectinatus*, a za gustinu populacije *Potamogeton perfoliatus* bilježi se lagani porast. Nakon deset godina vršeno je uzorkovanje makrozoobentosa i makrofita u jezeru Veluwemeer. Tim istraživanjem utvrđeno je prisustvo 37 vrsta makroinvertebrata, od kojih su najbrojniji bili predstavnici familija *Gamaridae* i *Chironomidae*. U daljim analizama utvrđeno je da su u uzorcima koji su uzeti na mjestima

gdje je zastupljen *Potamogeton* najdominantnije bile tri vrste – *Einfeldia dissidens*, *Cricotopus gr. sylvestris* i *Sphaeriidae*, dok je u uzorcima koji su uzeti gdje su dominirale *Charophyte* najbrojniji *Endochironomus albipennis*. Biomasa *Charophyta* je bila značajno veća u odnosu na biomasu vrste *Potamogeton*. Takođe je utvrđeno da je biomasa *Charophyta* u pozitivnoj korelaciji sa dvije vrste iz familije *Gastropoda* (*Valvata picinalis* i *Bitinia tentaculata*), kao i sa vodenim insektima *Endochironomus albipennis*, *Chironomus sp.* i *Psectrocladius sp.*, dok su vrste *Potamopyrgus antipodarum*, *Cladotanytarsus sp.* i *Cryptochironomus sp.* u negativnoj korelaciji.

Na osnovu prethodnih rezultata može se vidjeti da prisustvo makroinvertebrata zavisi od biljnih vrsta i njihove biomase, jer je utvrđeno da nema značajnih razlika u prisustvu makroinvertebrata koje su pronađene između *Potamogeton perfoliatus* i *Potamogeton pectinatus*. Vegetacija *Charophyta* ima drugačije morfološke karakteristike i biomasu veću od vrsta *Potamogeton*, zbog čega je povoljno stanište za vrste koje se hrane stružuci perifiton sa vodenih biljaka, kao što su *Valvata piscinalis* i *Bitinia tentaculata*.

Takođe su rađena brojna istraživanja koima se ukazuje na značaj makrofita kao staništa i skloništa od predatora. U prilog tome govore i podaci istraživanja Hunter et al. (1986, 6) koji su vršili komparativno istraživanje na četiri kaveza jednakih fizičko-hemijskih karakteristika (Maine, SAD). U dva kaveza zbog promjene pH vrijednosti (povećanje kiselosti) došlo je do uginuća riba, a gustina populacije invertebrata je bila znatno veća u odnosu na ribnjake gdje nije bilo promjene pH vrijednosti. Invertebrate predstavljaju značajnu kariku u lancu ishrane riba. Primjer je *Tinca tinca*, koji je najveći predator mekušaca – moluskivor, i uglavnom se hrani mekušcima, ali u nedostatku može koristiti i druge izvore hrane. Ribe konzumenti mekušaca imaju značajan uticaj na gustinu njihove populacije, kao i posredan pozitivan uticaj na rast obraštaja. Biomasa obraštaja povećala se u kavezima sa ribama zbog smanjenog pritiska mekušaca koji se hrane obraštajem struganjem (Popijač 2003).

U kavezima sa ribama rijetke su bile populacije mekušaca zbog predacije od strane riba, a u zajednici perifitona dominirale su *Diatomeae* i končaste alge. U kavezima bez riba, gdje je veća brojnost mekušaca, u perifitonskoj zajednici dominirale su manje i jako pričvršćene vrste algi.

Iz prethodnih istraživanja može se uočiti pozitivan uticaj mekušaca na rast potopljenih makrofita i negativan uticaj moluskivornih riba. Mekušci, hraneći se obraštajem, smanjuju biomasu obraštaja, čime se podstiče rast makrofita. Ovo je potvrđeno sa više eksperimenata rađenih u plitkom kavezu sa ribama u Švedskoj (Popijač 2003). *Tinca tinca* je korišten kao moluskivor, pri čemu se biomasa mekušaca smanjila u tom kavezu, a došlo je do povećanja biomase obraštaja i značajnog smanjenja biomase dominantne makrofite (*Elodea Canadensis*).

Korištenje vodenih biljaka kao skloništa od riblje predacije jedan je od važnih uzroka za mnogo bogatije zajednice invertibrata u gustim naseljima biljaka, ali važni su i drugi faktori. To je vidljivo iz činjenice da, čak i kad su ribe isključene, gustina i raznovrsnost vrsta makrofaune invertibrata veći su u područjima koja su bogata podvodnom vegetacijom nego u područjima gdje nema biljaka ili su vrlo rijetke (Popijač 2003).

Pored toga što makroinvertibrata koriste makrofite kao sklonište od riba kao predatora, jedan od važnih uzroka za mnogo bogatije zajednice makroinvertibrata u gustim naseljima biljaka jeste dostupnost hrane. Veoma mali broj makroinvertibrata može konzumirati značajne količine svježih makrofita, ali raspadajuće biljke osiguravaju relativno visokokvalitetan detritus, kojim se hrane npr. predstavnici *Isopoda*, puževi i larve kukaca (Popijač 2003). Mnogo važniji izvor hrane za njih predstavlja perifiton, odnosno sloj obraštaja koji pokriva makrofite. Hoyer i saradnici (1997) vršili su istraživanje protoka ugljenika poredeći udjele stabilnih izotopa ugljenika u različitim organizmima kroz lanac ishrane. Istraživanja su rađena u dva jezera na Floridi, pri čemu je jedno jezero bilo obraslo vegetacijom, a drugo jezero je bilo bez vegetacije. U jezeru bez vegetacije izvor ugljenika je bio fitoplankton, dok je u jezeru sa vegetacijom izvor ugljenika bio perifiton, a makrofite su imale samo mali udio u lancu ishrane.

## ZAKLJUČAK

Na osnovu pregleda rezultata mnogih autora prikazanih u ovom radu može se zaključiti da vodene biljke odnosno makrofite imaju višestruki značaj. One su esencijalna komponenta u mnogim vodenim ekosistemima, predstavljaju stanište velikog broja makroinvertibrata i služe kao podloga za

obrazovanje perifitona, koji makroinvertebrate koriste kao izvor hrane. Svaka vrsta makrofita ima određene karakteristike zahvaljujući kojima dolazi do formiranja perifitona. Na osnovu rezultata, zaključili smo da prirodne biljke i vještačke podloge mogu slično izvršiti kolonizaciju perifitona i da gustina populacija makroinvertebrata zavisi od morfoloških karakteristika makrofita.

Takođe, gusta naselja biljaka značajna su za makroinvertebrate zbog dostupnosti hrane. Mali broj koristi svježije makrofite, ali za većinu je značajan visokokvalitetni detritus, kao i obraštaj odnosno perifiton na makrofitama. Takođe se može uočiti značajan uticaj riba na gustinu populacije makroinvertebrata – mekušaca, kao i pozitivan uticaj na rast obraštaja. Biomasa obraštaja se povećava u kavezima sa ribama zbog smanjenog pritiska mekušaca koji se hrane obraštajem.

Praćenjem makrofita kao staništa i skloništa makroinvertebrata od predatora, uočeno je da je gustina i raznovrsnost makroinvertebrata veća u područjima koja su bogata potopljenom vegetacijom nego u područjima gdje biljaka nema ili su rijetke.

Makrofite predstavljaju značajnu komponentu u vodenim ekosistemima, zahvaljujući kojoj postoji prisustvo većeg broja makroinvertebrata, tako da je njihova interakcija veoma značajana. Istraživanje makrofita i makroinvertebrata u rijekama, jezerima i akumulacijama nije samo od naučnog značaja već je značajno i za upravljanje i očuvanje vodenih ekosistema.

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## MACROPHYTES AND MACROINVERTEBRATES INTERACTIONS

**Summary:** *Macrophytes are an important component in aquatic ecosystems due to which there is the presence of a large number of macroinvertebrates, and therefore their interaction is very important. Macrophytes and macroinvertebrates research in rivers, lakes and reservoirs is not only of scientific importance but it is important for management and conservation of aquatic ecosystems. In addition to the physical and chemical conditions, each state of the water system is characterized by a particular species or group of organisms, so-called bioindicators. Aquatic habitats are among the most sensitive habitats, which are also under a very strong influence of anthropogenic factors, which is why it is very important to do research and determine the diversity of plant and animal species. The quality of freshwater ecosystems is variable because many products that occur as a result of human activities end up in the water, as well as others that are emitted into the air or land, through a variety of processes end up in aquatic ecosystems. The aim of this paper is to present some research that indicates the importance of interaction between macrophytes and macroinvertebrates.*

**Key words:** *macrophytes, macroinvertebrates, water purification*

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## INTRODUCTION

Water is the most widespread substance in nature and is divided into: surface water, ground water and atmospheric water. The composition of surface water is very different because of specific physical, chemical and biological processes that occur in them. Surface waters are subject to change, but not to just those changes that are the result of geological aging, but also to those, especially at the present time, that are caused by human activities. The quality of freshwater ecosystems is variable because many products that result from human activities end up in the water, as well as other products that are emitted into the air or land, through a variety of processes end up in aquatic ecosystems. Water quality is determined on the basis of the examination of its physical, chemical and biological characteristics (Stevanovic and Janković 2001, 126).

To consistently classify surface water is difficult based only on one of the criteria. Thus, the water can be classified based on the amount of nutrients and intensity of the primary production criterion on: oligotrophic (poorly productive and poor in nutrients), eutrophic (very productive and rich in nutrients) and dystrophic (poorly productive, poor, in a certain sense “dying” waters, rich in humic acids, with sparse vegetation and plankton). Biological processes play an important role in maintaining the balance of aquatic ecosystems. In addition to the physical and chemical conditions, each state of the water system is characterized by a particular species or group of organisms, so-called bioindicators.

According to adaptation to different conditions of life in some parts of the aquatic environment there are different adaptive or life forms. Aquatic organisms usually contain a wide range of life forms, including:

- Bottom organisms (benthos) - flat and ring worms, mollusks, crustaceans, and insects;
- Free-floating organisms (bacterioplankton, aquatic mushrooms, phytoplankton and zooplankton);
- Plant and animal species attached to floating objects (periphyton);
- Organisms on the surface of the water (neuston);
- Animal species that are actively moving through the water (nekton) and
- Plants (macrophytes)



Aquatic habitats are among the most sensitive habitats, which also endure a very strong influence of anthropogenic factors, which is why it is very important to do research and determine the diversity of plant and animal species.

The fact is that the man has always faced the challenges of survival of the human species (Ilić and Praća 2012, 15). The aim of this paper is to present some research indicating the importance of interaction between macrophytes and macroinvertebrates.

## 1. AQUATIC MACROPHYTES

Aquatic plants include a complex group of different types of adaptive plants that inhabit the various water basins. Some authors classify all aquatic vascular plants, aquatic moss and macroscopic algae under the name of aquatic macrophytes. However, in terms of the size, aquatic plants are divided into a microphyte (microscopic algae) and macrophytes, which include more plants and multicellular algae from among *Charales*. In addition to *hara*, macroalgae *Cladophora*, peat moss and ferns are also included.

Macrophytes of aquatic ecosystems, based on their structure and adaptation to the environment, or on the basis of the situation in the water, appear in three forms of life: helophyte, hydrophytes and amphiphytes. basic features of aquatic plants are submerged surfaces of leaves was increased when their small volume, heterofilija, mechanical elements have a central position, intercellular cavity are highly developed, reduction of the root system and the vegetative propagation (Stevanovic and Janković 2001, 140). Basic features of aquatic plants are: submerged surfaces of leaves which increases when they have small volume, heterophyllia, mechanical elements have a central position, intercellular cavities are highly developed, reduction of the root system and the vegetative propagation (Stevanovic and Janković 2001, 140). Emersal macrophytes can be found in the shallow littoral zones, to about 1 m depth. Plants with floating leaves are commonly located at depths of 1 to 3 m, and submerged plants grow from the coast to the photic zone border and rarely exceed a depth of 10 m. Thanks to ecophysiological adaptations of aquatic plants intensive photosynthesis of submerged leaves, which is caused by abiotic conditions and

the depth at which the plant is located, is enabled. The most intensive photosynthesis happens in plants which are located directly below the water surface. Submerged plants that inhabit the relatively small area of aquatic ecosystems adapt to the reduced amount of solar radiation, while the floating plants are exposed to very intense radiation at the surface of the water basin. At great depths under low illumination we can find only primary aquatic plants, and algae that are characterized by the presence of complementary pigments that allow them to provide sufficient amounts of solar energy wavelengths that can reach those depths (Stevanovic and Janković 2001, 160).

Depending on the conditions of water and air environment, transpiration can be very intense with floating and emersive leaves. (Stevanovic and Janković 2001, 178). Like all primary producers, these plants respond to water quality in which they are growing, and therefore they are good indicators of the state of the surface waters. The distribution of aquatic macrophytes depends on many factors, such as temperature, light, water, chemical composition, pH, water depth, type of substrate, water velocity and water regime (Weisner 1993, 94; Krischik et al., 1999). Aquatic macrophytes have multiple positive role, in addition to contributing to the healing of the water pane, to the reduction of the flow and enlightenment of water biotope and thus to distorting of the basic environmental qualities. The importance of aquatic plants is multiple (Janković 1985, 112). Their role is reflected in the production of biomass, the production of oxygen and the creation of a specific structure of aquatic vegetation. Macrophytes are an essential component in many aquatic ecosystems. This is reflected in the ecological role, because the plants (taking the algae into account) are primary producers in the aquatic environment, the first link in the food chain and thus all other forms of life in the aquatic environment depend on the plants.

In addition to providing food for fish, invertebrate and waterfowl they also represent places for fish spawning, as well as shelter for fish and invertebrate which tare then involved in food chains (Krischik et al., 1999). It also created a large number of microhabitats necessary for animal species. Their surface area in the roots, stem and leaves inhabit numerous life forms, sessile bacteria and algae, phytoplankton and zooplankton, invertebrate,

whether or not attached to the surface of plants, then different species of fish, amphibians and reptiles, aquatic birds and mammals. It also created a large number of microhabitats necessary for animal species. Their surface area in the roots, stem and leaves inhabit numerous life forms, sessile bacteria and algae, phytoplankton and zooplankton, invertebrate, whether or not attached to the surface of plants, then different species of fish, amphibians and reptiles, aquatic birds and. Nitrifying and non-nitrifying bacteria community are developed on them, depending on whether their area is on the light or in the dark as well as many other forms (Kim 2004, 120). They are perfect as a basis for the development of periphyton which is very important for macroinvertebrates.

## **2. AQUATIC MACROINVERTEBRATES**

Aquatic macroinvertebrates (aquatic invertebrates) are a group of organisms that inhabit the bottom (sediments, detritus, macrophytes, filamentous algae) of the freshwater ecosystems throughout their life or part of their life cycle. The size of these organisms is 200 to 500 micrometers. Fauna of the bottom (benthic macroinvertebrate community) belongs to the aquatic zoocenoses alongside with plankton, periphyton, and nekton and neustonic organisms. These organisms play an important role in the flow of energy and the cycling of matter. They also have wide application in biomonitoring of aquatic ecosystems. Abiotic factors in aquatic ecosystems, expressed through the hydromorphological and physico-chemical characteristics of aquatic habitats, significantly affect the structure of benthic macroinvertebrates communities. Out of the physical and chemical factors, the most significant are the temperature; the concentration of dissolved oxygen, and the related values of oxygen saturation; pH value of water; concentration of organic matter and more.

Out of the hydromorphological parameters, the structure of benthic communities is affected primarily by the type of substrate, water velocity (in current ecosystems), water regime and other. All these factors act synergistically on the benthic macroinvertebrates, and each type has ecological valence in boundaries of which, for a given parameter, certain species survives.

The types of macroinvertebrates that inhabit flowing water are characterized by a certain adaptive traits- they are generally slow moving and some

are sessile. In order to achieve such intimate contact with the substrate, with the aim of preventing sailing away, many species have dorsal-abdominal parts flattened (eg. *Plecoptera* and *Ephemeroptera*). Some species besides having dorsal-abdominal parts flattened also secrete mucus (*Turbellaria*), and thus are even more tightly tied to the substrate. Species that live in the strongest currents have special bodies for acceptance (*Diptera*) or special cornice hook on end of the body (*Diptera*). Larvae (*Trichoptera*) that live under rocks, knit special hunting nets for catching food and some species have homes of grains of sand and small pebbles, which because of the weight cannot be carried away by the water flow. The amount of dissolved oxygen is of particular importance in the aquatic ecosystem. Adaptation of benthic macroinvertebrates on the variation of environmental factors ran in different directions. Due to intensive bacteriological degradation in the organically laden waters, a drastic reduction in the amount of oxygen in the water can happen, which results in the appearance of species that can survive in water with little oxygen, such as hironomida larvae (*Diptera*) and olygochaete of the family (*Tubificidae*). These species in their body fluids possess a special kind of hemoglobin, whereby which they can bind enough oxygen for their needs even if there is a small amount of oxygen in the surrounding environment. Species (*Turbellaria*) do not have any special adaptation of the respiratory organs, because they receive oxygen through the body surface, and crabs and insects whose body surface is hard and thus makes it impossible to breathe through the skin, have a special respiratory-gills.

### **3. MACROPHYTES AND MACROINVERTEBRATES INTERACTIONS**

Species and population composition, or density of the individuals per area unit are uniform in stable aquatic environment, whereas major and minor variations may occur seasonally. These communities respond to change of the environment by changing the structure of the community. Bottom fauna communities react to changes in the environment, particularly on water quality changes under anthropogenic influence, and therefore they can serve as a bioindicator of the status of the aquatic systems. It has been shown that macroinvertebrates change the structure of their community in

the following cases: organic overload and toxic-chemical pollution.

Macrophytes are an important component in aquatic ecosystems due to which there is the presence of a large number of macroinvertebrates, so that their interaction is very important. Research of macrophytes and macroinvertebrates in rivers, lakes and reservoirs is not only of scientific importance, but it is important for management and conservation of aquatic ecosystems. Based on numerous studies of systematic affiliation it can be concluded that the largest share of the macrophyte macroinvertebrates belongs to the species from the class *Insecta*.

Aquatic insects are the rich and groaning group of organisms inhabiting different types of aquatic ecosystems, from small areas of temporary (ephemeral) standing water (eg. Puddles), to springs, streams, large lakes, and major rivers. In lentic, or standing water, aquatic insects appear at the bottom of deep lakes, alongside vegetation, as well as in the open water. In lotic or flowing waters, they appear under rocks, fallen leaves and the remains of plant material, or crevices of tree trunks, buried in sand or sediment where they live sedentary lifestyle or crawl. Aquatic insects are an important component of aquatic food chains. They shred organic material, and they also feed on collapsing parts of fungi, bacteria, and dead animals. By assimilating these substances, disassembling the large pieces into the smaller ones, aquatic insects produce energy and nutrients that become available to other invertebrates and vertebrates (eg. Fish, birds). Regardless of their importance in aquatic ecosystems, only a few representatives spend their entire lives in water (*Coleoptera*). The largest number of aquatic insects linked to the aquatic environment through the larval stage, whereas their adult stages are terrestrial (*Ephemeroptera*, *Plecoptera*, *Odonata*, *Trichoptera*, *Diptera*). Typical ie. "Normal" responses from the community of aquatic insects (along with other macroinvertebrates organisms) to any change in the physical and chemical factors of water environment are as follows:

- a) When the content of sediments in the water biotope grows, the relative abundance of certain species of *Ephemeroptera* and *Trichoptera* larvae that feed by filtering food also grows.
- b) When the content of dissolved oxygen in the water decreases, the number of Insect larvae that contain hemoglobin increases (*Chironomidae*).

- c) With increasing temperature of the water, the number of larvae *Plecoptera* decreases.
- d) Inflow of pesticides in the aquatic environment affects the reduction of species diversity.
- e) If intake of organic matter in the aquatic environment (manure or waste from farms) increases, it will increase the number of just a few species, with a simultaneous decline in species diversity.

Numerous studies were conducted which prove that the presence of macroinvertebrates is larger and density of population is higher in the presence of macrophytes in comparison with the aquatic ecosystems where macrophytes are not present. Aquatic macrophytes settlements are the habitat of a large number of invertebrates in relation to places with no vegetation both in terms of species and in terms of total biomass (Popijač 2003).

Gerrish and Bristow (1979) examined the connection between macroinvertebrates and macrophytes. Their research was based on monitoring and comparison of the presence of macroinvertebrates on natural plants *Myriophyllum exalbescens*, *Potamogeton* and *Vallisneria americana* and artificial surfaces which are in appearance reminiscent of *Potamogeton richardsonii*, in two different periods (June and July 1974). There was no significant difference in the density of population on natural plants and artificial surfaces. According to the results of the analysis conducted in the month of June, it can be seen that the highest presence belongs to representatives from *Chironomidae* and *Oligochaeta* on all surfaces. *Oligochaeta* were the most numerous on *Myriophyllum*, and their presence on artificial surface is greater than on the natural *Potamogeton* and *Vallisneria*. Unlike *Oligochaeta*, density of population of *Chironomidae* was the largest on the *Potamogeton*, then on the artificial surface, while the lowest density of population is related to *Vallisneria*. Based on the results from the month of July, *Ephemeroptera* population density also increased, and that increase happened on the natural plants. *Chironomidae* population density was lower on artificial surfaces in relation to the natural plants, while *Oligochaeta* population density was greater on artificial surfaces in relation to the natural plants. Based on these results, it can be concluded that macrophytes represent macroinvertebrate habitat and serve as a basis for the formation of periphyton which macroinvertebrates use as a food source.

According to Forster and Schlichting 1965 research it was found that each macrophytes species has certain characteristics that lead to the formation of the periphyton. In Gerich and Bristow studies (1979) it was noted that natural plants and artificial substrates may similarly enforce the colonization of periphyton and macroinvertebrate population density depends on the morphological characteristics of macrophytes.

Marcel and associates in the year 1997 analyzed the relationship between macroinvertebrates and submerged *Charophyta* in two eutrophic lakes Veluwemeer and Wolderwijd in the Netherlands. Biomass, species composition and macrophytes vegetation period influence the composition and density of the population of macroinvertebrates. Based on the research at the end of the 1960s underwater vegetation in the aforementioned lakes was reduced due to eutrophication. During the 70s and 80s species *Potamogeton pectinatus* L. and *Potamogeton perfoliatus* L. appeared, and after the repairment of the lake in 1979, *Charophyta* species appeared, and the species of this type were *Chara aspera* in the Veluwemeer lake and *Chara contraria* and *Chara vulgaris* in Wolderwijd lake (Hosper and Meijer 1986, 184). In the same period there was a decrease in *Potamogeton pectinatus* population density, and the slight increase was recorded in *Potamogeton perfoliatus* population density. After ten years sampling of macroinvertebrates and macrophytes in Lake Veluwemeer was conducted. That survey revealed the presence of 37 species of macroinvertebrates of which the representatives of *Gamaridae* and *Chironomidae* families were the most numerous ones. In further analysis it was found that the samples taken in places where there is a *Potamogeton* the most prevalent were three types: *Einfeldia Dissidens*, *Cricotopus gr. sylvestris* and *Sphaeriidae*, while the samples taken where *Charophytes* dominated the most numerous was *Endochironomus albipennis*. *Charophyta* biomass was significantly higher than the *Potamogeton* biomass species. It was also found that the *Charophyta* biomass was positively correlated with two types of Gastropoda family (*Valvata picinalis* and *Bitinia tentaculata*) as well as with water insects *Endochironomus albipennis*, *Chironomus sp.*, *Psectrocladius sp.* While the species *Potamopyrgus antipodarum*, *Cladotanytarsus sp.*, *Cryptochironomus sp.* are negatively correlated.

Based on the above results, it can be seen that the presence of macroinvertebrates depends on the plant species and their biomass, because it

was determined that there was no significant difference in the presence of macroinvertebrates that are found between *Potamogeton perfoliatus* and *Potamogeton pectinatus*. *Charophyta* vegetation has different morphological characteristics and biomass higher than *Potamogeton* species, which is a favorable habitat for species that feed by scraping periphyton off the aquatic plants such as *Valvata piscinalis* and *Bithynia tentaculata*.

Numerous studies were conducted which served to indicate the importance of macrophytes as habitats and shelter from predators. Hunter and associates (1986) have carried out a comparative study on four cages of the same physical and chemical characteristics (Maine, USA). In two cages due to changes in pH value (increasing acidity) death of fish occurred, while invertebrate population density was significantly higher than in ponds where there was no change in pH value. Invertebrates represent an important link in the food chain of fish. For example, *Tinca tinca* (Linnaeus, 1758) is the largest predator of molluscs - molluscivore, it mainly feeds on molluscs but in the absence of it may use the other sources of food (Popijač 2003). Fish that consume molluscs have a significant effect on the density of their population as well as an indirect positive impact on the growth of fouling. Fouling biomass increased in quasi with the fish due to the reduced pressure of molluscs that feed on fouling (by scraping) (Popijač 2003).

In cages with fish, populations of molluscs are rare due to the predation by fish, and in the periphyton community *Diatomeae* and filamentous algae dominate. In cages with no fish where there is a higher number of molluscs, smaller and strongly attached algae dominated in periphyton community. From previous studies a positive impact of molluscs on the growth of submerged macrophytes and the negative impact of molluscivore fish can be seen. Molluscs by feeding on fouling reduce the fouling biomass which encourages the growth of macrophytes. This is confirmed by many experiments done in shallow cage with fish in Sweden (Popijač 2003). *Tinca tinca* was used as molluscivore, where the biomass of molluscs decreased in this cage and there was an increase in fouling biomass and a significant reduction in the biomass of the dominant macrophytes (*Elodea Canadensis*). Using aquatic plants as a shelter from fish predation is one of the important causes for much richer communities of invertebrates in dense plant settlements, but the other factors are also important. This is evident from the fact



that, even when there is no fish, density and diversity of species of invertebrate macrofauna were higher in areas that are rich with underwater vegetation than in areas where there are no plants or where the plants are very rare. Beside the fact that macroinvertebrates use macrophytes as a shelter from predator fish, one of the important causes for much richer macroinvertebrate communities in dense plant settlements is the availability of food. A very small number of macroinvertebrates can consume significant amounts of fresh macrophytes, but decaying plants provide a relatively high quality detritus that representatives of the Isopoda, snails and insect larvae feed on (Popijač 2003). Much more important food source for them is periphyton or fouling layer covering macrophytes. Hoyer and associates (1997) have researched the flow of carbon by comparing the share of stable isotopes of carbon in different organisms through the food chain. Research was conducted in two lakes in Florida, where one lake was overgrown with vegetation, while the second lake had no vegetation. In the lake without vegetation phytoplankton was the carbon source, and in the lake with vegetation periphyton was the carbon source, while macrophytes had only a small share in the food chain.

## CONCLUSION

Based on the examination results of many authors presented in this paper, it can be concluded that aquatic plants or macrophytes have multiple significance. They are an essential component of many aquatic ecosystems and the habitat of a large number of macroinvertebrates and serve as a basis for the formation of periphyton which macroinvertebrates use as a food source. Each species of macrophytes has certain characteristics thanks to which it comes to the formation of the periphyton. Based on the results, we conclude that natural plants and artificial substrates may similarly enforce the colonization of periphyton and macroinvertebrates population density depends on the morphological characteristics of macrophytes. Also, dense settlements of plants are important for macroinvertebrates due to the availability of food. A small number uses fresh macrophytes but for the majority high-grade detritus and fouling (that is periphyton on macrophytes) are significant. You can notice a significant impact of fish on macroinvertebrates population density - mollusks, as well as the positive impact on the growth

of fouling. Fouling biomass increases in cages with fish, due to the reduced pressure of mollusks that feed on fouling. By researching macrophytes as a habitat and shelter of macroinvertebrates from predators, it was noticed that the density and diversity of macroinvertebrates is higher in areas that are rich in submerged vegetation than in an area where no plants or in the place where the plants are rare.

Macrophytes are an important component in aquatic ecosystems thanks to which there is the presence of a large number of macroinvertebrates, and therefore their interaction is very important. The research of macrophytes and macroinvertebrates in rivers, lakes and reservoirs is not only of scientific importance but it is important for management and conservation of aquatic ecosystems.

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## TIPOVI ZAGAĐENJA I MOGUĆNOST UNAPREĐENJA MONITORINGA POVRŠINSKIH VODA U CILJU PREVENCIJE I KONZERVACIJE

**Rezime:** *Značajan problem u zaštiti životne sredine, posebno u oblasti vodnih resursa, jeste kvalitet površinskih voda. Velike količine otpadnih voda, neprečišćenih ili nedovoljno prečišćenih, dospijevaju direktno u otvorene vodotoke i podzemlje, degradirajući i narušavajući njihovu prirodnu ekološku ravnotežu. Kompleksno korištenje površinskih voda nameće potrebu da se stalno prati njihov kvalitet i da se što bolje zaštite od zagađenja.*

*Najizrazitije efekte zagađenja vode susrećemo kod površinskih voda, iako nisu pošteđene ni podzemne vode. Pod zagađenjem vode podrazumijeva se degradacija kvaliteta vode koja djelimično ili potpuno onemogućuje njenu upotrebu za potrebe za koje je namijenjena. Zaštita voda je složen problem i zahtijeva interdisciplinarnan pristup problematici zaštite voda i timski rad.*

**Ključne riječi:** *zagađenja vode, eutrofizacija, cijanotoksini, monitoring.*

**JEL klasifikacija:** *Q2, P25.*

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## UVOD

Danas su dobro poznati tipični izvori pojedinačnih grupa zagađujućih materija, kao i njihovo dejstvo (efekti) na recipijentne vodene ekosisteme (Gajin i Svirčev 2002, 46). Međutim, značajno je da se ne izostave i ostali tipovi zagađivanja, jer se u kruženje materija u hidrosferi uključuje i kruženje svih zagađujućih materija, a teško biorazgradljive hemikalije djeluju nepovoljno (selektivno letalno) na hidrobionte, ili dolazi do njihove bioakumulacije.

Intenzitet, priroda i dužina dejstva zagađenja na sanitarni režim, hemijski sastav vode i uslove života vodenih organizama determinišu njihova svojstva. Redukujuća jedinjenja, koja se lako oksiduju kiseonikom rastvorenim u vodi, izazivaju naglo remećenje ravnoteže vodenog basena odmah poslije upuštanja otpadnih voda. Nasuprot tome, neka biološki nerazgradiva organska jedinjenja (pesticidi sa organskim jedinjenjima hlora) mogu se otkriti u vodi daleko (na desetine i čak stotine kilometara) od mjesta njihovog uliva u basen. Narušavanje životne aktivnosti vodenih organizama i pogoršanje kvaliteta vode mogu izazvati jedinjenja koja produkuju neke grupe mikroorganizama u samom basenu (toksini mikroalgi, antibiotici i dr.).

Za stajaće i sporotekuće površinske vode, kojima pripadaju i hidroakumulacije, karakterističan je masovni razvoj algi. Ekološki značaj mikroalgi i cijanobakterija kao producenata organskih materija u akvatičnim ekosistemima može se sagledati sa pozitivnog i negativnog aspekta. Kao primarni producenti vodenih ekosistema, sa izuzetno visokim nutritivnim vrijednostima biomase, mikroalge i cijanobakterije su od neprocjenjivog značaja za život svih hidrobionata. Međutim, primarni producenti mogu pod izvjesnim uslovima biti i značajan izvor nepoželjnih, najčešće otrovnih supstanci za živi svijet akvatičnih, kao i obližnjih terestričnih ekosistema (Gajin i sar. 1998, 64).

## 1. IZVORI ZAGAĐENJA SLATKOVODNIH EKOSISTEMA

Zagađivači voda su mnogobrojni i možemo ih razvrstati na „koncentrisane“ i „rasute“ (difuzne) zagađivače (Dalmacija 2000, 22).

Treba imati u vidu da se nepovoljni efekti difuznih zagađivača najčešće ne manifestuju trenutno, nego djeluju kumulativno u dužem vremenskom periodu, što dodatno otežava analizu njihovih uticaja i mogućih posljedica.



Poljoprivreda se, inače, ubraja u najveće zagađivače površinskih i podzemnih voda. Prema navodima *Environmental Protection Agency* (EPA), poljoprivreda predstavlja preovlađujući faktor degradacije akvatorija. Pritom, najčešći nepovoljni uticaji difuznih zagađivača na akvatorije, prema *Food and Agriculture Organization* (FAO), nastaju usljed nagomilavanja nutrijenata (37% kod rijeka, 40% kod akumulacija) i sedimenata (45% kod rijeka, 22% kod akumulacija), a zatim slijede, sa udjelom 20%–30%, pesticidi, teški metali, patogeni mikroorganizmi itd. (Savić i sar. 2002, 16). Povećana koncentracija azota i fosfora u vodi uzrokuje jači razvoj viših vodenih biljaka koje imaju sposobnost zarastanja vodenog okna (rezervoara, kanala) i drugih voda sa usporenim tokom. Za masovno razviće fitoplanktona, algi koje izazivaju cvjetanje, dovoljno je povećanje koncentracije fosfora u vodi do nekoliko mg u 1 l. Promjena kvaliteta vode u vrijeme cvjetanja i narušavanje kiseoničnog režima pri masovnom odumiranju fitoplanktona i vodenog rastinja doprinosi pogoršanju kvaliteta vode. Kao rezultat tih procesa javlja se povećanje organskih jedinjenja u nanosima i hranljivih materija u vodenoj masi, odnosno dolazi do ubrzane eutrofizacije basena (Đukić i Ristanović 2005, 227).

### **1.1. Eutrofizacija i „cvjetanje“ vodenih ekosistema**

Cvjetanja cijanobakterija, koja posebno izazivaju pažnju javnosti, dešavaju se u akumulacijama za vodosnabdijevanje, navodnjavanje, rekreaciju, u ribnjacima i hidrosistemu. Opasnost usljed pojave cvjetanja cijanobakterija u vodenim ekosistemima dolazi iz nekoliko razloga. Gusto cvjetanje može blokirati prolazak svjetlosti u vodu, sprečavajući proces fotosinteze, što dovodi do pomora živog svijeta u vodi usljed potpunog nedostatka kiseonika. Toksično cvjetanje može ugroziti zdravlje ljudi i životinja, i stabilnost cvjetajućih i okolnih ekosistema. Najčešće se tokom cvjetanja u vodu izlučuju cijanotoksini, koji se ubrajaju među najpotentnije prirodne toksine, za koje ne postoji odgovarajući protivotrov. Iz tih razloga potrebno je poznavati uslove koji pospješuju cvjetanje cijanobakterija, sprovesti mjere prevencije i sanacije vodenih ekosistema (Svirčev i sar. 2011, 12). Zbog brojnih prilagođavanja i nezahtjevnosti u eutrofnim vodama, sposobne su potpuno prevladati druge vrste i stvoriti izuzetno veliku biomasu, što nazivamo cvjetanjem cijanobakterija (Sedmak i Svirčev 2011, 16).

Sve promjene stanja i procesa u vodenim sistemima direktno utiču na živi svijet voda, a biljne i životinjske vrste kao indikatori kvaliteta vode istovremeno svojom životnom djelatnošću predstavljaju aktivnog učesnika u formiranju tog kvaliteta. Zbog značaja uticaja eutrofizacije na kvalitet voda, u svijetu se ovom procesu poklanja velika pažnja (Dalmacija 2001, 25).

## 1.2. Efekti cijanotoksina

Različiti cijanotoksini imaju različite načine djelovanja. Ciklični peptidi mikrocistinskog tipa su u svom djelovanju usmjereni na jetru, alkaloidi djeluju na nervni sistem i neurotoksični su, lipopolisaharidi, koji su dermatotoksični, djeluju na kožu i sluzokožu (Sedmak i Svirčev 2011, 7).

Uzimajući u obzir da cijanotoksini mogu biti letalni u relativno malim količinama, svaka pojava cvjetanja cijanobakterija u vodenim ekosistemima mora se posmatrati kao potencijalna opasnost po živi svijet. Donedavno se smatralo da je svega 10% cvjetanja toksično, međutim, novija istraživanja u Evropi, Kanadi i Americi su pokazala da je taj procenat znatno veći i da se kreće od 45% do 75%. Među cijanotoksinima najrasprostranjeniji i najbolje ispitan je mikrocistin (MC).

Prisustvo 3-amino-9-metoksi-2-6,8-trimetil-10-fenil-deka-4,6-dienoične kiseline (ADDA) jedinstveno je i specifično u strukturi mikrocistina i ima važnu ulogu u njegovoj biološkoj aktivnosti. Toksičnost mikrocistina ogleda se kroz inhibiciju serin/treonin protein fosfataza 1 i 2A, enzima koji su posebno važni u regulaciji genetičkih, metaboličkih i fizioloških procesa kod svih živih organizama (Stryer 1995, 67). Posebno osjetljive prema ovim toksinima su ćelije jetre jer, kada jednom uđu u hepatocite, mikrocistini se lokalizuju u jedru, gdje ADDA lanac toksina blokira aktivno mjesto jedarnih protein-fosfataza. Na taj način, toksikacija dovodi do poremećaja strukture i funkcije jetre, nekroze hepatocita i na kraju do hemoragije. Osim oštećenja jetre, u slučaju akutnog trovanja mogu se javiti i hipoksemija, kolaps srca i šok.

Zbog učestalih problema koji se javljaju usljed izloženosti ljudske populacije cijanotoksinima, Svjetska zdravstvena organizacija (WHO) utvrdila je najvišu dozvoljenu koncentraciju mikrocistina LR (leucin arginin) u vodi za piće u vrijednosti od 1 µg/l. Moguće je da se u nekim slučajevima desi

da koncentracija mikrocistina u vodi bude značajno veća, pogotovo u zemljama gdje nema zakonom propisanih dozvoljenih vrijednosti i monitoringa ovih parametara. Iz tog razloga, granične vrijednosti za cijanotoksine treba da budu revidirane i pažljivo uvedene u domaću legislativu (Svirčev i sar. 2011, 13).

### **1.3. Kontrola cvjetanja cijanobakterija**

Najefikasnija i dugoročna mjera je sprečavanje ili smanjenje unosa hranljivih materija iz sliva u vodno tijelo. To je najbolja mjera jer nema nuspojava. Tako u vodu ne unosimo nove opasne hemikalije i smanjujemo mogućnost nastanka kancerogenih materija u kontaktu sa organskim produktima, kao što je to slučaj kod hlorisanja u pripremi vode za piće dobijene iz površinskih akumulacija. Kod drugačije obrade cijanobakterija u vodenim tijelima može se dogoditi nenadano oslobađanje velikih količina štetnih biološki aktivnih materija u vodenu sredinu. Tretiranje cvjetajućih vodenih ekosistema herbicidima, algicidima, bakarsulfatom ili krečom nije preporučljivo zbog toga što dovodi do naglog uginuća ćelija cijanobakterija i trenutnog oslobađanja velike količine cijanotoksina u vodu. Pored toga, dolazi do dodatnog opterećenja ekosistema nepotrebnim hemikalijama (Sedmak i Svirčev 2011, 9).

Jedan od načina za kontrolu uključuje redovno održavanje rijeka i voda koje se koriste za vodosnabdijevanje, kombinujući tehnike za eliminisanje stratifikacije i redukcije oslobađanja nutrijenata iz sedimenata u vodenom spremištu.

Mjere sprečavanja spoljašnjeg i unutrašnjeg opterećenja nutrijentima mogu redukovati učestalost i veličinu cijanobakterijskog cvjetanja u određenom akvatičnom sistemu. Unutrašnji ciklus nutrijenata se obično sprečava tretmanom jezera kao što je aeracija. Na taj način se postiže kretanje vode, pri čemu se održava konstantna temperatura od vrha do dna vodenog ekosistema.

Posebnu ulogu u obnavljanju ekosistema ima ekoremedijacija. Prirodno čišćenje u ekosistemima zasniva se, prije svega, na djelovanju mikroorganizama i biljaka, koji mogu da prežive u zagađenoj vodi ili zemljištu tako što apsorbuju, razgrađuju ili neutrališu štetne otpadne materije.

#### 1.4. Fekalno zagađenje površinskih voda

Fekalna kontaminacija je jedan od najvažnijih problema kada je riječ o mikrobiološkom kvalitetu vode. Prisustvo fekalnih mikroorganizama u vodi smatra se dobrim pokazateljem potencijalnog prisustva crijevnih patogenih mikroorganizama u vodi. U površinskim vodama, patogeni mikroorganizmi porijeklom iz crijevnog trakta ljudi nisu poželjni iz razloga što se rastući problem vodosnabdijevanja sve češće rješava njihovom upotrebom kao objekata vodozahvata.

U prirodnim i otpadnim vodama mogu biti prisutni različiti mikroorganizmi – bakterije, virusi, protozoe.

Virusi posjeduju veći stepen stabilnosti nego patogene bakterije u odnosu na uslove spoljašnje sredine i duže se održavaju u vodi. Kompleksna ispitivanja su pokazala da se među enterovirusima kao sanitarni pokazatelji mogu koristiti bakteriofagi crijevnih bakterija. Protozoe su jednoćelijski organizmi. Neke protozoe imaju sposobnost da formiraju ciste (začahureni oblici mikroorganizma koji čekaju povoljne uslove za razvoj), koje mogu preživjeti u vodi ili fekalijama dugo vremena, i u uslovima u kojima protozoa ne bi preživjela. Organizmi kao što su *Entamoeba histolytica*, *Giardia* i *Cryptosporidium* dospijevaju u vode za vodosnabdijevanje (izvorišta) putem fekalne kontaminacije (ljudskog ili animalnog porijekla). Ciste protozoa kao što su *Cryptosporidium* i *Giardia* mogu iz vode namijenjene za ljudsku upotrebu biti efikasno uklonjene pomoću sporih pješčanih filtera (Đukić i sar. 2000, 47).

## 2. MONITORING SLATKOVODNIH EKOSISTEMA I UNA PREĐENJE MONITORINGA

Cilj ispitivanja kvaliteta površinskih akvatičnih ekosistema jeste utvrđivanje stanja, identifikacija zagađenja i ugroženih zona, kao i obezbjeđivanje ulaznih podataka za projektovanje sveobuhvatnog monitoringa voda u narednom periodu i pristupanje integralnom upravljanju slivom, u skladu sa ekosistemskim pristupom i održivim razvojem regiona.

Kako bi se obezbijedila dugotrajna racionalna eksploatacija vode, neophodno je sačuvati funkcionalni integritet akvatičnog ekosistema (Gajin i Svirčev 2000, 274).

Najvažniji parametri od koristi za monitoring su temperatura vode i vazduha, salinitet, hlorofil, kao i vertikalna i horizontalna strujanja vode zbog prenošenja toksičnih producenata. Poznavanje vremenske i geografske distribucije neorganskih materija i njihovih izvora, kao i ostalih faktora rasta fitoplanktona, svakako su od velikog značaja za planiranje i izvođenje programa monitoringa.

Kontrola koncentrisanih izvora zagađenja je prva karika u složenom lancu mjera u cilju očuvanja hidroekosistema. Međutim, emisioni standardi, koji u svijetu imaju izuzetno značajnu ulogu u politici zaštite voda, kod nas, praktično, nisu zakonski regulisani, a regulativ u oblasti zaštite voda bazira se na tzv. imisionim standardima. Umjesto emisionih standarda, zakonodavac predviđa, u slučajevima ispuštanja otpadnih voda direktno u površinske vode, analizu njihovog uticaja na vodotok. U praksi se ovo svodi na uzimanje jednog trenutnog uzorka na rijeci uzvodno i nizvodno od ispusta, a ispitivanja podrazumijevaju iste parametre kao i kod efluenta (Dalmacija 2001, 25).

Neophodni su tzv. monitoring sistemi na širim područjima – slivovima rijeka, na osnovu kojih je moguće uspostaviti informacioni sistem u kome se pohranjuju svi podaci o kvalitetu voda, na osnovu čega se donose konkretni planovi zaštite i koriguju postojeće preventivne mjere.

Regulisanje ispuštanja opasnih i štetnih supstanci u prirodne vode mora biti u saglasnosti sa Zakonom o vodama, sa Uredbom o klasifikaciji voda i kategorizaciji vodotoka, kao i svim drugim propisima za zaštitu okoline, propisima za otpadne vode i postrojenja za prečišćavanje, pri čemu lokalni uslovi u recipijentu treba da budu uzeti u obzir u tehnološkom, ekološkom i ekonomskom smislu. Problem naše regulative je u tome što je zasnovana samo na principu fizičko-hemijskih analiza kao jedinih pokazatelja kvaliteta vode i korisničkog, umjesto ekosistemskog pristupa problematici zaštite.

Ukoliko se radi o supstancama za koje ne postoje odgovarajući međunarodni standardi, utvrđivanje graničnih dozvoljenih vrijednosti provodi se po posebnoj proceduri na osnovu podataka o toksičnosti, bioakumulativnosti i perzistentnosti ovih supstanci u akvatičnoj sredini, pri čemu se uzimaju u obzir tehničke mogućnosti njihovog uklanjanja, rizik po ljudsko zdravlje i tehnoeкономска analiza različitih postupaka uklanjanja. Pitanje

zaštite voda je izuzetno složen problem koji zahtjeva interdisciplinarnan pristup i timski rad stručnih ljudi raznih profila.

Pri tome se propisuju različite norme i standardi o kvalitetu voda, kao i zabrane unošenja otpadnih i štetnih materija, zabrana stavljanja u promet materija koje se ne razgrađuju i dr. Bitna mjera je obaveza izgradnje kanalizacione mreže i postrojenja za prečišćavanje otpadnih voda.

## ZAKLJUČAK

Zagađivanje vodenih ekosistema uglavnom je rezultat nekontrolisanih ispuštanja zagađujućih materija različitog porijekla.

Veliki doprinos očuvanju vodenih ekosistema je zakonska regulativa kojom se tačno propisuju dozvoljene koncentracije svih materija koje se unose u vodotokove, i uvođenje bioloških parametara kao obaveznih. Opterećenja bi trebalo mjeriti i biološkim parametrima, međutim, biološki pokazatelji, zbog njihove često nekvantitativne prirode, bivaju zapostavljeni.

Neophodno je uvođenje redovnog monitoringa koji bi obuhvatao redovnu analizu vodenih uzoraka radi utvrđivanja stepena saprobnosti vode, analizu hlorofila, a i utvrđivanje fosfatzne aktivnosti vode. Nivo fosfatzne aktivnosti odslikava stanje ukupnog organskog opterećenja vodenih ekosistema kao recipijenta alohtonih kontaminanata.

Praćenje zastupljenosti toksičnih i potencijalno toksičnih sojeva cijanobakterija u vodenim ekosistemima neophodno je kako bismo mogli procijeniti i ekološke i zdravstvene rizike zbog prisustva cijanotoksina. Poseban akcenat bi trebalo da bude na mikrocinima pošto se smatra da su i najviše prisutni u vodama sa izraženom pojavom cvjetanja.

Zaštita voda je složen problem i zahtijeva interdisciplinarnan pristup problematici zaštite voda i timski rad.

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Expert paper

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## TYPES OF POLLUTION AND POSSIBILITIES OF IMPROVING THE MONITORING OF FRESHWATER ECOSYSTEM

**Summary:** *A significant problem in environmental protection, especially in the field of water resources, is the quality of surface waters. Large quantities of untreated or insufficiently treated waste water arrives directly into the open watercourse and underground of it, degrading and disrupting their natural ecological balance. Complex use of surface water imposes the need to constantly monitor its quality and to provide better protection of it against pollution. The most dramatic effects of water pollution are encountered in surface waters, even though groundwater is also not spared. Water pollution involves the degradation of water quality that partially or completely prevents its use for the purpose for which it is intended. Water protection is a complex problem and requires an interdisciplinary approach to the problem of water protection and teamwork.*

**Key words:** *water pollution, eutrophication, cyanotoxins, monitoring*

**JEL Classification:** *Q 2, P25*

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## INTRODUCTION

Today, typical sources of individual groups of pollutants and their effects (effects) to the aquatic ecosystems recipients are well known (Gajin and Svirčev 2002, 46). However, it is important not to leave out other types of pollution, because the circulation of substances in the hydrosphere also includes the circulation of pollutants, and hard-biodegradable chemicals have a negative impact (selective lethal impact) on hydro-bionics, or otherwise their bioaccumulation happens.

The intensity, nature and duration of the effects of pollution on sanitary regime, the chemical composition of the water and the living conditions of aquatic organisms determine their properties. Reducing compounds that are easily oxidized by oxygen dissolved in the water, are causing a sudden disruption of the water balance of the basin immediately after discharging waste water. In contrast, some of the biologically degradable organic compounds (pesticides with organic compounds of chlorine) can be detected in the water far (tens and even hundreds of kilometers) away from their inflow into the basin. Infringing the life activities of aquatic organisms and deterioration of water quality can be caused by compounds that produced by some groups of microorganisms in the basin (microalgae toxins, antibiotics, etc.). For stagnant and slow surface water to which hydroaccumulations belong, large-scale development of algae is characteristic. Ecological importance of microalgae and cyanobacteria as producers of organic matter in aquatic ecosystems can have both the positive and negative characteristics. As primary producers of aquatic ecosystems, with extremely high nutritional value of biomass, microalgae and cyanobacteria are of utmost importance for the life of all hydrobiota. However, primary producers may, under certain conditions, be a significant source of unsolicited, usually toxic substances for aquatic wildlife, and nearby terrestrial ecosystems (Gajin et al. 1998.64).

### 1. SOURCES OF POLLUTION

Water pollutants are numerous and can be classified to “concentrated” and “bulk” (diffuse) pollutants (Dalmatia 2000, 22). It should be borne in mind that the adverse effects of diffuse pollutants usually do not manifest

now, but have the cumulative effect over an extended period of time, which further complicates the analysis of their impacts and possible consequences. Agriculture is considered to be one of the biggest polluters of surface water and groundwater. According to the Environmental Protection Agency (EPA), agriculture is the predominant factor in the degradation of waters. In doing so, the most common adverse effects of diffuse pollutants to local waters, according to the FAO, arise due to the accumulation of nutrients (37% in rivers, 40% in accumulations) and sediments (45% in rivers, 22% in accumulations), followed with a share of 20-30 % in pesticides, heavy metals, pathogenic microorganisms and so on. (Savić and associates 2002, 16). The increased concentration of nitrogen and phosphorus in water causes a stronger development of higher aquatic plants that have an ability of healing of the water pane (reservoirs, canals) and other water bodies with slow current. To develop massive phytoplankton, algae that cause blossom it is sufficient to increase the concentration of phosphorus in water up to several mg in 1 h. Changes in water quality at the time of flowering and disturbance of the oxygen regime in the mass phytoplankton and aquatic vegetation dying out contributes to the deterioration of water quality. As a result of these processes, there is an increase of organic compounds in drifts and the increase of nutrients in the water body, that is, accelerated eutrophication of the basin happens. (Đukić and Ristanović 2005, 227)

### **1.1. Eutrophication and “bloom” of aquatic ecosystems**

Cyanobacteria bloomings that draw special attention occur in the accumulations for water supply, irrigation, recreation, in ponds and in hydro system. Danger due to the occurrence of cyanobacteria bloomings in aquatic ecosystems comes from several reasons. Dense blooming may block the passage of light into the water, thus preventing photosynthesis process which ultimately leads to the mortality of wildlife in the water due to a complete lack of oxygen. Toxic blooming can harm the health of humans and animals and can also harm the stability of the flowering and the surrounding ecosystem. Cyanotoxins, that are considered to be among the most potent natural toxins for which there is no suitable antidote, are usually excreted in the water during the flowering. For these reasons, it is

necessary to know the conditions that accelerate blooming of cyanobacteria, and to implement prevention and rehabilitation of aquatic ecosystems (Svirčev and associates 2011, 12).

Due to numerous adjustments and lack of challenge in eutrophic waters, they are fully capable to overcome other species and to create a very large biomass, the process we call blooming of cyanobacteria (Svirčev and Sedmak 2011,16). All changes of state and processes in aquatic systems directly affect the living world of water, and plant and animal species as indicators of water quality at the same time represent with its life activity an active participant in the formation of this quality. Due to the importance of eutrophication impact on the quality of water, great attention is paid to this process (Dalmacija 2001, 25).

## **1.2. The Effects of Cyanotoxins**

Various cyanotoxins have different modes of action; Cyclic peptides of micro purifying type in their work are focused on the liver, alkaloids act on the nervous system and are neurotoxic, lipopolysaccharide, which are dermatotoxic act on the skin and mucous membranes (Sedmak and Svirčev 2011, 7). Considering that cyanotoxins can be lethal in relatively small amounts, each occurrence of cyanobacteria blooms in aquatic ecosystems must be seen as a potential threat to the living world. Until recently it was thought that only 10% of the toxic blooms is toxic, however recent research in Europe, Canada and the United States have shown that the percentage is much higher and ranges from 45% to 75%. Among cyanotoxins the most widespread and the most tested is microcystin (MC). The presence of ADDA (3-amino-9-methoxy-2-6,8-trimethyl-10-phenyl-deca-4,6-dienoic acid) is unique and particular in the structure of the microcystins and plays an important role in its biological activity. The toxicity of microcystin is reflected by the inhibition of a serine / threonine protein phosphatases 1 and 2A, enzymes that are especially important in the regulation of genetic, metabolic and physiological processes in all living organisms (Stryer 1995, 67). Especially sensitive to these toxins are liver cells, because once they enter into hepatocytes the microcystins localize in the nucleus, where ADDA toxin chain blocks the active site of the nuclear protein phosphatase (Mackintosh et al. 190). In this way, intoxication leads to disruption

of the structure and function of the liver, necrosis of hepatocytes and ultimately to hemorrhage. Aside from liver damage in case of acute poisoning, hypoxemia, cardiovascular collapse and shock may also occur. Because of the frequent problems that occur due to exposure of the human population to cyanotoxins, the World Health Organization (WHO) has established that the maximum permissible concentration of microcystin LR in drinking water is in the amount of 1 g / l. In some cases, it is possible that the concentration of microcystins in water is significantly higher, especially in countries where there are no statutory allowable values and monitoring of these parameters. For this reason, the limit values for cyanotoxins should be revised and carefully introduced into domestic legislation (Svirčev and associates 2011, 13).

### **1.3. Control of Cyanobacteria Blooms**

The most effective long-term measure is to prevent or reduce the intake of nutrients from flowing into the water body. This is the best measure because it has no side effects. So, in that way, so the new hazardous chemicals do not enter into the water and therefore we reduce the possibility of carcinogens in contact with organic products, as it is the case with chlorination of potable water obtained from the surface reservoirs. With different treatment of cyanobacteria in water bodies sudden release of large amounts of harmful active substances into the aquatic environment can occur. Treatment of the flowering aquatic ecosystems with herbicides, algaecides, copper sulfate or lime is not recommended because it leads to rapid death of the cyanobacteria cells and instant release of the larger amount of cyanotoxin into the water. Beside this, there is an additional burden to ecosystem in the form of unnecessary chemicals. (Svirčev and Sedmak 2011, 9). One of the ways to control includes regular maintenance of rivers and waters used for water supply, by combining technique for eliminating stratification and reduction of release of nutrients from the sediment into the water pool.

The measures to prevent the external and internal nutrient loads can reduce the frequency and size of cyanobacterial blooms in a specific aquatic system. The internal nutrients cycle can usually be prevented with the treatment of lakes such as aeration. In this way, movement of water can be achieved which helps to maintain a constant temperature from top to bottom

of the water ecosystem. Ecoremediation has a special role in restoring the ecosystem. Natural cleansing in the ecosystems is based primarily on the activities of microorganisms and plants that can survive in polluted water or soil by absorbing, degrading or neutralizing harmful waste products.

#### **1.4. Fecal Contamination of Surface Waters**

Fecal contamination is one of the most important issues when it comes to microbiological water quality. The presence of fecal microorganisms in water is considered a good indicator of the potential presence of intestinal pathogenic microorganisms in the water. In surface water, pathogenic microorganisms originating from the intestinal tract of humans are not desirable because the growing problem of water supply is more and more being solved by their use as water intake facilities. Various microorganisms may be present in natural and waste water - bacteria, viruses, protozoa.

Viruses, in relation to environmental conditions, have a greater degree of stability than pathogenic bacteria and have an ability to maintain longer in the water. Complex tests have shown that, among the enteroviruses, bacteriophages of intestinal bacteria can be used as sanitary indicators. Protozoa are unicellular organisms. Some protozoa have the ability to form cysts (cocooned forms of microorganism waiting for favorable conditions for development) that can survive in water or feces for a long time, and the conditions in which the protozoa would not survive. Organisms such as *Entamoeba histolytica*, *Giardia* and *Cryptosporidium*, arrive into the water supply system (water source) through fecal contamination (of human or animal origin). Protozoa cysts, such as *Cryptosporidium* and *Giardia*, can be effectively removed from the water intended for human consumption by using slow sand filters (Đukić and associates 2000, 47).

## **2. MONITORING FRESHWATER ECOSYSTEMS AND IMPROVING MONITORING**

The aim of testing the quality of surface aquatic ecosystems is to determine the status, identify the pollution and surveillance zones, as well as to provide input data for the design of comprehensive water monitoring in the future and approaching the integrated river basin management, in

accordance with the ecosystem approach and sustainable development of the region. In order to ensure long-term rational exploitation of water, it is necessary to preserve the functional integrity of aquatic ecosystems (Gajin and Svirčev 2000, 274).

Control of point source of pollution is the first link in a complex chain to safeguard hydroecosystems. However, the emission standards that in the world have very important role in water conservation politics are not legally regulated in our country, and regulation in the field of water conservation are based on the so-called emission standards. Instead of emission standards, the law provides, in the case of waste water discharges directly into surface waters, analysis of their impact on the watercourse. In practice, this is tantamount to taking a sample of the current on the river upstream and downstream of the discharge, but tests involve the same parameters as in the effluent. (Dalmacija 2001, 25).

The most important parameters used for monitoring are water temperature and air temperature, salinity, chlorophyll, as well as vertical and horizontal flow of water due to the transfer of toxic producers. Knowing weather and geographical distribution of inorganic substances and their sources, as well as other phytoplankton growth factors, is certainly of great importance for the planning and execution of the monitoring program. The issue of water protection is an extremely complex problem that requires an interdisciplinary approach and teamwork of experts of various profiles.

In doing so, different norms and standards on water quality, as well as prohibition on the import of waste and harmful substances, a ban on the marketing of substances that do not decompose, etc. are prescribed. Important measure is the obligation of the construction of the sewerage network and construction of wastewater treatment plants.

The regulation of the discharge of hazardous and harmful substances in natural water must be in accordance with the Water Act, the Regulation on water classification and categorization of watercourses, as well as with all the other regulations for the protection of the environment, regulations for waste water treatment plants, whereby local conditions in the recipient should be taken into account in the technological, environmental and economic sense. In the case of substances for which there are no relevant international standards, establishing of limit of the allowable values shall be governed by a

separate procedure on the basis of data on toxicity, bioaccumulation and persistence of these substances in the aquatic environment whilst taking into account the technical possibilities of their removal, the risk to human health and techno-economic analysis of different removal procedures.

## CONCLUSION

Pollution of aquatic ecosystems is mainly the result of uncontrolled discharges of pollutants of various origins.

A large contribution to the preservation of aquatic ecosystems is legislation that prescribes the exact amount of allowable concentrations of substances that are imported into waterways and the introduction of biological parameters as mandatory. The problem of our legislation is that it is based only on the principle of physical-chemical analysis as the only indicator of water quality and the user approach, instead of the ecosystem approach to the issue of protection. It is necessary to introduce regular monitoring that would include regular analysis of water samples to determine degree of water saprobity, chlorophyll analysis and determination of phosphatase activity of water. The level of phosphatase activity reflects the balance of the total organic load of aquatic ecosystems as a recipient of allochthonous contaminants.

Monitoring the presence of toxic and potentially toxic strains of cyanobacteria in aquatic ecosystems in order to assess the environmental and health risks due to the cyanotoxins presence is very important. Special emphasis should be put on microcystins as they are considered to be the most present in the waters with a conspicuous flowering phenomenon. Water protection is a complex problem and requires an interdisciplinary approach to the problem of water protection along with the teamwork.

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Popularni članak

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## KARAKTERISTIKE SAVREMENOG POSLOVANJA

**Rezime:** *U brzim promjenama koje se dešavaju na tržištu, održivost i odgovornost poslovanja izdvajaju se kao pozitivni pokretači tih promjena, a preduzeća koja ih prepoznaju kroz njih uključuju sve zainteresovane strane i daju pozitivan doprinos društvu u cjelini. Cilj realizovanog istraživanja je da se dođe do informacija o tome koliko su domaća preduzeća konkurentna i koliko koriste pojedine savremene metode i tehnike, specifične za današnje uslove poslovanja. Uzorak istraživanja je projektovan na 50 ispitanika koji se nalaze na rukovodećim pozicijama u preduzeću. Istraživanje je realizovano na osnovu upitnika sa mogućnošću odgovora, koji je poslat na e-mail adrese ispitanika. Dobijeni rezultati ukazuju na to da domaća preduzeća imaju prosječan nivo konkurentnosti i da najveću prepreku u budućem razvoju i primjeni savremenih metoda i tehnika menadžmenta predstavlja znanje. Istraživanje će biti osnova za preporuke koje u budućnosti mogu poslužiti za dalji razvoj domaćih preduzeća, kao i smjernica za buduća ulaganja i prilagođavanja brzim tržišnim promjenama.*

**Ključne riječi:** *savremeno poslovanje, održivost, odgovornost, tržište, promjene, konkurentnost.*

**JEL klasifikacija:** *M14, P42.*

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## UVOD

Jedan od osnovnih problema savremenog poslovanja sa kojima se susreću današnja preduzeća jeste to što treba da usvoje drugačiji poslovni model fokusiran na duži rok, umjesto oslanjanja na kratkoročne ciljeve i efekte. Globalizacija dovodi do veće međuzavisnosti brojnih učesnika u privredi, pa samim tim kratkoročni finansijski rezultati nisu dovoljni da se obezbijedi dugoročni uspjeh. Preduzeća koja žele da opstanu na tržištu moraju da primijene nove načine poslovanja, odnosno za cilj ne mogu da postavie samo čisti finansijski dobitak. Unapređivanje poslovanja preduzeća mora da se zasniva na primjeni menadžment tehnika koje podržavaju konkurentnost, inovativnost i fleksibilnost, kao i na interventnom unapređivanju znanja zaposlenih u njima, a posebno izvršnog rukovodstva (Bešić i Đorđević 2009, 106).

Implementacija društvene odgovornosti u sve funkcije poslovanja predstavlja izazov za preduzeća jer uključuje i različite grupe i sve zainteresovane strane. Savremeno poslovno tržište sve više prepoznaje važnost i značaj društveno odgovornog poslovanja za postizanje održivog razvoja i pozicioniranje preduzeća na tržištu. Dokaz za to je i niz globalnih inicijativa koje su preduzete upravo u tu svrhu, a koje su podržala mnoga preduzeća i razne interesne grupe. Uspješnost preduzeća ne određuje više samo profit, već i upravljanje drugim segmentima koji su od značaja za uspjeh i opstanak nekog preduzeća, odnosno društvo i okruženje povezano sa svim interesno uticajnim, tj. zainteresovanim stranama.

Okruženje je sve više informisano i zahtjevno, a mnoga preduzeća se ili ne snalaze ili ne reaguju, tj. različito reaguju na potrebe okruženja. Nedovoljna informisanost o mogućnostima i načinima uključivanja i rješavanja društvenih zahtjeva dovodi do toga da znatan broj preduzeća probleme rješava dajući samo ono što je propisano zakonima. Praćenje trendova i novih pristupa koje donosi ubrzana ekspanzija digitalnih komunikacija i novih medija više nisu novina, to je postao imperativ. Tržište diktira promišljanje novih načina komunikacije, stalno praćenje i prilagođavanje zahtjevima javnosti i kupaca sa kojima komuniciramo. Na taj način preduzeća ne mogu samo ispunjavati osnovnu zakonsku normu, već se od njih očekuje aktivna usmjerenost prema društvu i zajednici.

Organizacije u razvijenim tržištima su pod uticajem javnog mišljenja, dioničara, drugih interesnih strana i političkih procesa (Tench 2006, 100). Svjesni smo da se tržište danas veoma brzo mijenja, postalo je nepredvidivo, ali bitno je na dnevnoj bazi pratiti njegova kretanja i zahtjeve. Borbu za tržišni opstanak karakteriše brzo razmišljanje i reagovanje kod donošenja bitnih poslovnih odluka. Uzimajući u obzir stalan i brz razvoj tehnologija, masovnu upotrebu novih medija, ali i promjene u ponašanju potrošača, došlo je i do promjena u industriji komunikacija. Tržište komunikacija od-slikava našu stvarnost i ono se vremenom mijenja, prilagođava, razvija i modifikuje.

## **1. KONKURENTNOST KAO ODLIKA SAVREMENOG POSLOVANJA**

Praćenje trendova i novih pristupa koje donosi ubrzana ekspanzija digitalnih komunikacija i novih medija više nije novina, to je postao imperativ. Tržište diktira promišljanje novih načina komunikacije, stalno praćenje i prilagođavanje zahtjevima javnosti i kupaca sa kojima komuniciramo. Organizacije u razvijenim tržištima su pod uticajem javnog mišljenja, dioničara, drugih interesnih strana i političkih procesa (Tench 2006, 100). Svjesni smo da se tržište danas veoma brzo mijenja, postalo je nepredvidivo, ali bitno je na dnevnoj bazi pratiti njegova kretanja i zahtjeve. Borbu za tržišni opstanak karakteriše brzo razmišljanje i reagovanje kod donošenja bitnih poslovnih odluka. Uzimajući u obzir stalan i brz razvoj tehnologija, masovnu upotrebu novih medija, ali i promjene u ponašanju potrošača, došlo je i do promjena u industriji komunikacija. Tržište komunikacija od-slikava našu stvarnost i ono se vremenom mijenja, prilagođava, razvija i modifikuje.

Savremeno poslovno okruženje je turbulentno, a to znači da su i promjene koje se dešavaju u okruženju sve brže i brojnije. Neke metode nisu se u svim dijelovima svijeta uspjele pozicionirati kao nove, a već ih zamjenjuju i smjenjuju druge i savršenije. Vrlo brzo nove metode postaju zastarjele, a zaživljavaju novije i savremenije. Preduzeća imaju samo izbor da se mijenjaju jer, ukoliko ne prate korak u savremenom poslovanju, nestaju sa poslovne scene. Preduzeća koja su spremna na nove promjene i izazove

izdvajaju se kao konkurentna na globalnom tržištu. Sve to dovodi do mnogih problema i izazova na koje preduzeća moraju brzo i pravovremeno reagovati.

Ugled preduzeća je jedan od najbitnijih elemenata od kojih zavisi uspešnost poslovanja. Ugled se u najjednostavnijem obliku može definisati kao identitet – komuniciranje, što upućuje na zaključak o izuzetnoj važnosti načina i vrsta komunikacija. Zdravi rezultati jednog preduzeća često zavise od toga koliko je zdrav njen ugled. Ugled utiče na njen tržišni udio, na njenu sposobnost da privuče i zadrži kvalitetan kadar, njenu privlačnost za potencijalne donatore i investitore, čak i na vrijednost dionica. U ovakvim uslovima poslovanja ističe se uloga odnosa s javnošću, a to je da štiti ime i dobar ugled preduzeća. U samoj izradi i prenošenju planski osmišljenih poruka najznačajniju ulogu imaju upravo odnosi s javnošću kao promišljeni komunikacioni put koji značajno utiče na ostvarenje dugoročnog cilja, a to je stvaranje pozitivnog imidža u javnosti i uspjeha preduzeća uopšte (Đervida 2015, 477). To, naravno, niti je lak posao niti se može uraditi preko noći, naročito u današnjim uslovima poslovanja, koji se odlikuju brzim promjenama.

Imdž i reputacija postaju dodatne vrijednosti kojima se stvaraju i održavaju konkurentske prednosti. Uvođenjem imidža i reputacije u strukturu upravljanja poslovanjem dobija se izuzetno važan izvor i sadržaj poruke kojom se komunicira sa unutrašnjim i spoljašnjim svijetom. U promociji imidža posebnu važnost ima upravljanje odnosima s javnošću, i to kako unutrašnjom, tako i spoljnom. Uloga odnosa s javnošću je višestruka. Njegovim aktivnostima nastoje se neutralisati štetne posljedice nastale zbog negativnog imidža. Relativno stabilna priroda imidža i reputacije čini ovaj zadatak izuzetno složenom.

Ugled preduzeća utiče i na uspešnost prodaje proizvoda i usluga. Preduzeća mogu imati i kratkoročni cilj i jakim kampanjama stvoriti prijatnu klimu i sliku o preduzeću koja u stvari i nema tu vrijednost koja se u određenom momentu prezentuje javnosti. Tu je ona razlika između identiteta i imidža, odnosno ono što preduzeće jeste i ono što javnost misli o preduzeću. Preduzeća koja svoj identitet podrede „imidžu“ uglavnom ne traju dugo i ubrzo im slijedi poslovni pad, pa i nestanak. Strateško i dugoročno razmišljanje postavlja visok nivo identiteta preduzeća. Prenosenje javnosti kva-



liteta i vrijednosti koje realno stoje iza preduzeća predstavlja jednostavniji i lakši korak u razvoju, praćen pozitivnim poslovnim rezultatima, a sve ovo ukoliko preduzeća žele da ostvare dugoročne ciljeve.

## **2. ZNAČAJ ODNOSA S JAVNOŠĆU I DRUŠTVENO ODGOVORNOG POSLOVANJA ZA USPJEH PREDUZEĆA**

Sve poslovne aktivnosti koje neko preduzeće preduzima zajedno određuje ukupni uticaj tog preduzeća na društvo. Pozitivno i proaktivno djelovanje poslovnog sektora u svim ovim područjima, i to iznad nivoa koji se propisuju zakonom, postalo je ustaljena praksa u razvijenom svijetu, prvenstveno zato što se pokazalo kako od ovakve prakse koristi imaju svi uključeni. Povećana odgovornost poslovanja u društvu pokazuje se kao nužnost, preduslov razvoja i opstanka.

Danas je profitabilnost tek jedan od zahtjeva koji uprava preduzeća ima pred sobom. Profit je nužan uslov opstanka i služi višestruko svima. Preduzeća koja su u gubitku prvo se brinu kako da uspostave stabilnost poslovanja. Uspješna preduzeća trebalo bi da se više okrenu društvenoj zajednici, da je podrže u održivom razvoju, gdje jasno do izražaja dolaze uloga i znanje top menadžera. Održivost ili održivi razvoj predstavlja ideju razvoja koji zadovoljava sadašnje potrebe, ali koji uzima u obzir i potrebe budućih generacija. Ekonomska održivost, sama za sebe, nije dovoljan uslov za dugoročnu održivost jednog društva. U tom smislu, odgovorno poslovanje predstavlja jedno od ključnih rješenja za dostizanje održivog razvoja, jer pravi balans između ekonomskih interesa, kao glavnog nosioca razvoja, i interesa društva u cjelini.

Društveno odgovorno poslovanje je, u suštini, svijest o novom položaju i značaju koje preduzeća imaju u savremenom, globalnom društvu i odgovornosti koja iz njih proizlazi. Praksa društveno odgovornog poslovanja odnosi se na cjelokupno djelovanje jednog preduzeća: šta proizvodi, kako kupuje i prodaje, da li poštuje zakone, kako se odnosi prema zaposlenima, da li ulaže u lokalnu zajednicu i na koji način doprinosi očuvanju životne sredine.

Koristi koje preduzeća imaju od usvajanja DOP-a razlikuju se u zavisnosti od tipa poslovanja, datog trenutka ili tržišnog okruženja. U tranzicionim zemljama koristi od DOP-a u vidu smanjenja troškova ili boljeg pristupa

međunarodnim tržištima imaju znatniji uticaj od „benefita“ kao što su olakšano upravljanje ljudskim resursima ili jačanje reputacije i imena brenda, na šta su mnogo više upućene velike međunarodne kompanije. Potreba da se ublaži negativan uticaj poslovanja na lokalne zajednice predstavlja društveno odgovornu temu koja preovlađuje u zemljama u razvoju.

Odnosi s javnošću treba da brinu za društveno odgovorno ponašanje preduzeća, javnih službi i organizacija, i tako da budu u dobrim odnosima s javnošću. Razlozi za to su jednostavni: ako se preduzeće ne ponaša društveno odgovorno, na takvo ponašanje će ga prisiliti država svojim zakonima ili grupe za pritisak kroz nevladine organizacije (npr. ekolozi). Informisaće okruženje i pozivati na bojkot proizvoda ili usluga. Takav pritisak iz okruženja na kraju koštaju preduzeće mnogo novca, i zato su direktori sektora za odnose s javnošću u mnogim preduzećima pomogli u donošenju odluke da se zamijeni prljava tehnologija ili da se takva više ne uvodi.

Današnje poslovanje se ne može zamisliti bez izgrađenih odnosa sa javnošću. Uspjeh nekog preduzeća ne zavisi samo od kvaliteta njegovih proizvoda i usluga, nego se dobrim dijelom zasniva i na odnosima sa javnošću. Želite li se nametnuti tržištu, te da vas ono prepozna i prizna, želite li osvojiti svoje kupce, sklopiti nove poslovne aranžmane, neizbježno treba posegnuti za odnosima sa javnošću. Odnosi s javnošću u preduzećima mogu biti shvaćeni ozbiljno, gdje stručnjaci za odnose s javnošću imaju visoku poziciju, tj. ulogu savjetnika i usku saradnju sa rukovodstvom, a i veliku odgovornost u sprovođenju komunikacijskih strategija.

### **3. REZULTATI ISTRAŽIVANJA**

Istraživanje je urađeno iz razloga da se dobije uvid, odnosno mišljenja i stavovi rukovodilaca o konkurentskoj poziciji domaćih preduzeća, kao i o načinu poslovanja, na osnovu čega bi se mogle unaprijediti tehnike i metode poslovanja. Dobijeni rezultati mogu doprinijeti unapređenju poslovanja domaćih preduzeća, a u funkciji razvoja konkurentске sposobnosti domaćih preduzeća u uslovima sve veće tržišne utakmice za konkurentskom pozicijom, kako na domaćem tako i na inotržištu.

Uzorak istraživanja je projektovan na veličinu od 50 jedinica (rukovodioci preduzeća). Na osnovu odgovora rukovodilaca preduzeća (uglavnom sred-

nja i velika preduzeća), na postavljena pitanja u anketi, dolazi se do osnovnih pretpostavki koje kreativno utiču na proces u savremenoj ekonomiji i menadžmentu. Upitnik je sastavljen od kombinacije pitanja s mogućnošću odgovora koji doprinose razvoju preporuka i sugestija za unapređenje poslovanja. Istraživanje stavova rukovodilaca u preduzećima izvršeno je u maju 2014. godine, sa ciljem da se dobije mišljenje rukovodilaca u raznim preduzećima na teritoriji Bosne i Hercegovine.

Na osnovu rezultata istraživanja dobiće se informacije na osnovu kojih se mogu utvrditi preporuke i smjernice za unapređenje primjene savremenih metoda i tehnika menadžmenta. To bi se direktno odrazilo na razvoj, odnosno unapređenje poslovanja preduzeća u Bosni i Hercegovini, kroz razvoj svijesti o odgovornom poslovanju i uspostavljanju komunikacije sa svim interesnim grupama. Ovakvim pristupom domaća preduzeća imaju priliku da se pozicioniraju kao konkurentna.

Uzorak rukovodilaca u preduzećima je projektovan na veličinu od 50 jedinica i upitnik je poslat na imejl adrese rukovodilaca. Grupa rukovodilaca u preduzećima obuhvata menadžere zaposlene u preduzećima raznih veličina i različitih privrednih djelatnosti i strukture, s tim da se vodilo računa o tome da su ispitanici na rukovodećim mjestima i da imaju uticaj na odlučivanje.

Svi relevantni faktori su u istraživačkoj studiji analizirani putem ankete, gdje su rukovodioci u preduzećima dali svoje mišljenje i na osnovu kojih su definisani stavovi kao osnov za utvrđivanje preporuka i smjernica. Utvrđivanje smjernica ima za cilj da unaprijedi poslovanje preduzeća, tj. da utiče na unapređenje i jačanje komunikacijske uloge u razvoju i primjeni novih tehnika poslovanja, kao i društveno odgovornog poslovanja, kao poslovne strategije preduzeća.

Uvidom u konačne rezultate i strukturu uzorka među ispitanicima – rukovodioci u preduzećima, najveći broj ispitanika (62%) na poziciji je direktor/šef sektora. Ujedno, najveći broj ispitanika (92%) zaposlen je u preduzećima u privatnom vlasništvu i preduzećima koja broje od 50 do 250 zaposlenih (36%).

Na pitanje o **ocjeni nivoa konkurentnosti organizacije** ispitanici imaju sljedeće mišljenje: da organizacija posjeduje prosječan nivo konkurentnosti izjasnilo se 44% ispitanika, da organizacija posjeduje zadovoljavajući

nivo konkurentnosti misli 31%, 14% smatra da organizacija posjeduje visok nivo konkurentnosti, a 11% ispitanika smatra da organizacija posjeduje nizak nivo konkurentnosti.

Kao **osnovne faktore unapređivanja poslovanja** analizirani rukovodioci ističu sljedeće:

- usavršavanje zaposlenih – 33%,
- primjena savremenih metoda i tehnika menadžmenta – 21%,
- unapređivanje kvaliteta poslovanja – 17%,
- povećanje produktivnosti poslovanja – 15%,
- razvoj i primjena informacionih tehnologija – 10% i
- implementacija korporativne društvene odgovornosti – 4%.

Prema mišljenju rukovodilaca, **neophodni elementi za razvoj konkurentske sposobnosti** domaćih preduzeća su:

- usavršavanje znanja rukovodstva i zaposlenih – 35%,
- primjena savremenih metoda i tehnika menadžmenta – 30%,
- kupovina savremenih tehnoloških rješenja i opreme – 15%,
- uvođenje standarda kvaliteta poslovanja – 9%,
- ulaganja u marketing – 7% i
- razvoj korporativne društvene odgovornosti – 4%.

Kao **glavne prepreke u razvoju konkurentnosti** domaćih preduzeća ispitanici izdvajaju: nedostatak finansijskih sredstava – 33%, ukupno 27% ispitanika smatra da je to nedovoljno znanje, da je u pitanju nedovoljno podsticaja od države smatra 22%, zastarjela oprema i tehnologija – izjasnilo se 10%, za 6% ispitanika to je neadekvatna upotreba savremenih metoda i tehnika menadžmenta, i neadekvatna primjena marketing koncepta je za 2% ispitanika.

Kada je riječ o konceptu odgovornog poslovanja, kao nezaobilaznom pristupu u savremenom poslovanju, čak **70% ispitanika rukovodilaca radi u preduzećima koja primjenjuju koncept društvene odgovornosti** u svom poslovanju, a od toga njih 64% pri kreiranju budžeta planira sredstva za društveno odgovorno poslovanje. Međutim, taj budžet nije planski raspoređen jer **samo 22% preduzeća radi istraživanje tržišta u cilju preduzimanja budućih društveno odgovornih aktivnosti**. Ovo ukazuje na postojanje potrebe za edukacijom, boljim primjerima i saznanjima o iskustvu drugih preduzeća (domaćih ili iz regiona).

Domaći preduzetnici su svjesni da postoji potreba da se poslovanje unaprijedi, što će doprinijeti boljoj konkurentskoj poziciji, ali im nedostaje znanje i edukacija. Da je glavna prepreka većoj inicijativi DOP-a **nedostatak svijesti o tome smatra 25% ispitanika**, a 20% ih izdvaja nedostatak finansija i opšte stanje u društvu.

Aktivnosti OSJ prvenstveno se odnose na izgrađivanje odnosa na relaciji preduzeće–okruženje koje se realizuje kroz komunikacijske aktivnosti. Cilj odnosa s javnošću jeste stvaranje dugoročnog pozitivnog imidža preduzeća u javnosti, koji se postiže usaglašavanjem ciljeva preduzeća s ciljevima potrošača, odnosno zajednice.

Da bi se dobila što jasnija slika o stanju odnosa s javnošću poslužilo je pitanje, tj. odgovor koji je dalo **64% ispitanika, a to je da poslove vezane za komunikaciju obavlja marketing**, a tek **26%** je odgovorilo da ove poslove obavlja **odjel za odnose s javnošću**. Na samom početku analize dobijenih rezultata istraživanja jasna je slika da je ova profesija tek u razvitku u BiH. Odnosi s javnošću nisu dovoljno afirmisani i još uvijek nisu dovoljno pozicionirani kao profesija u domaćim preduzećima.

Sljedeći rezultati ukazuju na to da postoji potreba za većom promocijom profesije i da postoji svijest o njenom značaju, što dokazuje to da je **94% ispitanika odgovorilo da odnosi s javnošću mogu uticati na jačanje imidža/reputacije preduzeća**. Ipak, samo 18% ispitanika redovno ulaže u edukaciju zaposlenih o odnosima s javnošću. Daleko lakše je razvijati poslovne procese kada je kadar edukovan i stručan, što ukazuje na to da je zaposlenima i rukovodiocima potrebno više edukacije.

**Najvažnije tri uloge koje odnosi s javnošću imaju za preduzeća**, prema mišljenju rukovodilaca, jesu: građenje imidža i reputacije (26%), olakšavanje poslovnih procesa (20%) i savjetovanje menadžmenta (20%). Da rukovodioci u domaćim preduzećima imaju svijest o potrebi za promjenama i primjeni novih i savremenih metoda i tehnika u poslovanju ukazuje i to da čak 84% ispitanika smatra da su odnosi s javnošću jednako važni kako za velika, tako za srednja i mala preduzeća.

Bosna i Hercegovina se nalazi u procesu ekonomske tranzicije. Tranzicija jednog društva u ekonomskoj sferi najznačajnije se reflektuje na povećanje nezaposlenosti. Neminovni su negativni efekti tranzicije, međutim, pozitivni uticaj se najprije odražava na ona preduzeća koja su spremna da

prihvate promjene i da brzo reaguju, što utiče na unapređenje poslovanja domaćih poslovnih subjekata i postizanje konkurentske prednosti.

Glavni problem upravljanja u domaćim poslovnim subjektima jeste neadekvatna primjena znanja. Ovo je posebno evidentno u domaćim preduzećima kod kojih je proces privatizacije završen od strane domaćih preduzetnika. Osnovni ciljevi bilo koje privatizacije su dolazak novih vlasnika privrednih subjekata i unapređenje rezultata poslovanja. Na ovaj način život postaje bolji ne samo vlasnicima, nego i ljudima zaposlenim u tim privrednim subjektima (Grebović 2015, 631). Bolja slika je kod preduzeća koja su privatizovana od strane stranih investitora. Kod ovih preduzeća prije se počelo sa usvajanjem novih znanja, primjenom savremenih metoda i tehnika menadžmenta, što u velikoj mjeri ima uticaj na konkurentsku prednost. Ovo se odnosi i na upravljački concept, kao i razvoj svijesti i usvajanje koncepta odgovornog poslovanja i uspostavljanja dobrih odnosa kroz komunikacijske procese sa zajednicom u kojoj preduzeće djeluje. Prema mišljenju Rejnerta, jedna od najvažnijih stvari jeste da razumijemo da su inovacije i novo znanje suštinske pokretačke sile u istoriji ekonomskog razvoja (Rejnert 2010, 55).

## ZAKLJUČAK

U osnovi svake promjene leži odluka menadžmenta u vezi sa poslovnim promjenama. Menadžment domaćih preduzeća mora imati svijest da u tranzicijskim uslovima poslovanja prepozna prilike koje vode boljem pozicioniranju na tržištu i ujedno postizanju konkurentske prednosti. Politika poslovanja domaćih preduzeća treba da se bazira na globalnim pogledima tržišnog poslovanja, a na odlukama menadžmenta je da prepozna prilike i razvija strategiju za realizaciju istih. Unapređivanje produktivnosti ne odnosi se samo na poslovanje, već i na unapređivanje produktivnosti znanja. Znanje predstavlja osnovu privređivanja, i njegovim unapređivanjem povećava se produktivnost ostalih faktora u poslovnom procesu koji predstavljaju osnovu unapređivanja kvaliteta poslovanja.

Unapređenje konkurentske sposobnosti domaćih preduzeća nalazi se pod direktnim uticajem razvoja koncepta upravljanja kvalitetom i korporativne društvene odgovornosti. Sve je veća potreba za komuniciranjem u poslo-

vanju, a istraživanje ukazuje na to da postoji svijest o potrebi za promjenama i da veliku prepreku predstavlja nedostatak znanja o primjeni novih metoda i tehnika savremenog poslovanja.

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Popular Articles

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## CHARACTERISTICS OF MODERN BUSINESS

**Summary:** *Sustainability and responsibility are standing out as a positive initiator of the changes that are taking place in the business market and companies that recognize them include all interested parties through it and make a positive contribution to the society as a whole.*

*The goal of this research is to gather the information on how much are local companies competitive and to which extent they use some modern methods and techniques specific to today's business conditions. The research sample is projected on 50 respondents who are in management positions in the companies. The survey was conducted on the basis of the questionnaire with the ability to reply, which was sent to e-mail address of the subjects. The results indicate that domestic companies have an average level of competitiveness and that the knowledge represents the biggest obstacle to the future development and application of modern management methods and techniques. The survey will be the basis for recommendations that can be used in the future for the further development of domestic companies, as well as guidelines for future investments and rapid adjustment to market changes.*

**Key words:** *modern business, sustainability, responsibility, market, changes, competition*

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## INTRODUCTION

One of the main problems of modern business faced by enterprises today is that companies should adopt a different business model focused on the long term, instead of relying on short-term goals and effects. The globalization leads to greater interdependence of many participants in the economy, and therefore short-term financial results are not sufficient to ensure long-term success. Companies that want to survive in the market have to implement new ways of doing business, and the goal can not be only a pure financial gain. Improving business operations must be based on the application of management techniques that support competitiveness, innovation and flexibility, as well as emergency education of employees in them, especially the executive management (Besic and Djordjevic 2009, 106). The implementation of social responsibility in all business functions is a challenge for companies because it involves various groups and all stakeholders. Modern business market increasingly recognizes the importance and significance of corporate social responsibility for achieving sustainable development and positioning the company in the market. Proof of this is the series of global initiatives undertaken just for this purpose, and which are supported by many companies and various interest groups. The success of the company does not set up only profit, but also manage other aspects that are important for the success and survival of a company or society and the environment associated with all interest-influential, ie. stakeholders. The environment is increasingly informed and demanding, and many companies are either not coping or do not respond, ie. react differently to the needs of the environment. Lack of information on the possibilities and ways of handling and resolving social demands, leads to a considerable number of enterprises solving problems by giving only what is required by law. Monitoring trends and new approaches adopted by the rapid expansion of digital communications and new media are no longer something new, it has become a necessity. The market dictates evaluate new ways to communicate, constantly monitoring and adjusting the requirements of the public and customers with whom we communicate. In this way, companies can not only meet the basic legal norm but is expected of them to actively focus on society and the community.

Organizations in the developed markets are influenced by public opinion, shareholders, other stakeholders and the political process (Tench 2006,100). We are aware that the market is now rapidly changing, it has become unpredictable, but what matters is on a daily basis to monitor its movements and requirements. The fight for market survival is characterized by quick thinking and reacting in making important business decisions. Given the continuous and rapid development of technology, large-scale use of new media, as well as changes in consumer behavior, there was a change in the communications industry. Market communication reflects our reality and what the weather changes, adapts, develops and modifies.

## **1. COMPETITIVENESS FIRST AS A FEATURE OF MODERN BUSINESS**

Monitoring trends and new approaches adopted by the rapid expansion of digital communications and new media are no longer an innovation, it has become a necessity. The market dictates evaluate new ways to communicate, constantly monitoring and adjusting the requirements of the public and customers with whom we communicate. Organizations in the developed markets are influenced by public opinion, shareholders, other stakeholders and the political process (Tench 2006, 100). We are aware that the market is now rapidly changing, it has become unpredictable, but what matters is on a daily basis to monitor its movements and requirements. The fight for market survival is characterized by quick thinking and reacting in making important business decisions. Given the continuous and rapid development of technology, large-scale use of new media, as well as changes in consumer behavior, there was a change in the communications industry. Market communication reflects our reality and what the weather changes, adapts, develops and modifies. Modern business environment is turbulent, and that means that the changes taking place in the environment are getting faster and more numerous. Some methods haven't managed to position themselves as new, and they're already being replaced and removed by other and more perfect methods. Very soon new methods get old, and new ones are being introduced. Businesses have only the choice to change, because, if not followed up in modern business, they will disappear from the business scene. Companies

that are ready for new changes and challenges stand out as competitive in the global market. All this leads to many problems and challenges that companies have to react quickly to and in a timely manner.

The reputation of the company is one of the most important elements that determine business performance. Reputation in the simplest form can be defined as an identity - communication, which indicates the extraordinary importance of the ways and types of communication. Healthy results of an enterprise often depends on how healthy its reputation is. Reputation affects its market share, its ability to attract and retain quality staff, its attractiveness to potential donors and investors, even the value of the shares. Under these business conditions highlights the role of public relations, and that is to protect the name and good reputation of the company. In the development and transmission of messages deliberately designed, the most important role is just public relations as a thoughtful communication path that significantly influences the long-term goal, which is to create a positive public image and success of the company in general (Djervida 2015, 477). This, of course, isn't an easy task nor can be done overnight, especially in today's business environment characterized by rapid change. Looks and reputation are becoming more values that create and maintain competitive advantage. The introduction of looks and reputation in the structure of business management obtained an extremely important source and message content which communicates with the internal and external world. In promoting the image, of particular importance are public relations management, both internal as well as external. The role of public relations is manifold. His activities are trying to neutralize the harmful effects arising from the negative image. The relatively stable nature of the image and reputation makes this task extremely complex.

The reputation of the company affects the success of product sales and services. Companies can have a short-term goal and a strong campaign to create a pleasant climate and image of the company, which in fact, doesn't have a value and will be at some point presented to the public. There is one difference between identity and image, and what the company is and what the public thinks about the company. Companies that his identity subordinate "image" generally do not last long and soon they followed a business decline and even disappearance. Strategic and long-term thinking

sets a high level of identity of the company. Transmission of the public quality and value that the real behind-ups is simpler and easier step in development, followed it positive business results. All this, if companies want to achieve long-term goals.

## **2. IMPORTANCE OF PUBLIC RELATIONS AND CORPORATE SOCIAL RESPONSIBILITY THE SUCCESS OF THE COMPANY**

All business activities that a company undertakes together determines the overall impact of the enterprise on society. Positive and proactive action of the business sector in all these areas, and this is above the level that is prescribed by law, it has become common practice in the developed world, primarily because it has been shown that by these practices that benefit all involved. Increased responsibility of business in society is revealed as a necessity, a prerequisite for development and survival.

Today, profitability is the only one of requirements that the company management has before it. Profit is a necessary condition for survival and serves everybody. Companies that have a loss, first of all, care to establish stability operations. Successful companies should turn to the community more, that support the sustainable development, which clearly comes the role and skills of top managers. Sustainability or sustainable development is the idea of development that meets present needs, but which also takes into account the needs of future generations. Economic sustainability, in itself, is not a sufficient condition for long-term sustainability of a society. In this sense, responsibility is one of the key solutions for achieving sustainable development, because the right balance between economic interests, as the pillar of development, and the interests of society as a whole. Corporate social responsibility is essentially an awareness of the new position and importance that companies have in the modern, global society and the responsibility that comes with it. The practice of corporate social responsibility applies to all the activities of a company: what products to buy and sell, whether it respects the laws that applies to employees, whether investing in the local community and how to contribute to environmental protection.

The benefits that companies have since the adoption of CSR vary depending on the type of business, given the time or the market environment. In transition countries, the benefits of CSR in the form of reduced costs and improved access to international markets have a significant impact on the “benefits” such as simplifying the management of human resources and strengthening the reputation and brand name on what are much more addressed to large international companies. The need to mitigate the negative impact on the business community is a socially responsible theme that prevails in developing countries.

Public relations should care for the socially responsible behavior of companies, public services and organizations, and also to be in good relations with the public. The reasons for this are simple: if the company does not act socially responsible, such behavior will force the country to its laws or pressure groups through non-governmental organizations (eg, ecologists). They will inform the environment and call for a boycott of products or services. Such pressure from the environment in the end costs the company financially because the Director of Public Relations at many companies helped in the decision to replace dirty technologies or that this is no longer introduced.

Today’s business can not be imagined without the built public relations. The success of a company depends not only on the quality of its products and services but is largely based on relationships with the public. You want to impose market, and that what you recognize and acknowledge, if you want to win your customers, to enter into new business arrangements, inevitably need to resort to public relations. Public relations in enterprises can be taken seriously, where experts for public relations have a high position, ie. the role of adviser and close cooperation with the management, a great responsibility in the implementation of communication strategies.

### **3. RESULTS OF RESEARCH**

Research has been done on the ground to gain insight respectively opinions and attitudes of Head about the competitive position of domestic companies as well as the way of doing business, based on what could be improved techniques and methods of business. The results may contribute to the improvement of domestic companies, and in the development of

competitiveness of domestic enterprises in terms of increased competition in a competitive position, both in the domestic and the foreign market.

The sample surveys was designed to a size of 50 units (managers of companies). Based on the responses of managers of companies (mainly medium and large enterprises), based on the questions asked in the survey, we come to the basic assumptions that affect the creative process in contemporary economics and management. The questionnaire is made up of a combination of questions with the possibility of responses that contribute to the development of recommendations and suggestions for improving operations. Research on the attitudes of managers in enterprises was carried out in May 2014, in order to obtain the opinion of managers in various companies in Bosnia and Herzegovina.

Based on the results of the survey will be received the information on which can be determined by recommendations and guidelines for improving the application of modern management methods and techniques. This would directly impact on the development or improvement of operations in Bosnia and Herzegovina through the development of awareness of responsibility and establishing communication with all stakeholders. With this approach, domestic companies have the opportunity to position themselves as competitive.

A sample of managers in companies is designed to the size of 50 units and a questionnaire was sent to the email address of managers. Group of managers in companies includes managers employed in companies of different sizes and different business activities and structure, it being taken into account that respondents are in managerial positions and have an impact on decision-making. All relevant factors are the research study analyzed through a survey in which the managers of the enterprises gave their opinion and on which defined attitudes as a basis for establishing recommendations and guidelines. Establishing guidelines aimed at improving the operations of the company, ie. to influence the development and strengthening of the role of communication in the development and implementation of new management techniques, as well as corporate social responsibility, as a business strategy. Examination of the final results and the structure of the sample among the respondents - executives in companies, the largest number of respondents,

62% is in position Director / Head of the Sector. At the same time the largest number of respondents (92%) are employed in enterprises of private property and companies which have between 50 to 250 employees (36%). When asked about **the assessment of the level of competitiveness of the organization** respondents have this opinion: that the organization has an average level of competitiveness, stated the 44% that the organization has a satisfactory level of competitiveness, agrees 31%, 14% believe that the organization has a high level of competitiveness, while 11% of respondents believe that the organization has a low level of competitiveness.

As **the basic factors of improving business** analyzed managers emphasize the following:

1. Training of employees - 33%
2. The application of modern methods and techniques of management - 21%
3. Improving the quality of business - 17%
4. Increasing Business Productivity - 15%
5. Development and application of information technologies - 10% and
6. Implementation of corporate social responsibility - 4%

In the opinion of the Head of companies **necessary elements for the development of competitiveness** of domestic enterprises are:

1. Training knowledge of management and employees - 35%
2. The application of modern methods and techniques of management - 30%
3. Purchase of modern technological solutions and equipment - 15%
4. Introduction of business quality standards - 9%
5. Investments in marketing - 7% and
6. Development of corporate social responsibility - 4%

**The main obstacles to the development of competitiveness** of domestic enterprises subjects stand out: lack of financial resources - 33%, total 27% of respondents believe that this lack of knowledge, it's the lack of incentives from the state, considered 22%, outdated equipment and technology - voted 10%, 6% of respondents to the inadequate use of modern methods and techniques management - 6%, and deficiencies in the marketing concept is for 2% of respondents.

When it comes to the concept of responsibility, as the inevitable approach in modern business, as much as **70% of managers working in companies that apply** the concept of social responsibility in its business operations,



of which 64% in the creation of a budget plan assets for corporate social responsibility. However, this budget is not planned staggered because **only 22% of companies doing market research in order to undertake future CSR activities**. This points to the need for education, better examples and information on the experience of other companies (local or regional). Domestic entrepreneurs are aware that there is a need to improve the business, which will contribute to a better competitive position, but they lack the knowledge and education. That is the main obstacle to greater initiative **CSR lack of awareness, says 25% of respondents**, while 20% of them stands out the lack of finance and the general situation in the society.

Activities OSJ primarily concerned with the building of the relationship between the company - an environment that is carried out through communication activities. The goal of public relations is to create long-term positive image of the company in public, which is achieved by the harmonization of company goals with the goals of the consumer, or the community. To obtain a clearer picture of the state of public relations, according to a question, that is answer that gave **64% of respondents, and that is that the work related to communication performs marketing**, and only **26%** said that these operations are performed by the **department for public relations**. At the beginning of the analysis of the research results is a clear picture that the profession is still in development in BiH. Public relations are not sufficiently promoted and is still not sufficiently positioned as a profession in domestic companies.

The following results indicate that there is a need for greater promotion of the profession and that there is an awareness of its importance, as evidenced by the fact that **94% of respondents to public relations can affect the strengthening of the image / reputation of the company**. However, only 18% of respondents regularly invests in the education of employees of public relations. Far easier to develop business processes when staff knowledgeable and professional, which indicates that employees and managers need more training.

**The three main character of public relations have for the company**, according to managers, are: image building and reputation (26%), facilitating business processes (20%) and management consulting (20%). That managers in local companies are aware of the need for change and the

application of new and modern methods and techniques in business and shows that even 84% of respondents believe that public relations is equally important to both large, both for medium and small enterprises.

Bosnia and Herzegovina is in the process of economic transition. The transition of a society in the economic sphere, the most important is reflected in an increase in unemployment. Inevitable negative effects of transition, however, the positive impact of the first impact on those companies that are willing to accept the changes and to react quickly, which affect the improvement of domestic companies and achieve competitive advantage.

The main problem in the management of local businesses is inadequate application of knowledge. This is especially evident in domestic companies in which the privatization process completed by local entrepreneurs. The main objectives of the privatization are the arrival of new owners of business entities and improvement of business results. In this way, life becomes better not only to owners, but also to people employed in these businesses (Grebovic 2015, 631). Better picture is in companies that were privatized by foreign investors. For these companies before began with the adoption of new knowledge, application of modern management methods and techniques, which greatly affects the competitive advantage. This also applies to the management concept and the development of awareness and adoption of the concept of responsibility and the establishment of good relations through communication processes with the community in which the company operates. In the opinion of Rejnerta, one of the most important things is that we understand that innovation and new knowledge essential driving force in the history of economic development (Rejnert 2010, 55).

## **CONCLUSION**

Basically, any change is making the management of business changes. The management of local companies should have awareness to transition business conditions recognize opportunities that lead to better positioning in the market and at the same time achieving a competitive advantage. Terms and domestic companies should be based on a global view of market economy, and the decision of management is to identify opportunities and develop strategies for their implementation. Improving productivity

does not apply only to business, but also improving the productivity of knowledge. Knowledge is the basis of business, and developing it increases the productivity of other factors in business processes that form the basis of improving the quality of operations.

Improving the competitiveness of domestic enterprises is directly affected by the development of the concept of quality management and corporate social responsibility. There is a growing need for communication of their business, and research shows that there is awareness of the need for change and that a major obstacle is the lack of knowledge on the application of new methods and techniques of modern business.

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339.923:061.1EU(4)(497.6)

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338.48(497.5Rijeka)

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