

EKONOMSKE BROJ 23 IDEJE I PRAKSA

KVARTALNI ČASOPIS IZ OBLASTI EKONOMIJE,
POSLOVNE EKONOMIJE I MENADŽMENTA, STATISTIKE
I POSLOVNE INFORMATIKE

EKONOMSKI FAKULTET UNIVERZITETA U BEOGRADU / BEOGRAD, DECEMBAR 2016
WWW.EKOF.BG.AC.RS/PUBLIKACIJE/CASOPISI/EKONOMSKE-IDEJE-I-PRAKSA/

U OVOM IZDANJU:

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I POSLOVNE INFORMATIKE**

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Priprema i štampa

ČUGURA Print, Beograd
www.cugura.rs

Godina

2016.

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ANALIZA MODELA OSIGURANJA PRIMENOM BESKOALICIONE IGRE

ANALYSIS MODEL OF INSURANCE APPLICATION NON-COOPERATIVE GAMES

JEL KLASIFIKAIJA: C70, C72, G22

APSTRAKT:

U ovom radu analiziran je model osiguranja primenom metodologije beskoalicione igre. Cilj istraživanja je ispitivanje postojanja Nešove ravnoteže u definisanom modelu. Analizirane su situacije potpune i nepotpune informisanosti igrača, a zatim definisana strateška i informaciona refleksija istog hijerarhijskog nivoa. Analiza je pokazala da u slučaju potpune informisanosti osiguranika postoji ravnotežno stanje modela i da je to igra sa nultom sumom. Nepotpuna informisanost osiguranika, kao realno stanje na tržištu osiguranja, dovodi do toga da ne postoji ravnotežno rešenje definisanog modela osiguranja. Da bi se obezbedila egzistencija ravnotežnog rešenja potrebno je uspostaviti viši hijerarhijski nivo informisanosti.



KLJUČNE REČI:

MODEL OSIGURANJA, BESKOALICIONA IGRA, INFORMACIONA REFLEKSIJA

ABSTRACT:

In this paper we analyzed model of insurance using methodologies non-cooperative games. The goal of research is to investigate the existence of Nash equilibrium in a defined model. We analyzed the situation of complete and incomplete information to players, then defined strategic and informational reflection of the same hierarchical level. The analysis showed that in the case of full of information of the insured there is equilibrium state model and that this is a zero-sum game. An incomplete of information the insured, as well as the real situation in the insurance market, leads to no equilibrium solution defined of insurance model. In order to ensure the existence of equilibrium solutions is necessary to establish a higher hierarchical level of information.

**KEY WORDS:****MODEL OF INSURANCE, NON-COOPERATIVE GAME, INFORMATION REFLECTION**

1. UVOD

Teoriju igara kao matematičku disciplinu u ovom radu posmatramo kao sredstvo za ekonomske analize jer pruža mogućnost jasne i precizne analize ekonomskih stanja. Prva istraživanja igara u ekonomskoj literaturi odnose se na radove Cournot (1838), Bertrand (1883) i Edgeworth (1897). John von Neumann i Oscar Morgenstern (1944) u monografiji „Theory of Games and Economic Behavior“ postavili su temelje opšte teorije igara i potvrdili mogućnost analiziranja ekonomskih stanja primenom modela teorije igra. John F. Nash (1950) uvodi koncept ravnotežnog ishoda (ravnotežne situacije) kao metoda rešavanja beskoalicionih (nekooperativnih) igara.

Osnovna podela teorije igara je na beskoalicione (nekooperativne) igre i koalicione (kooperativne) igre. Teorija beskoalicionih igara polazi od činjenice da je donosilac odluke (igrač) racionalan pojedinac koji teži da ostvari „maksimalnu dobrobit“ u skladu sa jasno definisanim pravilima. Suprotno, teorija koalicionih igara polazi od toga da je grupa učesnika koja formira koaliciju donosilac odluke, i pri tome ako je igra definisana tada je precizno određeno šta svaka koalicija može ostvariti ali bez naznaka kako ishodi mogu uticati na koaliciju (Aumann R.J. (1997)). Teorija beskoalicionih igara predstavlja mikro pristup, odnosno sadrži detaljan opis onoga što se dešava, suprotno teorija koalicionih igara ima makro pristup i bavi se analizom svih mogućih ishoda koje igrači koalicije mogu postići.

Pažnja je usmerena na modele beskoalicionih igara kao mikro aspekt analize i njihovu primenu u modeliranju grupnog osiguranja. Beskoaliciona teorija igra zasniva se na činjenici da igrači treba da pokušaju da predvide akcije svojih protivnika, koristeći znanja o pravilima igre i racionalnom ponašanju protivnika. Ekonomisti modeliranje ekonomskih pojava primenom modela beskoalicionih igara sedamdesetih godina prošlog veka u fokus analize uključuju informisanost pojedinaca kao racionalnih donosilaca odluke. Značajan je rad Selten-a (1965) o savršenoj informisanosti i rad Harsanyi-a (1967) o nepotpunoj informisanosti igrača. Zatim se pojavljuje rad Selten-a (1975) o preispitivanju koncepta ravnotežne tačke u ekstenzivnoj igri sa savršenom informacijom, a zatim Kreps i Wilson u radu (1982) preispituju model Selten-a dodajući „mali“ iznos nepotpune informisanosti o isplatama igrača. Kreps, Milgrom, Roberts i Wilson u eksperimentu konačne igre ponavljanja dolaze do zaključka da igrači u nekom periodu igre ne preduzimaju uvek dominantne strategije i da umesto toga teže određenom stepenu saradnje, stoga u radu sprovode analizu modela igre ponavljanja sa nepotpunom informisanošću igrača.

Ekonomski modeli koji razmatraju tržišta osiguranja, a razvijaju se od 1960. godine (Borch (1962)) i Bühlmann (1980) i (1984)), razmatraju interese obe strane, i osiguravača (osiguravajuća kompanija) i osiguranika. Ovi modeli analiziraju probleme u vezi sa pravičnošću, odnosno traženjem Pareto optimalnosti i tržišne ravnoteže (Golubin (2008)). Bühlmann u svojim radovima tvrdi da u mnogim realnim situacijama premije osiguranja ne zavise samo do rizika, već da zavise i od drugih tržišnih uslova. Pri tome, standardne aktuarske tehnike nisu usmerene da stvaraju takvu zavisnost, te stoga je neophodno izgraditi modele koji analiziraju ukupnost tržišnih interakcija, ako se želi proučiti odnos između tržišnih uslova i premija osiguranja. Modeli teorije igara posebno su primenjeni u situacijama kada osiguravajuća društva primenjuju subaditivne premije osiguranja za nezavisne rizike, tada pojedinačni osiguranici mogu sačuvati svoje premije ako odluče da

pređu na grupno osiguranje umesto pojedinačnog. Uzrok prelaska na grupno osiguranje leži u situaciji da je premija po osnovu ugovora o grupnom osiguranju manja ili jednaka od sume premija po osnovu individualnih ugovora o osiguranju koje su obračunate na bazi istih aktuarskih principa. Ove situacije analizirane su u radu Alegre i Claramunt (1995), kao i u radu Borch (1962).

2. MODEL STRATEŠKE I INFORMACIONE REFLEKSIJE

Situacije nepotpune informisanosti igrača, zahtevaju modeliranje igre, koja obuhvata procese i rezultate analize svakog od igrača kako će se ponašati protivnici i po kojim principima donose odluke. Situacija nepotpune informisanosti, pri kojoj svaki od igrača analizira ponašanje drugih igrača, naziva se *strateška refleksija*. Za razliku od strateške refleksije, *informaciona refleksija* podrazumeva da svaki igrač analizira svoje stavove i postupke o informisanosti i ponašanju drugih igrača. Ovakav postupak analize zahteva uspostavljanje hijerarhijske strukture između igrača. Modeliranje konfliktnih situacija, gde je uspostavljena hijerarhijska struktura između igrača sa informacionom refleksijom, predstavlja model *refleksivne igre*². U modelu refleksivne igre, svaki igrač na osnovi raspoloživih informacija, modelira ponašanje protivnika. Stabilni ishod, nastao kao rezultat preduzetih strategija u modelu refleksivne igre, predstavlja *informaciono ravnotežni ishod*. Ravnoteža u modelu refleksivne igre zavisi od informacione strukture. Pritom, promena informacione strukture dovodi do promene informaciono ravnotežnog ishoda.

Neka je $I = \{1, 2, \dots, n\}$ skup igrača, a skup $N = (N_1, N_2, \dots, N_n)$ je informacioni skup svih igrača iz skupa I . Svaki igrač i , raspolaže informacionim skupom $N_i = (\theta_i, \theta_{ij}, \theta_{ijk}, \dots)$, za $i, j, k \in I$, i kažemo da informacioni skup N_i predstavlja strukturu informisanosti igrača i . Elementi skupa N_i , gde $(\theta_i, \theta_{ij}, \theta_{ijk}, \dots) \in \Theta$, predstavljaju stanja prirode, tj. element θ_i predstavlja informisanost igrača i o stanju prirode posmatranog slučaja. Element θ_{ij} predstavlja informisanost igrača i , o informisanosti igrača j , o stanju prirode posmatranog slučaja, itd. Igrač i , izborom akcije x_i , opredeljuje se za informacioni skup $N_i = (\theta_i, \theta_{ij}, \theta_{ijk}, \dots)$, na osnovu čega je moguće modelirati i odrediti njegovu strategiju. Izborom strategije igrača i , određuju se i strategije ostalih igrača. U uslovima potpune informisanosti igrača beskoalicionu igru definišemo izrazom

$$G = \langle I, \{X_i\}_{i \in I}, \{H_i\}_{i \in I} \rangle, \quad (1)$$

i pri tome je interpretiramo kao istovremen i nezavisan izbor strategije $x_i \in X_i$ za svakoga igrača $i \in I$. Izbor strategija jednog od igrača nezavisan je od izbora strategija protivnika. U zavisnosti od preduzetih strategija, nastaje situacija (ishod) igre $x \in X$, pri čemu svaki od igrača ostvaruje vrednost igre $H_i(x)$. Za razliku od nekooperativne igre, model refleksivne igre polazi od gore opisanih pretpostavki o strukturi informisanosti svakog od igrača $i \in I$. Odnosno, u modelu refleksivne igre svaki od igrača raspolaže svojim informacionim skupom, pa možemo reći da model refleksivne igre predstavlja uopštavanje modela beskoalicione igre. Naime, uopštavanjem modela beskoalicione igre, model refleksivne igre definišemo kao sistem

$$G = \langle I, \{X_i\}_{i \in I}, \{H_i\}_{i \in I}, N \rangle, \quad (2)$$

gde :

- elementi skupa I nazivaju se igračima,
- svaki od igrača raspolaže određenim skupom strategija X_i ,
- na osnovu preduzetih strategija svakoga od igrača, nastaje određeni ishod igre, kao Dekartov proizvod, i to

$$X = \prod_{i \in I} X_i \quad (3)$$

- funkcija H_i koja preslikava skup ishoda igre X u skup realnih brojeva R
 $H_i : X \rightarrow R,$ (4)
 i predstavlja funkciju vrednosti igre igrača $i \in I$, za realizovanu situaciju igre,
- skup $N = (N_1, N_2, \dots, N_n)$ je informacioni skup svih igrača iz skupa I .

Pošto smo definisali model refleksivne igre, sada dajemo definiciju informaciono ravnotežne strategije.

Definicija 1. Za svaki $\tau \in \Xi$, strategija x_τ^* je informaciono ravnotežna³ ako su zadovoljeni sledeći uslovi:

- struktura informacionog skupa N je konačno složena;
- za svaki $\lambda, \eta \in \Xi$, $N_{\lambda i} = N_{\eta i} \Rightarrow x_{\lambda i}^* = x_{\eta i}^*$;
- za svakog igrača $i \in I$, i za svaki konačan niz indeksa $\sigma \in \Xi$, strategija $x_{\sigma i}^*$ je ravnotežna ako

$$x_{\sigma i}^* \in \arg \max_{x_i \in X_i} H_i(\theta, x_{\sigma i}^*, x_{\sigma i, 1}^*, \dots, x_{\sigma i, i-1}^*, x_i, x_{\sigma i, i+1}^*, \dots, x_{\sigma i, n}^*).$$

Prvim uslovom u definiciji 1, određeno je da u modelu refleksivne igre učestvuje konačan broj igrača različitog hijerarhijskog nivoa. Drugim uslov definiše se da, ako igrači imaju podudarne informacione skupove, tada biraju iste strategije. Treći uslov određuje racionalno ponašanje igrača. Svaki igrač bira akciju koja maksimizira funkciju vrednosti igre, pritom, inkorporirajući i akcije drugih igrača, koje su takođe racionalne iz ugla igrača, koji stvara sliku o ponašanju drugih igrača. Vektor informisanosti $\theta = (\theta_1, \theta_2, \dots, \theta_n) \in \Theta^n$, igrača i , ravnotežan je po Nešu ako za svakog igrača $i \in I$, i bilo koje dve strategije $x_i, y_i \in X_i$, važi da je

$$H_i(\theta, x_1, x_2, \dots, x_{i-1}, x_i, x_{i+1}, \dots, x_{i+1}) \geq H_i(\theta, x_1, x_2, \dots, x_{i-1}, y_i, x_{i+1}, \dots, x_{i+1}).$$

3. ANALIZA MODELA OSIGURANJA PRIMENOM REFLEKSIVNE IGRE

Razmatramo model grupnog osiguranja u kojem analiziramo sa jedne strane odnos između osiguranika u procesu prikupljanja sredstava premije osiguranja, a sa druge strane

3 Новиков Д.А., Чхартишвили А.Г., Информационное равновесие: точечные структуры информированности, Автоматика и Телемеханика – 2003. – № 10. – стр. 111–122.

analiziramo njihov odnos po osnovu realizacije osiguranog slučaja. Polazimo od pretpostavke da su svi osiguranici podjednako skloni prema riziku (Kirstein (2000)), a da se razlikuju verovatnoće nastajanja osiguranog slučaja i odgovarajućih gubitaka. Pritom, da bi branili pretpostavku o jednakoj sklonosti prema riziku, smatramo da je preraspodela rizika korisna za osiguranike sa različitim preferencijama prema riziku.

Osnovni cilj naših istraživanja je refleksija osiguranika i nepotpuna informisanost osiguranika. U situaciji neutralnosti prema riziku i nepotpune informisanosti osiguranika nastaje neravnoteža premija i očekivanih koristi. Posmatramo skup $N = \{1, \dots, n\}$ osiguranika koji imaju zaključen ugovor sa osiguravačem, pri čemu je funkcija cilja, svakog od osiguranika, kao funkcija očekivane korisnosti, definisana u obliku

$$f_i = \pi_i - r_i + p_i (h_i - q_i), \quad (5)$$

gde je:

- π_i - profit ostvaren ekonomskom aktivnosti i -tog osiguranika,
- r_i - premija osiguranja (cena osiguranja) i -tog osiguranika,
- p_i - verovatnoća nastanka štete po osnovu osiguranog slučaja, pritom se pretpostavlja da su odštetni zahtevi za različite osiguranike nezavisni događaji,
- h_i - iznos nadoknade štete i -tog osiguranika
- q_i - iznos štete i -tog osiguranika.

U uslovima potpune informisanosti osiguranika, ukupna premija osiguranja R svih osiguranika je

$$R = \sum_{i=1}^n r_i, \quad (6)$$

a ukupni očekivani iznos nadoknade štete H svih osiguranika je

$$H = \sum_{i=1}^n p_i h_i. \quad (7)$$

U slučaju potpune informisanosti osiguranika ukupna premija osiguranja R jednaka ukupnom očekivanom iznosu nadoknade štete H , tj.

$$\sum_{i=1}^n r_i = \sum_{i=1}^n p_i h_i, \quad (8)$$

što predstavlja ravnotežni uslov modela grupnog osiguranja.

Ovako postavljen ravnotežni uslov možemo posmatrati kao model igre sa nultom sumom. Ako dalje pretpostavimo da se u potpunosti nadoknađuje nastala šteta za osiguranika i , tada je

$$h_i = q_i. \quad (9)$$

Na osnovu pretpostavke o nadoknadi štete (9), imamo da je za sve osiguranike, ukupni očekivani iznos nadoknade štete H jednak ukupno očekivanom iznosu štete osiguranog slučaja, tj.

$$H = \sum_{i=1}^n p_i q_i. \quad (10)$$

U uslovima potpune informisanosti osiguranika, ukupna premija osiguranja R jednaka je ukupnom očekivanom iznosu nadoknade štete H . Ukupni očekivani iznos nadoknade štete H jednak je ukupno očekivanom iznosu štete po osnovu realizacije osiguranog slučaja. Dakle, svaki osiguranik i , kao racionalni igrač, opredeljuje se za premiju osiguranja koja je jednaka očekivanom iznosu štete, tj.

$$r_i = p_i q_i. \quad (11)$$

Takođe, u uslovima potpune informisanosti osiguranika dobili smo da je osigurana suma jednaka potencijalnim gubicima, odnosno da je stopa osiguranja jednaka stopi koja je determinisana verovatnoćom nastanka štete osiguranog slučaja. Da bi svaki osiguranik mogao odrediti premiju osiguranja koja je jednaka očekivanom iznosu štete, neophodno je da su ispunjena dva uslova, i to :

- pojedinačni parametri za slučaj koji se osigurava poznati su svim osiguranicima;
- svi osiguranici pridržavaju se zadatih pojedinačnih parametara.

Ukoliko nije zadovoljen jedan od ova dva uslova, tada osiguranik kao racionalni igrač, svoju premiju osiguranja ne može odrediti kao očekivani iznos štete. Da bi osiguranik mogao odrediti premiju osiguranja, osnovni problem koji se pojavljuje jeste pitanje informacione strukture, i mehanizmi za predstavljanje bitnih parametara osiguranja. Naime, neophodno je razmatrati kakve su informacije kojima raspolažu osiguranici o verovatnoći nastajanja osiguranog slučaja. Odnosno, neophodno je sprovesti analizu mehanizma osiguranja koji treba da zadovolji sistem međusobnog predstavljanja bitnih parametara svakog od osiguranika.

Pretpostavimo da potencijalni osiguranici mogu razmenjivati informacije o verovatnoći nastajanja osiguranog događaja. Kako je stopa osiguranja determinisana verovatnoćom nastanka štete, tada svaki od osiguranika raspolažući dodatnim informacijama, ima za cilj da tu verovatnoću smanji. Neka je i ocena verovatnoće nastanka štete data od strane osiguranika i i kao informacija prenosi se svim učesnicima u modelu grupnog osiguranja. Premija osiguranja osiguranika i , sada je funkcija ocene verovatnoće s_i nastanka štete. Na osnovu postignute informisanosti između osiguranika, imamo da je

$$r_i(s_i) = s_i q_i. \quad (12)$$

Fond premija osiguranja svih osiguranika je

$$R(s) = \sum_{i=1}^n r_i(s) = \sum_{i=1}^n s_i q_i. \quad (13)$$

Ukoliko nastane šteta, iznos nadoknade štete $h_i(s)$ moguće je odrediti proporcionalno u odnosu na fond premija osiguranja, tj. za svaki $i = 1, \dots, n$,

$$h_i(s) = \alpha(s) q_i, \quad (14)$$

gde je $\alpha(s)$ - koeficijent grupnog učešća o nadoknadi nastale štete i -tog osiguranika i predstavlja odnos između fonda premije osiguranja $R(s)$ i ukupno očekivanog iznosa nadoknade štete H . Izbor koeficijenta $\alpha(s)$ predstavlja strategiju osiguranika u modelu grupnog osiguranja. Funkcija korisnosti osiguranika i , sada je

$$f_i = \pi_i - r_i(s_i) + p_i(h_i(s) - q_i). \quad (15)$$

Ako u funkciji korisnosti izvršimo smenu koristeći izraze (12) i (14), dobija se

$$f_i = \pi_i - s_i q_i + p_i \alpha(s) q_i - p_i q_i. \quad (16)$$

Vrednost $s_i q_i$, predstavlja premiju osiguranja, a vrednost $p_i \alpha(s) q_i$, predstavlja iznos nadoknade nastale štete. Kako se svaki igrač ponaša racionalno, zainteresovan je da je premija osiguranja manja ili jednaka od iznosa nadoknade nastale štete. Za svakog osiguranika i , imamo da je

$$s_i \leq p_i \alpha(s). \quad (17)$$

Izbor koeficijenta $\alpha(s)$, kao strategije osiguranika u modelu grupnog osiguranja definišemo izrazom

$$\alpha(s) = \min \left\{ \frac{R(s)}{H}, 1 \right\}. \quad (18)$$

Pošto je ravnotežni uslov u modelu grupnog osiguranja $R(s) = H$, sledi da je za ravnotežno stanje modela $\alpha(s) = 1$. Za svakog osiguranika imamo da je $s_i \leq p_i$. Kako je svaki osiguranik zainteresovan da je premija osiguranja minimalna, tada za posledicu možemo imati da osiguranici svesno smanjuju verovatnoće nastanka štete. Smanjenjem verovatnoće nastanka štete imamo da je $R(s) < H$, odnosno nastaje neravnoteža u modelu grupnog osiguranja.

Da bi se prevazišao problem neravnotežnog stanja modela grupnog osiguranja, moguće je primeniti sledeći mehanizam odlučivanja :

- na početku perioda osiguranja, osiguranici su obavezni saopštiti svoje ocene verovatnoće realizacije osiguranog događaja;
- na kraju posmatranog perioda, tj. kada je realizovan osiguran događaj, potrebno je kompenzovati troškove nastale usled postojanja neravnoteže između premije osiguranja i nastale štete;
- odnos učešća svakog osiguranika u kompenzovanju troškova određuje se na osnovu prijavljenih procena na početku perioda.

Ako pođemo od pretpostavke da se nadoknada štete izražava u obliku očekivanih vrednosti, da bismo imali ravnotežno stanje modela neophodno je da ukupna premija osiguranja bude jednaka ukupno očekivanom iznosu nadoknade štete, tj.

$$\sum_{i=1}^n r_i(s) = H, \quad (19)$$

gde $r_i(s)$, predstavlja strategiju osiguranika u modelu grupnog osiguranja.

U ravnotežnom stanju modela ukupno očekivani iznos nadoknade štete H jednak je uku-

pno očekivanom iznosu štete $\sum_{i=1}^n p_i q_i$, što znači da je funkcija korisnosti oblika

$$f_i = \pi_i - r_i(s_i). \quad (20)$$

Kako smo uveli pretpostavku da je očekivani iznos nadoknade štete jednak očekivanom iznosu štete, tada se svaki osiguranik ponaša racionalno na način da je premija osiguranja manja ili jednaka očekivanom iznosu štete, tj.

$$r_i(s) \leq p_i q_i. \quad (21)$$

Ako se opredelimo za strategiju, prema kojoj je za svakog osiguranika iznos premije osiguranja proporcionalan očekivanom iznosu štete, tj.

$$r_i(s) = \frac{s_i q_i}{\sum_{i=1}^n s_i q_i} H, \quad (22)$$

tada funkcija korisnosti ostvaruje maksimalnu vrednost kada je iznos premije osiguranja $r_i(s)$ minimalan. Davanjem netačnih informacija može se nerealno smanjiti premija osiguranja, tada definisana strategija osiguranika može voditi ka neravnotežnom stanju modela grupnog osiguranja. Da bismo umanjili značaj netačnih informacija, treba izabrati strategiju prema kojoj se iznos premije osiguranja smanjuje sa povećanjem broja zahteva potencijalnih osiguranika za osiguranjem. Takav primer strategije može se dati u obliku

$$r_i(s) = \frac{1}{\sum_{i=1}^n \frac{1}{s_i}} H. \quad (23)$$

Ovako definisanu strategiju ako zamenimo u funkciji korisnosti dobija se funkcija oblika

$$f_i = \pi_i - \frac{1}{\sum_{i=1}^n \frac{1}{s_i}} H. \quad (24)$$

Analizom funkcije korisnosti, možemo zaključiti da strategija data izrazom (23), podstiče tražnju za osiguranjem, ali ne garantuje pouzdanost informacija.

Strategija data izrazom (22) obezbeđuje ravnotežno stanje modela da je ukupna premija osiguranja jednaka ukupno očekivanom iznosu nadoknade štete, ali ne podstiče tražnju za osiguranjem. Strategija data izrazom (23) ne garantuje ravnotežno stanje modela ali podstiče tražnju za osiguranjem.

4. ZAKLJUČNA RAZMATRANJA

Model grupnog osiguranja predstavlja model igre sa nultom sumom, gde je ukupna premija osiguranja jednaka ukupno očekivanom iznosu nadoknade štete. Pri tom, strategije koje će preduzeti osiguranici neće voditi ravnotežnom stanju. Osiguranici će težiti smanjenju premije osiguranja, što će za posledicu imati nedovoljno sredstava za kompenzovanje nastalih šteta. Težnja osiguranika za što manjom premijom osiguranja, vodi davanju nepotpunih informacija. Sa druge strane, neophodno je prikupiti dodatna sredstva u situaciji nepotpunih informacija, što vodi kontradiktornosti primenjenih strategija. Da bi se prikupila dodatna sredstva kroz premije osiguranja neophodne su tačne informacije, a tačnost informacija uslovljava realne premije osiguranja, što opet umanjuje vrednost očekivane korisnosti, za šta osiguranici nisu zainteresovani.

Realno je očekivati, da osiguranici nemaju potpune informacije o osiguranom slučaju. Nepotpuna informisanost osiguranika zahteva dodatnu analizu u traženju mogućnosti za postizanje ravnotežnog stanja modela. U model grupnog osiguranja, potrebno je inkorporirati koordinacioni centar kao igrača višeg hijerarhijskog nivoa, koji raspolaže dodatnim informacijama. Na osnovu dodatnih informacija, koordinacioni centar treba da obezbedi nadoknadu nastale štete i da podstiče potencijalne osiguranike da zaključe ugovor o grupnom osiguranju. Koordinacioni centar svojim akcijama treba da podstiče potencijalne osiguranike da pristupe fondu grupnog osiguranja, i da primorava definisanim uslovima osiguranike da se pridržavaju zadatih parametara.

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EXPLORING CUSTOMER SATISFACTION MONITORING IN BANKING SERVICES IN MONTENEGRO

ISTRAŽIVANJE ZADOVOLJSTVA KLIJENATA U BIZNIS PRAKSI BANAKA U CRNOJ GORI

JEL KLASIFIKACIJA: M31

ABSTRAKT:

Zadovoljstvo klijenata se tradicionalno posmatra kao ukupna pozitivna reakcija koja nastaje nakon korišćenja određenog proizvoda ili usluge. U praksi i teoriji modernog marketinga, težnja za stvaranjem zadovoljnog kupca je početna tačka, kao i krajnji cilj mar-

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ketinga i opšte poslovne strategije preduzeća na konkurentnim tržištima. Ova studija ispituje ono što preduzeća treba da učine da bi ispitala da li ispunjavaju potrebe kupaca i postižu li proklamirani cilj.

Cilj ovog istraživanja je empirijski testirati u kojoj mjeri je koncept orijentacije ka stvaranju zadovoljnih kupaca zapravo prisutan u bankarskim uslugama u Crnoj Gori. Tačnije, postavljamo pitanje u kojoj mjeri su u bankama u Crnoj Gori stvoreni uslovi za praćenje zadovoljstva kupaca, i da li se zadovoljstvo kupaca uopšte mjeri. Naime, samo na taj način moguće je utvrditi da li se cilj stvaranja zadovoljnih kupaca ostvaruje. U cilju rješavanja ovog istraživačkog pitanja, sproveli smo istraživanja na temelju direktnog (licem u lice) polu-strukturiranog intervjua s menadžerima u bankama (izvršnim direktorima i marketing menadžerima / Customer Relationship menadžerima), a koristili smo i uvide iz već kreiranih procedura nadzora zadovoljstva kupaca i ranije realizovanih istraživanja u tom području.

**KLJUČNE REČI:**

ISTRAŽIVANJE ZADOVOLJSTVA KLIJENATA, BANKARSKE USLUGE, MARKETING PRAKSA, MARKETING STRATEGIJE U BANKARSKIM USLUGAMA

ABSTRACT:

Customer satisfaction is traditionally considered as the overall positive response generated after the use of a specific product or service. In modern marketing theory and practice, the aspiration to create a satisfied customer is the originating point, as well as the ultimate goal of marketing and general business strategies of companies in competitive markets. This study identifies what companies do to examine if they fulfill customers' needs and achieve the proclaimed goal.

The objective of this study is to empirically test to which extent is the concept of orientation towards creating satisfied customers actually present in banking services in Montenegro. More specifically, we raise the question to which extent have the banks in Montenegro created conditions for monitoring customer satisfaction, and if they are measuring it indeed. Namely, only in that way it is possible to determine whether the goal of creating satisfied customers is realized. In order to address this research question, we have conducted surveys based on direct (face to face) semi-structured interviews with managers in banks (chief executives and marketing managers/customer relationship managers), and used the insights from already created procedures of monitoring customer satisfaction and previously done research in that field.

**KEY WORDS:**

MONITORING CUSTOMER SATISFACTION, BANKING SERVICES, MARKETING PRACTICES, MARKETING STRATEGIES IN BANKING SERVICES

INTRODUCTION

The purpose of this study is to provide an in-depth analysis on the topic of customer satisfaction monitoring in banking services in Montenegro. Given the relevance and complexity of the subject, the issue is approached both from the theoretical and empirical side. In the following paragraphs, we will begin by laying out the theoretical framework explaining the importance of customer satisfaction, as well as the need for customer satisfaction monitoring in the context of contemporary business and marketing strategies. We will further attempt to support the theoretical claims by providing evidence from customer satisfaction monitoring practices in banking services in Montenegro. The findings presented in the empirical segment of this paper were collected by interviewing relevant banking services professionals in Montenegro on the importance of customer satisfaction in marketing and business strategies of the companies they represent, as well as on the topic whether customer satisfaction is monitored in their respective companies, and how. A significant part will be dedicated to customer complaints, more precisely, to bank's procedures for dealing with customer complaints. Final comments and findings will be presented in the conclusion.

1. CUSTOMER SATISFACTION IN BUSINESS AND MARKETING STRATEGIES AND THE NEED FOR RESEARCHING IT

Customer satisfaction is, saying it in a simple way, estimation if the product/service succeeded in fulfilling the expectations of the consumer. If the overall response (which follows from using the product or service) is positive, then we can say that customer satisfaction is achieved (Oliver 1981). Positive response, which can be understood as customer satisfaction, also reflects on the behavior customers express through the repeated purchase which led to satisfaction. Consumer satisfaction/dissatisfaction is a result of compared expectations before and after the purchase (Oliver 1980). If expectations overcome performances, there can be noted the existence of negative attitude or dissatisfaction. Vice versa, if it is perceived that performances are in accordance with the expectations, customers are satisfied. This claim is applicable if the perceived customer satisfaction level is estimated in the right manner.

Until today, numerous methods of measuring satisfaction were proposed, among which two are widely spread. Those two are related to satisfaction originating from specific transaction and overall satisfaction (Lam et al. 2004; Tian 1998; Yang 2004). The specific transaction approach explains satisfaction as a psychological benefit that a customer achieves through specific experience of using a product (ex. service encounter). In that way, measuring satisfaction in a specific transaction can provide specific information regarding the product offer (Lam et al. 2004). Comparing to satisfaction related to specific transaction, cumulative or overall satisfaction displays cumulative impressions and client's attitude toward a certain brand or performances of a service (Tian 1998; Yang et al. 2004). Overall satisfaction is considered to be a fundamental performance indicator of a product/service (Bitner and Hubbert 1994; Gustafsson et al. 2005; Lam et al. 2004).

Due to that fact, overall satisfaction, in comparison to specific transaction satisfaction, is a more relevant and significant indicator of consumers' loyalty (Gustafsson et al. 2005; Lam et al. 2004; Olsen and Johnson 2003; Yang et al. 2004).

Numerous marketing studies (Anderson and Srinivasan 2003; Beerli et al. 2004; Bloemer and Kasper 1995; Bloemer and Lemmink 1992; Chiou 2004; Homburg and Giering 2001; Lam et al. 2004; Olsen 2002; Ping 1993; Yu et al. 2005) showed the existence of a positive effect which satisfaction has on loyalty, moreover this can be treated as natural. Interlink between satisfaction and consumer loyalty was confirmed as well through the research of Bloemer and his colleagues (Bloemer and Kasper 1995; Bloemer and Lemmink 1992; Bloemer and de Ruyter 1998, 1999). They conducted a series of researches related to satisfaction and loyalty and showed that satisfaction is an important prerequisite of customer loyalty. Heskett and colleagues (Heskett 1997) presented a conclusion that customer loyalty should significantly rise when customer satisfaction exceeds a certain level. It is found that "delighted" ("extremely satisfied") customers have a much higher probability to remain loyal comparing to those which are only "satisfied" (Lam et al. 2004; Oliver 1997). Ziethaml and Bitner (Ziethaml and Bitner 2003), referring to the work of three authors (Heskett, Sausseri and Schlasinger), also indicate a direct positive correlation between the degree of satisfaction and loyalty of service consumers, emphasizing that just as the increase in satisfaction leads to repeated purchase and loyalty, increase in dissatisfaction makes consumers change the supplier, which means a lost client and decrease in loyalty for the company providing the service. As can be seen, there are plenty of examples found in relevant literature which point that customer satisfaction is a prerequisite of customer loyalty.

Owing to the influence which satisfaction has on loyalty, sales and consequently on company's profit, the concept of customer satisfaction takes one of the central places in theory and practice of marketing. Numerous theoreticians and practitioners of marketing and management perceive the creation of customers as the primary purpose, reason of existence and further business development. Customer satisfaction represents the starting point of business strategies for a large number of companies, and this can be identified through their mission and vision statements. Hence, mission and vision statements represent an essential business landmark for the management and employees in the company. They suggest a general, common goal which could enable successful business activities by directing employees' efforts towards achieving it. Precisely because of its importance in the process of creating customers as a precondition of business success, the need for creating customer satisfaction became an inseparable part of mission and vision statements of numerous companies as one of the main business goals they have to achieve. This rule stays valid also when it comes to business practice in Montenegro. In addition to that, it can be said that in almost every interview with Montenegrin managers it can be noticed that they emphasize customer satisfaction as a main business objective and omnipresent aspiration their companies have.

However, question which arises is how devoted are these companies to achieving the proclaimed goal. Thereby, the least that can be expected from companies which defined customer satisfaction as one of their core business principles is to establish mechanisms which will monitor if they are successful and to which extent in realization of that aim. For that exact reason, research was conducted with the idea to explore whether the banks

in Montenegro are focused towards creating customer satisfaction and if they monitor it and in which way.

2. RESEARCH OF CUSTOMER SATISFACTION OF THE BANKS IN MONTENEGRO

In order to define to which extent and in which way do banks in Montenegro monitor satisfaction of their clients, consent was obtained and interviews were conducted with managers in charge of marketing in thirteen banks in Montenegro. Interviews were carried out based on structured questionnaire mainly with open questions which enabled wider space for a good insight on current marketing practice in banking sector in Montenegro. Since the number of banks in Montenegro is rather small, processing the answers was not a major problem from the aspect of research results. The survey was held in August 2016. Analysis was started with gathering mission and vision statements relying on banks' web-sites in most cases and for those which did not have that kind of information online, we asked the question directly. The goal of collecting mission and vision statements is to determine to which extent is the customer orientation and the process of creating satisfied customers present in those statements. After that activity, we obtained access to the data related to research of customers through interviews. Fundamental conclusions of the research are presented in the following text.

2.1. Positioning consumers in vision and mission

In Montenegrin banking system, at the moment, there are fifteen functioning banks with a high level of competition. Eight banks out of fifteen have market participation that is higher than 5%, and we positioned them in the research as "bigger" banks, while market participation of the other seven banks is lower than 5%, therefore they are, for the needs of this research classified as "smaller" banks. Two banks (one out of each group) aren't included in the sample.

To get an insight in the essence of the applied business logic, as earlier mentioned, we have started this research with the analysis of vision and mission statements of the banks that do business in Montenegro, with a particular accent on the position of clients (the place that clients and their satisfaction have in the statement). Namely, the main role of vision and mission statements of a company (in this particular case, a bank), as previously told, is to inspire and direct the efforts of employees, and to represent a general goal that should be achieved with mutual efforts. Vision and mission statements are a way of differentiation in regards to competitors, as seen from the perspective of present and potential clients. As such, they offer us a good basis to begin realizing the business orientation of these companies. Based on the analysis of vision and mission statements of the banks in Montenegro, we point out, as expected, that a special place in them is reserved for consumers. Namely, reliability of the bank and the needs of clients as direct objectives are emphasized in missions and visions of nearly every bank in Montenegro. Along with that, in a certain number of mission statements, the need to create satisfied consumers

is particularly pointed out (“...satisfaction of the clients as the primary goal...”, “...we offer services that will ensure satisfaction...”). And at this point we would like to indicate that mission and vision statements of banks in Montenegro are often too voluminous, that brings as a result a lack in precision and lowers their very significant potential to direct business activities towards the accomplishment of mutual goals. Additionally, some of them are insufficiently operative, and sometimes give an impression that they serve more to external promotion purposes, rather than to demonstrate the basic purpose of doing business and give directions to managers and employees for the course of action.

In addition, a significant part in the empirical analysis are the evaluations of interviewed marketing managers, who used a scale from 1 (no significance at all) to 5 (highly significant) to rank the significance of client satisfaction in accomplishing vision, mission, goals and strategies of doing business in their bank, which resulted with a high average note of 4,5. This additionally confirms the thesis that the management is very much aware of the significance of satisfied clients. But, this high mark should be acknowledged with certain reserve. Namely, the results of the research have shown that representatives of “bigger banks”, were a bit “more strict” (and in our opinion also more objective) when giving the notes, therefore in their case, the average mark was 4,14. Unlike them, “smaller”, and as by the rule “younger” banks, each and every one, have shown that consumer satisfaction has great significance in achieving vision, mission, goals and strategies of doing business, by giving the maximum ranking, resulting with an average note of 5. However, we find the average mark is not objective because its value is too high. This is especially true because customer satisfaction is rarely (term exceptionally would be more convenient) identified and set as one of clearly defined goals in doing business in banks in Montenegro, in terms of goals that are tracked in order to determine the success of bank’s functioning from lower up to the highest levels of management.

This short review of visions, missions and essence of business orientation of banks in Montenegro, confirmed our expectations that clients and their needs take central place in them. In certain cases, satisfaction of clients is explicitly defined as primary goal of the bank. In continuation of the research project, we tracked the extent to which banks monitor the satisfaction of consumers and which tools they use in doing so. We did this especially because we believe that in order to create satisfied consumers, it is not enough for the management to decide it or proclaim it, nor to make it integral part of the company’s mission statement. For achieving this goal, it takes a lot more than that. Namely, creating satisfied consumers and demonstrating a high degree of understanding and anticipation of their needs and behaviors also requires focusing all of the employees and the entire company in the direction of accomplishing that goal. Especially because of that, it is necessary to collect the information about consumers and their satisfaction, in order to perceive to which extent it is possible to achieve consumer satisfaction along with other defined company goals, and also what needs to be done improve in that domain in regards to competition.

2.2. Research of customer satisfaction

2.2.1. Theoretical aspect

Before moving on to other results of our research, we will briefly reflect on the need and ways of researching consumer satisfaction in the service sector. Research in the service sector, which includes banks, can be done in different ways. Information about consumers can be reached on the basis of data that already exists somewhere (secondary data). If this method is not sufficient (and most often that is the case), consumers can be 1) observed, 2) examined, and 3) experiments are often organized for the purpose of studying consumers. Consumer research can be carried out by the company itself and its own forces, or by hiring special agencies that conduct consumer research on the basis of a defined project task. Some studies are independently organized and carried out by marketing agencies or public opinion research companies and the results are afterwards sold to multiple users. This kind of omnibus survey often includes the research of customer satisfaction. Besides, some countries (at the government level or the level of non-governmental institutions) measure customer satisfaction indices and these data which are gathered and presented per specific industry are free for use to all potential users.

When we talk about researching customer satisfaction, as a rule it is made on the basis of consumer tests. Tests are unavoidable if we want to measure customer satisfaction. Surveys of consumer satisfaction can be done through tests at selling points (retail outlets). In this case, they are used to assess the satisfaction of a specific transaction, but they can also serve to assess the total consumer satisfaction with the company. Surveyed customers are given questionnaires which they can fill in on the spot. Sometimes these surveys are very simple and they contain only a few questions, and electronic devices can often be used for these purposes (encountered in retail stores and banks in Montenegro). These e-supported surveys, in addition to helping customers while answering questions in the survey, also enable simple and fast processing and reaching results. Satisfaction of existing customers with the service provided (the specific transaction) can be monitored on the basis of phone calls to clients who have consumed the service in the past. In addition, for the same purpose, potentials of the Internet are used increasingly nowadays, especially social networks, which enable simple and easy approach to customers. These approaches to the research of satisfaction with the services provided are useful, because not only that they serve as an assessment of happiness of existing customers, but they can be used to assess the functioning of the entire system of providing services, which of course opens up possibilities for early identification of potential problems, their solving and correction. Moreover, they show that the companies take care of consumers and their satisfaction, as well as take into account the feedback on their satisfaction with the idea of improving the service provided. (Apte, 2004)

The above described surveys refer exclusively to the current customers of the bank. However, researches that allow monitoring of a wider population are sometimes necessary. Such tests comprise of surveys that are conducted on a representative sample, outside the premises of the company and which as such involve other companies and clients. Studies like those allow comparison with competitors in terms of quality of service and customer satisfaction and in addition, given the fact that a wider population is

selected in the sample, they provide insight into the attitudes and behaviors, not only of existing but also of potential consumers. Additionally, those surveys can be done through personal contact, face to face, by telephone, using the Internet...

As the process of creating satisfied customers includes the creation and delivery of control system of values that will lead to creation of satisfied customers, methods of mystery shopping and focus groups have been proved to be useful in assessing the extent to which the system of providing services leads to creation of customer satisfaction. Using focus groups can be especially useful if you include key clients of the company in them. In-depth and focused surveys of these clients can help not only to detect their degree of satisfaction, but also to understand the reasons behind their satisfaction or dissatisfaction, and to identify opportunities to improve customer satisfaction in general. This is especially important as an aspect of overcoming the gap between consumer expectations and what they received by consuming the services. (Apte, 2004)

To achieve the goal of creating satisfied customers, it is very important to monitor any possible appearance of discontent. Related to this aim, several models of researching the problem of failure in providing services were developed. They can be classified into following categories (Apte, 2004):

- Critical incident study
- Complaints Solicitation and Analysis
- Lost Customer Analysis

Critical incident study includes incident cases in which clients were dissatisfied or especially satisfied with the service. For those situations it is good to come to an accurate and clear description of the event both by the client and by the employee who was involved in the provision of services. It is very important to consider what led to this situation to be perceived as very satisfactory or dissatisfactory by the client. In case of bad experiences, it is necessary to establish what could be done to reach customer satisfaction. While studying critical incident cases, it is important to consider the employees' perception in addition to customers' perception. It is necessary to obtain a complete and clear picture of the incident, which may help understand respective situations better, and also be useful in avoiding similar problems in the future. These cases (which are often repeated) need to be further examined and special attention should be given to them in order to change and improve procedures aimed at creating satisfied customers. Thus, studies help to reveal causes of the problem or dissatisfaction and to define and promote desirable behavior of employees during the process of providing services to eliminate negative and encourage positive feedback. In this regard, employees' ability to show understanding was proved to be an especially important skill. This is vital in cases when a service is not (or could not be) provided or if the provided service was poor. On the other hand, it is equally important to identify and promote good examples.

Complaints Solicitation and Analysis. Although the creation of value chain should lead to customer satisfaction, it happens that companies have to deal with dissatisfied customers. When a client addresses his dissatisfaction to a company, as a general rule he expects the company to respond, which makes room for reaction, problem-solving, correcting the situation, and in this way a dissatisfied customer who may be close to reaching a decision to change the supplier, can turn into a satisfied customer. These

customers may later become the best promoters of the company. In any case, it is important to understand that consumer complaints represent an additional opportunity which dissatisfied consumers give to the company to prove that their satisfaction is in the first place for the company (if that is the case indeed). As a consequence of a well-known fact that a relatively small percentage out of the total number of dissatisfied customers complain publicly, successful companies encourage and facilitate the feedback process for consumers, because in this way they increase their own chances to improve services and regain lost confidence. But, in order to make this happen, it is important that the company really takes care of every complaint, solve it to the best of company's possibilities and inform the customer who complained about the company's reaction. Therefore, it is essential that organizations create feedback systems which are not reduced only to the existence of a book of complaints or a publicly advertised e-mail who no one really checks. The system of reacting to complaints must be based on simple and consumer friendly ways of expressing discontent. In addition, it implies that complaints have to be objectively considered, responded and the consumer should be informed about the outcome. It is very important that consumers are aware of the existence of such a relationship and know that their appeal will not be left unread. Such a system brings a huge benefit, with minimal costs. This benefit is reflected not only in retaining and increasing the loyalty of customers who filed complaints, but also in terms of creating a reputation of a reliable company where consumers are really put in the first place. In that sense, a special role is devoted to call-centers. They are, as a rule, the first point of contact with the company that consumers can reach in the case of dissatisfaction. This is why the staff working in them has to be specially trained to show understanding for consumers who complain, and try to obtain as much information as possible about how and why did the dissatisfaction occur. Complaints need not only be recorded, but also taken care of until the problem (if possible) is resolved. It is more than desirable that the company informs consumers regarding the reaction, especially if it was not possible to fully meet their requirements. The staff in call-centers must also have the authority or the possibility to solve certain problems or to ensure that the problems are dealt with in a timely fashion, if they deem it to be necessary and feasible.

Lost Customer Analysis. Nobody likes to lose consumers, especially when their lifetime value to the company is taken into account. Therefore, each lost customer that can be identified by the company must be approached with special care. First, because there might be a way for the customer to begin using the services of the company again, and another thing, this analysis helps identify the reason why customers are not buying products/ services of the company. Although in some cases it may be difficult or impossible to reach them after they have ceased to use the services of the company, companies often have information that can help them connect with lost customers.

2.2.2. Research of customer satisfaction in the business practices of banks in montenegro

The attention paid to customers in vision and mission statements, as the starting points of business and marketing strategies of banks in Montenegro, is in organizational terms largely transferred and operationalized in their business. This particularly applies to all

surveyed “major” banks (whose market share exceeds 5%). There is a developed marketing function in all of these banks, which as a rule includes a research component.

When we talk about customer satisfaction surveys, and customers’ relation to banks, banks in Montenegro largely rely on results of the omnibus survey, which are organized and conducted by public opinion research companies, and which are available to the banks that are interested. Through research that is conducted at regular intervals, along with brand awareness, promotional activities, and the level of service usage, special attention is paid to customer satisfaction, and to reputation and image of the bank which derives dominantly from it. Customer satisfaction is monitored through the index which allows ranking of banks on the basis of satisfaction degree of their clients. Since these surveys are conducted at regular time intervals it is possible to monitor changes occurring in this area. Also, these surveys monitor the main reasons for satisfaction and dissatisfaction of customers, which gives opportunity to identify factors that matter to customers, whether as reasons for their dissatisfaction or satisfaction. These information can be very useful in developing strategy, creating deals and directing activities to improve the position that a bank has in the eye of the customers. Along with the degree of satisfaction, customers’ loyalty to the bank is monitored and measured as well as the level of trust that clients place in banks. We can conclude that it is a comprehensive research that is very useful to the banks, which monitors the overall customer satisfaction in the context of bank services. It is a very useful tool not only to control the situation, and diagnose the problem, but also as a means to encourage and direct the activities of banks towards the improvement of the current situation. As such, this study represents a stimulus to healthy competition among banks in Montenegro. In addition, users of this research should keep in mind that customer satisfaction, as well as their behavior is a dynamic process, and therefore subject to change. Continuous monitoring is very important. Banks in Montenegro use the results of the research in more or less regular intervals.

Although omnibus survey may represent a useful source of information about customers and their satisfaction, it is clear that this is not the only form of tracking consumer satisfaction in general which applies to banks in Montenegro. The omnibus survey are quantitative studies that include more topics, or issues that are integrated within a single questionnaire, and they are as a rule intended for multiple users. Therefore, as a rule, they do not comprise of the consideration and resolution of specific problems and issues which the company might be interested in. There is, however a possibility for companies themselves to add one or two questions whose answers will be available only to the company that commissioned them, but this is usually insufficient to respond to specific needs of the company.

For this reason, it is not surprising that some banks carry out independently what is known as in-house research. Interviewing is usually carried out in the premises of the bank. For this purpose, the banks use interviews with customers, as well as surveys on tablet computers, which are predominantly aimed at monitoring satisfaction of a specific transaction, even though they may relate to the monitoring of overall satisfaction. „Major“ banks in Montenegro are performing field data collection which (in comparison to the survey carried out in the premises of the bank) allows to include customers of other banks in the samples, thus giving an opportunity to look at the attitudes and models of behavior of the general population, and in this terms allowing comparison with the competitors.

In this case, collection of field data is left to specialized agencies, while the research plan and questionnaire is developed in the bank. Some of the banks, which are part of a larger, international group, rely on the group's help or are guided by the group defined rules in this process. Lately, internet is being used for the collection of information from the customers, in accordance with the growing trend of computer use in everyday life.

We believe that at this point it is important to note that marketing sector of one of the banks created its own index for customer satisfaction, and a research to monitor customer satisfaction at regular time intervals. As it can be expected, it is one of the major banks, which (regardless of the good results that the omnibus research showed, and their own research results) considered that issue of customer satisfaction needs to be given additional attention to the extent of developing its own model for its monitoring. This approach illustrates the bank's commitment to customer satisfaction in the best way. In our banks we can rarely encounter the practice of telephone survey, although this can be very effective and useful when, for example, you try to determine the degree of customer's satisfaction by calling after a recent service or contact that the customer had with the bank. In this case it is monitoring customer's satisfaction with a specific transaction. In addition to the information about customer satisfaction, it is important to recognize the possible dissatisfaction rating. The main source of information about customer dissatisfaction are their complaints. This is why we were interested in this research about how much attention are banks in Montenegro dedicating to the issue of discontent or to situations when consumers are considering, or have already decided to place a complaint due to their dissatisfaction. As mentioned earlier, the complaint should not be seen only as a problem, but also as an opportunity to recognize the problem, solve and avoid it in the future. Customers who complain (and they are just a part of dissatisfied customers) usually do so hoping to get their problem solved. If this does not happen, the position of the company in the eyes of the customers will be shaken, and in certain situations it is possible for customers to turn to competitors. If, however, the company reacts and responds to the problem in time, it is possible that the customer would become even more attached to the company. This way, not only will the dissatisfaction be likely eliminated, but such a client can become a "promoter" of the company by sharing his good experience with others. Thus, by doing this, the company shows how much they really take care of their customers. For this reason it is important to allow customers the possibility to express their dissatisfaction easily and at a time that suits them. Therefore, we did a research whether the banks in Montenegro have simple systems for consumers to express their dissatisfaction and whether there is a clearly defined procedure of reacting to complaints, which is respected in the business. We were particularly interested in the extent to which is the information about dissatisfaction transmitted from those who receives it, to higher (the highest) level of decision-making in the company. In addition, we were interested to find out how do banks use the obtained information about customer dissatisfaction.

When talking about the attitude of banks in Montenegro towards consumer dissatisfaction, we can see the difference in approach between „major” and „minor” banks. Judging by the clearly defined procedures of receiving, reacting and reporting related to consumer complaints, as well as the resources that are dominantly defined for that purpose, it can be concluded that, in comparison to smaller banks (among which we must single out one positive exception), larger banks pay much more attention to this issue. The

„major” banks as a rule, have open and easily accessible channels for consumer complaints: starting from the possibility to express it in person at the bank, then by written communication (including e-mail), social networks and call centers. Given that the significant number of complaints is addressed through call centers, the practice of banks that have call centers open 24 hours every day of the week is especially commendable. Unfortunately, in „larger” banks, this is an exception rather than a rule, while in smaller banks, functional call centers are very rare. The situation with procedures of responding to complaints is pretty much similar. In „larger” banks, these procedures are clearly defined and, as a rule, they include precise deadlines for complaints to be answered. Also, these procedures include reporting of customer complaints to the top management, so that copies of complaints or reports of complaints, as a rule, reach the level of Executive Directors (including the CEO). There is an interesting example of one bank in which those procedures define that internal audit of the company deals with customer complaints.

Due to the importance of social networks nowadays, they also represent a channel that consumers use. Consequently, banks in Montenegro, (particularly larger ones) dedicate special attention to them, which is particularly useful when it comes to customer complaints.

Banks that have enabled an easy way for customers to place complaints have developed procedures for responding to complaints placed in this channel, and thus show that they care about their clients. The continuation of this approach, especially in the era of electronic banking that knows no working hours, in our opinion, should imply the extension of working hours of call centers in banks that now, in most banks that have them, work only on weekdays with limited working hours.

In order to assess the functioning of the system of banking services, banks in Montenegro often use methods of mystery shopping. This method allows you to test how does the system function and whether it, in any way, contributes to planned and desired creation of satisfied customers. The bank uses results of these investigations as a control mechanism focused primarily on improving business practices and the quality of service offered, and therefore customer satisfaction. Mystery shopping methods are put in place in almost all of the „larger” banks in Montenegro. In majority of the banks, these activities are carried out through specialized agencies, while one of the banks carries out these activities on its own.

Banks in Montenegro rarely use customer calls after the service with the aim of obtaining information on customer satisfaction. In addition, we were not presented with cases of application of the critical incident analysis, which does not mean that these problems aren't addressed through complaints procedure, but shows that there isn't a systematic approach to dealing with this issue. In addition, we were not presented with examples of systematized approach to the analysis of lost clients, although we believe that this issue, especially when it comes to important clients, requires special attention.

3. CONCLUSION

Based on the analysis of business practices of banks in Montenegro, in terms of their orientation towards customers and their satisfaction, we can conclude that as the starting point of their strategy there's a special place dedicated to them in vision and mission statements of the banks. The reliability of the bank and the customer needs are highlighted as the main objectives in the missions and visions in almost every bank in Montenegro.

In addition to this, the high average score of importance that bank attaches to customer satisfaction while assessing to which extent are the business strategy and goals achieved (4,5 on the scale of 1- of no importance; to 5- very important) implies that the management is highly aware of the importance of satisfied customers. However, while evaluating such high mark we must keep in mind that the research has shown also that banks in Montenegro rarely named customer satisfaction as a clearly defined business objective which is controlled and monitored in order to determine the success of the banks and individuals from the lowest up to the highest management level.

The research of customer satisfaction in business practices of banks in Montenegro is much more represented in the "major" (almost without exception) in comparison to "minor" banks (only one bank from this category has information about customer satisfaction, and as such is an exception). Banks in Montenegro, when it comes to accessing information on customer satisfaction, rely to a large extent on the results of omnibus survey. Customer satisfaction is monitored through the index which allows the ranking of banks based upon the satisfaction of their clients. Since these surveys are repeated at regular intervals, it is possible to monitor the changes that are occurring in the plan. Besides that, this survey is monitoring the main reasons for satisfaction and dissatisfaction. The fact of important significance is that not all "major" banks in Montenegro use this survey in continuity (at regular time intervals in which it is carried out).

Some "major" banks, aside from using the results of the above mentioned omnibus surveys, are performing in-house research to monitor customer satisfaction. They are usually carried out in the premises of the bank. For this purpose, the banks use interviews with customers, as well as surveys on tablet computers, which are predominantly aimed at monitoring satisfaction of a specific transaction, even though they may relate to the monitoring of overall satisfaction. Some of the "major" banks in Montenegro are performing field data collection which (in comparison to the survey carried out in the premises of the bank) allows to include customers of other banks in the samples, thus giving an opportunity to look at the attitudes and models of behavior of the general population, and in this terms allowing comparison with the competitors. Lately, in accordance with the increase of the degree of growing trend to use computers in everyday life, internet (social networks) is also used in the collection of data and information from costumers.

In our banks we can rarely encounter the practice of telephone surveys, although this can be very effective and useful when, for example, you try to determine a degree of customer's satisfaction by calling after a recent service, or contact that the customer had with the bank. In addition to the information about customer satisfaction, it is important to recognize the possible dissatisfaction rating. As customer complaints represent the main source of information about customer dissatisfaction, we did a research whether the

banks in Montenegro have a simple system for customers to express their dissatisfaction and whether there is a clearly defined procedure of reacting to complaints, which is respected in the business. We were particularly interested in the extent to which information about dissatisfaction is transmitted from those who receive them, to higher (highest) level of decision-making in the company. From this aspect, we can see the difference in approach between „major” and „minor” banks because this issue is given much more attention in „bigger” in comparison to „smaller” banks (among which we should single out one positive exception). The “major” banks have open and easily accessible channels for consumer complaints. Because of the importance that call centers have in this process, we state that they are working in “major” banks (noting that it is an exception rather than a rule that these call centers are working at full capacity 24 hours every working day), while fully functional call centers are almost nonexistent in “minor” banks. The situation is quite similar when it comes to procedures of responding to complaints. In „major” banks the procedures are clearly defined and generally include precise deadlines for complaints to be answered. These procedures also include procedures for reporting customer complaints to the top management, so that copies of complaints or reports of complaints, as a rule, go to the level of executive directors (including the CEO).

In order to assess the functioning of the banking service system, banks in Montenegro often use the method of mystery shopping. The results of these surveys are used as a controlling mechanism focused primarily on improving the business practice and the quality of service offered, and therefore customer satisfaction. Mystery shopping methods are applied in almost every “major” bank in Montenegro.

In the end, we can conclude that even though “major” banks have a practice of research of customer satisfaction, there are plenty of significant areas that have room for improvement. A large contribution to this process would be to set the degree of customer satisfaction as one of the most significant and clearly defined business objectives, so that its achievement is a measure of success of bank’s operations at all levels. In addition, it is important that banks fully accept the logic that customer satisfaction rating is a dynamic category, which indicates the need for its continuous monitoring. It seems that there is a way to improve the practice of creating satisfied customers by encouraging and facilitating consumers to express their dissatisfaction. In this regard, and especially at the time of electronic banking which works 24/7, the introduction of call centers that are constantly available to clients could contribute to customer satisfaction. They, of course, must be accompanied by the appropriate response in terms of solving real problems, meaning to have an adequate response to complaints. In addition, in the process of reducing dissatisfied and increasing satisfied clients, we believe that good results can be obtained by the practice of systematized analysis of critical incidents and analysis of lost customers.

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VEZA IZMEĐU REZULTATA PRIMENE STRATEGIJE DINARIZACIJE I TRANSMISIONOG MEHANIZMA MONETARNE POLITIKE U SRBIJI²

RELATIONSHIP BETWEEN THE RESULTS OF STRATEGY OF DINARISATION AND TRANSMISSION MECHANISM OF MONETARY POLICY IN SERBIA

JEL KLASIFIKACIJA: E42, E44, E58 I G28

APSTRAKT:

Rad se bavi primenom strategije dinarizacije u finansijskom sistemu Srbije. Narodna banka Srbije i Vlada Republike Srbije su u martu 2012. godine potpisale Memorandum o strategiji dinarizacije i time su definisale ciljeve, mere i aktivnosti koje će preduzimati

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- 1 Narodna banka Srbije. Za stavove iznete u ovom radu odgovoran je autor i stavovi ne predstavljaju nužno zvaničan stav Narodne banke Srbije.
 - 2 Ovaj rad predstavlja deo doktorske disertacije „Uticaj monetarne politike na izbor valutnog režima u dvovalutnom sistemu: primer Srbije“ koju autor priprema na Ekonomskom fakultetu, Univerziteta u Beogradu. Autor duguje zahvalnost za korisne komentare i sugestije svojim mentorima prof. dr Nikoli Fabrisu i prof. dr Bošku Živkoviću, kao i članovima komisije prof. dr Miomiru Jakšiću, prof. dr Aleksandru Živkoviću i prof. dr Branku Vasiljeviću.

radi jačanja poverenja u nacionalnu valutu i njenu upotrebu u finansijskom sistemu. Narodna banka Srbije koristi različite mere i aktivnosti kako bi povećala nivo dinarizacije, a koje može da primeni kroz mere monetarne politike, prudencijalne mere i edukativne aktivnosti. Isto tako, i Vlada Republike Srbije primenjuje mere i aktivnosti, u okviru svoje nadležnosti, koje se baziraju na primeni strategije upravljanja javnim dugom čiji je cilj da se poveća dinarsko učešće u ukupnom javnom dugu, potom odobravanje subvencionisanih kredita kroz programe u kojima su krediti pretežno zastupljeni u dinarskom znaku, zatim stimulatívna poreska politika kako bi se podržala dinarska štednja i unapređenje institucionalnog i regulatornog okruženja koje će doprineti daljem razvoju primarnog i sekundarnog tržišta čisto dinarskih hartija od vrednosti.

**KLJUČNE REČI:**

STRATEGIJA DINARIZACIJE, MERE I AKTIVNOSTI NARODNE BANKE SRBIJE,
MERE I AKTIVNOSTI VLADE REPUBLIKE SRBIJE

ABSTRACT:

This paper investigate the application of the strategy of dinarisation in financial system of Serbia. National Bank of Serbia and the Government of the Republic of Serbia signed in March 2012 the Memorandum on the Strategy of Dinarisation of the Serbian Financial System and thus have defined goals, measures and activities to be undertaken in order to strengthen confidence in the national currency and its use in the financial system. National Bank of Serbia uses various measures and activities to increase the level of dinarisation, which can apply as measures of monetary policy, prudential measures and educational activities. Similarly, the Government of the Republic of Serbia implement measures and activities within its jurisdiction, which are based on the use of public debt management strategy which aim is to increase the participation of the Dinar in total public debt, then the approval of subsidized loans through programs in which credits are mainly represented in Dinars, then stimulating tax policies to support the Dinar savings and improving the institutional and regulatory environment that will contribute to further development of the primary and secondary markets of purely Dinar securities.

**KEY WORDS:**

STRATEGY OF DINARISATION, MEASURES AND ACTIVITIES OF THE NATIONAL BANK OF SERBIA,
MEASURES AND ACTIVITIES OF SERBIAN GOVERNMENT

1. UVOD

Narodna banka Srbije implicitno od 2006. godine, a eksplicitno od 2008. godine primenjuje strategiju targetiranja inflacije. Monetarni odbor Narodne banke Srbije usvojio je u decembru 2008. Memorandum o ciljanju (targetiranju) inflacije kao monetarnoj strategiji, kojim se definiše formalna primena režima inflacionog targetiranja od 1. januara 2009. godine³. Ciljana stopa inflacije, kao godišnja procentualna promena indeksa potrošačkih cena, jedina je numerička smernica za monetarnu politiku koju sprovodi Narodna banka Srbije. Primenom monetarne strategije targetiranja inflacije najvažniji kanal transmisionog mehanizma bi trebalo da bude kanal kamatnih stopa. Međutim, u slučaju Srbije, koja je visoko evroizovana zemlja, veći uticaj ima kanal deviznog kursa i time se smanjuje kredibilitet monetarne politike. Samo kroz veću zastupljenost dinarskih izvora i plasmana može se povećati efikasnost monetarne politike, ali i da se većom upotrebom dinara u finansijskom sistemu podigne viši nivo finansijske stabilnosti zemlje, umanjiti rizik od promene deviznog kursa i time pomogne stvaranju preduslova za održivi i snažni privredni razvoj.

2. ZNAČAJ STRATEGIJE DINARIZACIJE

Sama primena strategije dinarizacije je usmerena ka većoj zastupljenosti dinara u celokupnom finansijskom sistemu Srbije, čime se direktno utiče na sniženje valutnog rizika. Posledično veća zastupljenost dinarskih izvora sredstava bi vodila i ka višem nivou dinarskih plasmana, kako u sektoru privrede, tako i u sektoru stanovništva.

Upravo visok nivo evrozacije (nizak nivo dinarizacije) u Srbiji utiče na sprovođenje inflatornog targetiranja i prema Šoškiću (2015)⁴ to se višestruko odražava: *prvo*, svaki put kada se poveća referentna kamatna stopa kanal kamatne stope bi trebalo da poveća trošak zaduženja, stimuliše štednju i smanji tražnju za kreditima⁵. Ali kada Narodna banka Srbije poveća referentnu kamatnu stopu time se pretežno utiče na cenu zaduženja u domaćoj valuti i na čisto dinarske kredite⁶; *drugo*, veliki deo kredita je denominiran u evrima ili je valutno indeksiran i time referentna kamatna stopa Evropske centralne banke⁷ i EURIBOR imaju veći uticaj na trošak zaduživanja u Srbiji nego referentna stopa Narodne

3 Principe ovog režima monetarne politike Narodna banka Srbije je postepeno uvodila u praksu na osnovu Memoranduma o novom okviru monetarne politike, usvojenog u avgustu 2006. godine. Memorandum Narodne banke Srbije o ciljanju (targetiranju) inflacije kao monetarnoj strategiji je moguće pronaći na sledećoj veb adresi: http://www.nbs.rs/internet/latinica/30/memorandum_monetarna_strategija_122008.pdf

4 Šoškić (2015), str. 24-26.

5 Više informacija o uticaju različitih kanala transmisije monetarne politike u Srbiji i njihovim implikacijama na okvir i instrumente monetarne politike dodatne informacije se mogu dobiti u radu Dragutinović D., (2008), „Power and Weakness of Monetary Policy in Striking a Balance Between Balance-of-Payments-and Inflation-Related Objectives“, National Bank of Serbia, Working Paper 12, March 2008. kao i u radu Aleksić M., et al (2008), „Kanal kamatne stope u uslovima dolarizacije: slučaj Srbije“, Narodna banka Srbije, Radni papir serija 15, Septembar 2008.

6 U radu Kujundžić S. and Otašević D., (2012), „The bank lending channel in an euroised economy: the case of Serbia“, National Bank of Serbia, Working Paper 24, July 2012. su pokazali da u slučaju kredita u stranoj valuti, promene referentnih stopa nemaju statistički značajan efekat što se može objasniti visokim učešćem dugoročnih kredita u ukupnim deviznim i devizno indeksiranim kreditima. Ovi autori su analizirali bilansne podatke za 33 banke u periodu od trećeg kvartala 2008. do drugog kvartala 2011. godine.

7 Ovo je tačna tvrdnja do 16. marta 2016. godine kada je Evropska centralna banka snizila referentnu kamatnu stopu sa 0,05% na 0,0%.

banke Srbije; *treće*, visok nivo evroizacije povećava efekat „pass-through“ deviznog kursa na inflaciju; *četvrto*, svako povećanje referentne kamatne stope, bez promene u uslovima kreditiranja evro indeksiranih kredita, utiče na porast zaduživanja u domaćoj valuti; *peto*, porast referentne kamatne stope, bez promene stope na zaduženje u evrima, povećava kamatni diferencijal između domaće valute i evra, što stimuliše priliv kratkoročnog spekulativnog kapitala (eng. *carry trade*) i *šesto*, u slučaju očekivanja depresijacije deviznog kursa visok nivo dolarizacije može da prouzrokuje iznenadnu i značajnu reakciju između transaktora koji će preći iz domaće u stranu valutu, tzv. *flight to safety*.

U svojoj analizi Vilaret i Palić (2006)⁸ su se bavile ocenom „pass-through“ efekta deviznog kursa na inflaciju⁹ u Srbiji za šta su koristile mesečne i kvartalne podatke za period 2001-2006. godina. Na bazi primene ADL modela (eng. *autoregressive distributed lag model*) za mesečne podatke za navedeni period u kratkom roku efekat deviznog kursa na indeks potrošačkih cena je 0,20, a u dugom roku 0,39. Ovo znači da u kratkom roku oko 20% promene deviznog kursa je preneto u nivo potrošačkih cena, dok je u dugom roku taj prenosni efekat iznosio oko 40%. Takođe i druge studije koje su se bavile analizom uticaja prenosnog dejstva deviznog kursa na stopu inflacije su došle do sličnih rezultata. Tako na primer u izveštaju MMF-a za Srbiju od 27. oktobra 2006. godine¹⁰ posmatran je period od marta 2003. godine do juna 2006. godine i rezultati pokazuju da na bazi mesečnih podataka prenosni efekat deviznog kursa na inflaciju za mesec dana iznosi 0,24, za dva meseca 0,36 i za šest, dvanaest i dvadeset četiri meseca iznosi 0,45. U radu Tasić (2008)¹¹ je koristio podatke od januara 2001. godine do decembra 2007. godine. Na bazi primene ADL modela i primene mesečnih (kvartalnih) podataka prenosni efekat deviznog kursa dinara na cene na malo u kratkom roku iznosi 0,18 (0,24), a u dugom roku 0,50 (0,32).

Nizak nivo dinarizacije, o čemu će u nastavku rada biti više reči, utiče na sniženje kredibiliteta monetarne politike jer pri režimu inflatornog targetiranja, koji Srbija trenutno primenjuje, dominantan kanal nije kanal kamatnih stopa već kanal deviznog kursa. Samo kroz veću upotrebu dinara u finansijskom sistemu Srbije i bolju usklađenost valutne strukture prihoda i rashoda bankarskog i nebankarskog sektora poboljšao bi se stepen finansijske stabilnosti zemlje, umanjio bi se rizik od promene deviznog kursa u najranjivijim sektorima privrede i povećala bi se efikasnost monetarne politike.

8 Vilaret i Palić (2006), str. 9

9 „Pass-through“ efekat se može definisati kao procentualna promena cena nastala kao posledica jednogprocentne promene nominalnog deviznog kursa. Procena efekta deviznog kursa na kretanje cena je važno zbog izbora režima deviznog kursa. Ukoliko postoji visok prenosni efekat deviznog kursa na cene, to sugeriše upotrebu targetiranja deviznog kursa, dok niži prenosni efekat deviznog kursa na cene ukazuje na primenu targetiranja inflacije.

10 Republic of Serbia: Selected Issues, IMF Country Report No. 06/382, October 2006, Izveštaj preuzet sa veb adrese: <http://www.imf.org/external/pubs/ft/scr/2006/cr06382.pdf>

11 Tasić (2008), str. 9

3. STRATEGIJA DINARIZACIJE FINANSIJSKOG SISTEMA SRBIJE

Narodna banka Srbije i Vlada Republike Srbije su u martu 2012. godine potpisale Memorandum o strategiji dinarizacije finansijskog sistema Srbije¹². Memorandumom o strategiji dinarizacije finansijskog sistema Srbije definišu se ciljevi, mere i aktivnosti koje će se preduzimati radi jačanja poverenja u nacionalnu valutu i njenu upotrebu u finansijskom sistemu. Cilj strategije i procesa dinarizacije jeste postizanje zadovoljavajućeg stepena upotrebe dinara u okviru finansijskog sistema koji neće ugroziti finansijsku i makroekonomsku stabilnost zemlje.

Narodna banka i Vlada saglasne su da aktivnosti za sprovođenje procesa dinarizacije budu podeljene u tri grupe, u skladu s različitim ciljevima tog procesa. *Prvu grupu* čine mere monetarne i fiskalne politike usmerene na jačanje makroekonomskog okruženja obezbeđivanjem niske i stabilne inflacije uz rukovođeno plivajući devizni kurs i održiv privredni rast. *Drugu grupu* čine aktivnosti usmerene na razvoj tržišta dinarskih hartija od vrednosti i stvaranje uslova za uvođenje novih dinarskih proizvoda. *Treću grupu* čine aktivnosti usmerene na razvoj instrumenata zaštite od deviznog rizika.

4. CILJEVI I MERE PRAĆENJA STRATEGIJE DINARIZACIJE

U skladu sa Memorandumom o strategiji dinarizacije finansijskog sistema Srbije, Narodna banka Srbije i Vlada Republike Srbije obavezale su se da prate i analiziraju kretanje stepena dinarizacije, kao i da redovno izveštavaju javnost o upotrebi dinara u domaćem finansijskom sistemu. S tim ciljem, Narodna banka Srbije tromesečno priprema i objavljuje Izveštaj o dinarizaciji finansijskog sistema Srbije kao jedno od pomoćnih sredstava komunikacije s javnošću¹³.

U pogledu mera praćenja stepena dinarizacije moguće je izdvojiti sledeće mere¹⁴:

1) učešće dinarskih plasmana u ukupnim plasmanima banaka privredi i stanovništvu (Tabela 1);

U okviru celokupnog posmatranog perioda, što obuhvata period od prvog kvartala 2011. godine do trećeg kvartala 2016. godine, veće je procentualno učešće dinarskih plasmana sektoru stanovništva u odnosu na sektor privrede, osim prva dva kvartala 2011. godine kada je bila veća zastupljenost dinarskih plasmana privredi, što je posledica pokretanja programa subvencionisanih krediti.

2) učešće dinarskih kredita u novoodobrenim kreditima privredi i stanovništvu (Tabela 1)

12 Memorandum o strategiji dinarizacije finansijskog sistema Srbije, Preuzeto sa veb adrese: http://www.nbs.rs/internet/latinica/30/MemorandumVladaDinarizacija_20120406.pdf

13 Izveštaj o dinarizaciji se objavljuje se kvartalno i to u martu, junu, septembru i decembru. Prvi izveštaj Narodna banka Srbije je objavila u martu 2011. godine. Izveštaji se mogu pronaći na sledećoj veb adresi: <http://www.nbs.rs/internet/cirilica/90/dinarizacija/index.html>

14 Rezultati praćenja stepena dinarizacije su najvećim delom dobijeni iz kvartalnih izveštaja o dinarizaciji.

Tokom 2011. godine dolazi do pretežnog učešća dinarskih kredita u ukupnim novoodobrenim kreditima privredi i stanovništvu, osim drugog i četvrtog kvartala. U drugom kvartalu smanjenje dinarskih kredita u ukupnim novoodobrenim je najvećim delom posledica sniženja novoodobrenih dinarskih kredita kod sektora privrede, i to uglavnom zbog stagnacije u odobravanju subvencionisanih dinarskih kredita u junu¹⁵. Na kraju decembra učešće tih kredita iznosilo je 31,1%, što predstavlja smanjenje za 9,5 p.p. u odnosu na kraj septembra, što je rezultat, u najvećoj meri, povećanja novih deviznih i devizno indeksiranih kredita¹⁶.

3) učešće dinarskih depozita u ukupnim depozitima privrede i stanovništva

Ukoliko se analizira period od 2011. godine do trećeg kvartala 2016. godine i sagledaju se podaci na kraju kvartala može se uvideti da učešće dinarskih depozita u ukupnim depozitima privrede i stanovništva je vrlo nisko i kreće se od 17,8% (drugi kvartal 2012. godine) do 27,3% (treći kvartal 2016. godine). Takođe, moguće je uočiti neujednačenu sektorsku strukturu gde više dinarskih depozita ima sektor privrede, dok sektor stanovništva u proseku, u okviru posmatranog perioda, drži oko 11% dinarskih depozita. Krajem septembra 2016. godine depoziti privrede i stanovništva su iznosili 1.852,5 milijardi dinara.

► TABELA 1 UČEŠĆE DINARSKIH PLASMANA U UKUPNIM PLASMANIMA PRIVREDI I STANOVNIŠTVU I SEKTORSKA STRUKTURA PLASMANA I UČEŠĆE DINARSKIH KREDITA U NOVOODOBRENIM KREDITIMA PRIVREDI I STANOVNIŠTVU

GODINA	KVARTAL	UČEŠĆE DINARSKIH PLASMANA U UKUPNIM PLASMANIMA PRIVREDI I STANOVNIŠTVU (U %)	SEKTORSKA STRUKTURA PLASMANA		UČEŠĆE DINARSKIH KREDITA U UKUPNIM NOVOODOBRENIM KREDITIMA PRIVREDI I STANOVNIŠTVU (U %)
			PRIVREDA	STANOVNIŠTVO	
2011.	T1	31,80%	33,10%	29,40%	46,3%
	T2	31,40%	31,90%	30,50%	31,3%
	T3	30,20%	29,10%	32,20%	40,6%
	T4	29,30%	27,50%	32,60%	31,1%
2012.	T1	27,90%	25,70%	32,20%	37,9%
	T2	27,80%	24,80%	33,50%	46,2%
	T3	28,20%	24,70%	34,80%	30,6%
	T4	28,00%	24,20%	35,10%	37,3%
2013.	T1	28,20%	24,00%	36,00%	37,6%
	T2	27,40%	22,30%	36,40%	38,2%
	T3	27,30%	21,30%	37,40%	32,3%
	T4	26,80%	20,00%	37,90%	31,4%

15 Padu učešća dinarskih kredita delimično je doprinela Odluka o merama za očuvanje i jačanje stabilnosti finansijskog sistema („Službeni glasnik RS“, br. 34/2011), koja je doneta sredinom 2011. godine radi smanjenja deviznog rizika u finansijskom sistemu.

16 Rast tih kredita kod stanovništva pretežno je posledica zaključivanja aneksa ugovora o stambenim kreditima, u skladu s početkom primene Zakona o zaštiti korisnika finansijskih usluga („Službeni glasnik RS“, br. 36/2011 i njegove izmene i dopune objavljene u „Službenom glasniku RS“, br. 139/2014.).

GODINA	KVARTAL	UČEŠĆE DINARSKIH PLASMANA U UKUPNIM PLASMANIMA PRIVREDI I STANOVNIŠTVU (U %)	SEKTORSKA STRUKTURA PLASMANA		UČEŠĆE DINARSKIH KREDITA U UKUPNIM NOVOODOBRENIM KREDITIMA PRIVREDI I STANOVNIŠTVU (U %)
			PRIVREDA	STANOVNIŠTVO	
2014.	T1	26,60%	19,10%	38,30%	31,3%
	T2	28,30%	21,20%	39,50%	42,6%
	T3	30,40%	23,70%	40,60%	57,0%
	T4	31,20%	25,00%	41,00%	45,9%
2015.	T1	30,30%	23,40%	40,80%	30,0%
	T2	29,60%	21,70%	41,50%	26,3%
	T3	28,80%	19,60%	42,60%	28,4%
	T4	28,60%	19,30%	42,80%	35,9%
2016.	T1	29,20%	19,30%	43,50%	37,4%
	T2	29,80%	19,10%	45,00%	37,2%
	T3	31,40%	20,70%	43,30%	39,8%
	T4				

Izvor: Narodna banka Srbije, Izveštaj o dinarizaciji – više izdanja

4) odnos dinarske i devizne štednje i njihova ročna struktura;

Ukoliko se sagleda ročna struktura dinarske, devizne i ukupne štednje sektora stanovništva kod banaka, na bazi podataka iz zvanične statistike Narodna banke Srbije, može se uvideti da tokom celog analiziranog perioda, koji obuhvata period od prvog kvartala 2011. godine do trećeg kvartala 2016. godine, značajno veće učešće ima kratkoročna dinarska (u analiziranom periodu učešće se kretalo u rasponu 72,6-93,8%) i devizna štednja (69,1-84%) u poređenju sa dugoročnom dinarskom i deviznom štednjom (6,2-27,4% i 16-30,9%, respektivno). Isto tako, ukoliko analiziramo struktura ukupne štednje stanovništva, dominantno učešće ima devizna (učešće u rasponu 95,6-98,2%) u odnosu na dinarsku štednju (učešće u rasponu 1,8-4,4%). Ako se detaljnije sagleda ročna struktura dinarske štednje, može se uvideti da kod kratkoročne dinarske štednje najveće učešće imaju štednja po viđenju i dinarska štednja do godinu dana, a u okviru dugoročne dinarske štednje do dve godine (izuzetak su samo prva tri kvartala 2013. godine i prva dva kvartala 2015. godine kada je bila veća zastupljenost štednje do pet godina).

5) učešće dinarskog duga u ukupnom javnom dugu i valutna struktura javnog duga Republike Srbije

Na promenu dinarskog dela duga u ukupnoj javnog dugu utiče emitovanje i dospeće dinarskih državnih obveznica, koje se emituju prema kalendaru koji objavljuje Uprava za javni dug u okviru Ministarstva finansija Republike Srbije. Najduža ročnost dinarskih državnih hartija je deset godina¹⁷. Pored emitovanja dinarskih hartija Uprava je zadužena i za kalendar emitovanja hartija koje su denominirane u evrima, čime se direktno utiče na učešće javnog duga u evrima. Na nivo javnog duga u dolarima najvećim delom su uticale

17 U oktobru 2014. godine emitovana je prva desetogodišnja državna obveznica. Rezultati aukcije prve državne desetogodišnje obveznice su sledeći: od ponuđenih 10 milijardi dinara prodato je 9,3 milijardi dinara nominalne vrednosti, pri čemu je ukupan obim tražnje na aukciji iznosio 12,7 milijardi dinara. Obveznice su prodane po stopi prinosa od 12,99% na godišnjem nivou, a na naplatu dospevaju 23. 11. 2024. godine.

emisije dolarskih evroobveznica koje je Republika Srbija emitovala na međunarodnom tržištu¹⁸. Dinarski deo javnog duga krajem septembra 2016. godine ima učešće od 21,3%.

5. MERE I AKTIVNOSTI NARODNE BANKE SRBIJE

Izbor i primena instrumenata i mera monetarne politike kojima se daje podrška procesu dinarizacije vrši se na osnovu analize aktuelnih finansijskih i ukupnih makroekonomskih kretanja. Podršku procesu dinarizacije Narodna banka Srbije pruža kroz instrumente monetarne politike (obavezna rezerva, krediti za likvidnost), prudencijalne mere (likvidna potraživanja banke) i edukativne aktivnosti (konferencije na temu zaštite od deviznog rizika).

Narodna banka je koristila i koristi različite **instrumente monetarne politike** u pružanju podrške procesu dinarizacije, pre svega instrument obavezne rezerve. Naime, ukoliko se sagledaju aktuelne stope obavezne rezerve koja se izdvaja u dinarima može se uvideti da na ročnost dinarske obavezne rezerve do dve godine se primenjuje stopa obavezne rezerve od 5%, a na ročnost preko dve godine stopa od 0%. Time Narodna banka Srbije poslovnim bankama daje podsticaj da veći deo plasmana bude ročnosti preko dve godine, čime banke smanjuju obračunati dinarski deo obavezne rezerve.

Sledeća mera koju Narodna banka Srbije može da primeni je da obezbedi dinare u slučaju pojave strukturnog manjka dinarske likvidnosti. Kod primene ove mere narodnoj banci na raspolaganju stoje sledeći instrumenti monetarne politike:

- operacije na otvorenom tržištu i to primena repo transakcija kupovine hartija od vrednosti, tj. obezbeđivanje dinarske likvidnosti bankarskom sistemu.
- stalne olakšice i to svega kreditne olakšice. Kreditne olakšice obuhvataju korišćenje kredita za održavanje dnevne likvidnosti banaka na osnovu zaloge kvalifikovanih hartija od vrednosti¹⁹.
- devizne svop aukcije EURRSD.

U okviru **prudencijalnih mera** u prvom kvartalu 2011. godine Odlukom o upravljanju rizicima banke²⁰, u okviru rizika likvidnosti, Narodna banka Srbije je u likvidna potraživanja banke prvog reda uključila i 90% fer vrednosti dinarskih hartija od vrednosti čiji je izdavalac Republika Srbija. Ova promena je bitna jer se time proširila lista stavki koja

18 Republika Srbija je emitovala sledeće emisije dolarskih evroobveznica: 1) Prva dolarska evroobveznica je prodana 21.9.2011. godine u iznosu od 1 milijarde dolara, uz kuponsku stopu od 7,25% i ročnost od deset godina; 2) Reotvaranje ove emisije evroobveznica se realizovalo 28.9.2012. godine u iznosu od 1 milijarde dolara; 3) Sledeća emisija evroobveznica, u vrednosti od 750 miliona dolara, je bila 14.11.2012. godine, dospeće ove emisije je 21.11.2017. godine, kuponska stopa 5,25%; 4) Potom je emitovana sedmogodišnja dolarska evroobveznica u vrednosti od 1,5 milijardi dolara (emisija evroobveznica je realizovana 14.2.2013. godine, dospeće emisije je 25.2.2020. godine i emisija ima kuponsku stopu od 4,875%) i 5) Petogodišnja dolarska evroobveznica u vrednosti od 1 milijarde dolara je realizovana 21.11.2013. godine, uz kuponsku stopu od 5,875% i dospeće emisije ove emisije je 3.12.2018. godine.

19 Odluka o uslovima i načinu odobravanja kredita za održavanje dnevne likvidnosti banaka na osnovu zaloge hartija od vrednosti ("Službeni glasnik RS", br. 52/2008, 40/2010, 3/2011, 18/2011 i 34/2013)

20 Odluka o upravljanju rizicima banke („Službeni glasnik RS“, br. 45/2011, 94/2011, 119/2012, 123/2012, 23/2013 – dr. odluka, 43/2013, 92/2013, 33/2015 i 61/2015)

čine likvidna potraživanja prvog reda, a time postoji mogućnost poboljšanja pokazatelja likvidnosti. U maju 2011. godine Narodna banka Srbije je usvojila Odluku o merama za očuvanje i jačanje stabilnosti finansijskog sistema²¹, radi smanjenja rizika u finansijskom sistemu koji proizlazi iz visokog učešća kredita odobrenih u stranoj valuti ili u dinarima s deviznom klauzulom, i daljeg usmeravanja građana ka zaduživanju u dinarima.

I Zakonom o zaštiti korisnika finansijskih usluga²², koji je stupio na snagu početkom juna, a s početkom primene od decembra 2011. godine, propisana je obaveza banke da kredit klijentu ponudi prvenstveno u dinarima, a tek na njegov zahtev je dužna da mu omogući da uslugu ugovori u dinarskoj protivvrednosti strane valute. Izvršni odbor Narodne banke Srbije je na novembarskoj sednici 2013. godine usvojio Odluku o uslovima i načinu obavljanja kreditnih poslova sa inostranstvom u dinarima²³, kojom se stvaraju podsticaj-niji uslovi pod kojima međunarodna finansijska institucija i razvojna banka ili finansijska institucija čiji je osnivač strana država mogu odobravati dinarske kredite domaćim bankama, pravnim licima i preduzetnicima, kao i uslovi pod kojima i načini na koji domaća banka može odobriti dinarski kredit nerezidentu.

Edukativne aktivnosti obuhvataju održavanje konferencija na temu zaštite od rizika promene deviznog kursa s predstavnicima preduzeća i banaka iz Srbije, distribuciju odgovarajućih publikacija i brošura i kontinuiranu medijsku kampanju radi većeg korišćenja instrumenata zaštite od deviznog rizika.

6. MERE I AKTIVNOSTI VLADE REPUBLIKE SRBIJE

Vlada Republike Srbije može doprineti povećanju stepena dinarizacije kroz povećanje učešća čisto dinarskog dela duga u ukupnom javnom dugu. U pogledu budućih aktivnosti vezanih za upravljanje javnim dugom, uprava za javni dug u okviru ministarstva finansija je objavila dve strategije upravljanja javnim dugom i to prvu za period 2015-2017. godina i drugu za period 2016-2018. godina²⁴. U tim strategijama prikazan je dugoročni strateški okvir upravljanja javnim dugom, u kojima se navodi da učešće duga denominovanog u dinarima iznosi oko 20 – 25% ukupnog javnog duga na srednji rok, a da učešće duga denominovanog u evrima u javnom dugu iznosi najmanje 60% duga u ino-valuti, uključujući buduća zaduživanja i transakcije.

Sledeće aktivnost Vlade jeste odobravanje subvencionisanih kredita i to kroz programe u kojima su kredite zakupljeni u dinarskom znaku. Ukoliko se analizira period od 2011.

21 Odluka o merama za očuvanje i jačanje stabilnosti finansijskog sistema („Službeni glasnik RS“, br. 34/2011)

22 Zakon o zaštiti korisnika finansijskih usluga („Službeni glasnik RS“, br. 36/2011) i njegove izmene i dopune objavljene u „Službenom glasniku RS“, br. 139/2014.

23 Odluka o uslovima i načinu obavljanja kreditnih poslova sa inostranstvom u dinarima („Službeni glasnik RS“, br. 98/2013)

24 Strategija upravljanja javnim dugom 2015-2017, Preuzeta sa veb adrese: <http://www.javnidug.gov.rs/upload/Strategija/Strategija%20cir/2015-2017/Strategija%20upravljanja%20javnim%20dugom%202015%20-2017.pdf> i Strategija upravljanja javnim dugom 2016-2018, Preuzeta sa veb adrese: <http://www.javnidug.gov.rs/upload/Strategija/Strategija%20cir/2016-2018/Strategija%20upravljanja%20javnim%20dugom%202016-2018.pdf>

godine, od kada se objavljuje Izveštaj o dinarizaciji, Vlada je imala sledeće programe subvencionisanih kredita i to u 2011., 2012., 2013. i 2014. godini²⁵.

Takođe, stimulativnom poreskom politikom Vlada će nastaviti da podržava dinarsku štednju. Naime, u Zakonu o porezu na dohodak građana²⁶ u članu 65 stoji da se ne plaća porez na prihode od kapitala na kamatu i to na: 1) na dinarska sredstva po osnovu štednih i drugih depozita (oročenih ili po viđenju) i 2) po osnovu dužničkih hartija od vrednosti čiji je izdavalac Republika, autonomna pokrajina, jedinica lokalne samouprave ili Narodna banka Srbije. Stopa poreza na prihode od kamate po osnovu devizne štednje trenutno iznosi 15%.

Pored prethodno nabrojanih aktivnosti, Vlada je intenzivno radila i radi na stvaranju institucionalnog i regulatornog okruženja koje će doprineti unapređenju primarnog i sekundarnog tržišta čisto dinarskih hartija od vrednosti, pojednostavljenju procedura i smanjenju troškova sekundarnog trgovanja državnim hartijama od vrednosti, a sve u cilju povećanog zaduženja u domaćoj valuti u odnosu na stranu.

7. REZULTATI PRIMENE STRATEGIJE DINARIZACIJE

Ukoliko se sagledaju rezultati primene strategije dinarizacije može se izvući zaključak da su ti rezultati, posmatrani po prethodno analiziranim pokazateljima dinarizacije, vrlo skromni. Ako sagledamo učešće dinarskih plasmana u ukupnim plasmanima banaka privredi i stanovništvu možemo zaključiti da je tek jedna trećina od ukupnih plasmana privredi i stanovništvu u dinarskom znaku. Pri tome, sa aspekta sektorske strukture, nešto je veća zastupljenost dinarskih plasmana kod sektora stanovništva nego u sektoru privrede. Sličan zaključak može se doneti ukoliko se posmatra učešće dinarskih kredita u novoodobrenim kreditima privredi i stanovništvu. Periodi porasta učešća dinarskih kredita u novoodobrenim kreditima privredi i stanovništvu se mogu objasniti programima subvencionisanih kredita koje je Vlada Republike Srbije odobravalala. To ukazuje da postoji tražnja za dinarskim kreditima, ali uz subvenciju države čime deo kreditne aktivnosti sa poslovnih banaka prelazi na programe Vlade.

Isto tako postoji niska zastupljenost dinarskih depozita u ukupnim depozitima privrede i stanovništva čije učešće je oko jedne petine. Ukoliko sagledamo sektorsku strukturu veća zastupljenost dinarskih depozita je prisutna u sektoru privrede (oko 50%) nego u sektoru stanovništva (oko 10%). Razloge za nisku zastupljenost dinarskih u ukupnim depozitima privredi i stanovništvu se mogu pronaći u hiperinflaciji koja je bila zastupljena devedesetih godina dvadeset veka, prisustvu piramidalnih banaka, kao i usled nekoliko perioda značajne depresijacije domaće valute. Međutim, čak u periodima niske i stabilne inflacije i relativne stabilnosti dinara nije došlo do porasta učešća dinarskih depozita.

25 Uredba o uslovima za subvencionisanje kamate za kredite za održavanje likvidnosti i finansiranje trajnih obrtnih sredstava u 2014. godini. Uredba je preuzeta sa veb adrese: <http://www.kombeg.org.rs/Komora/udruzenja/UdruzenjeFinansijskihOrganizacija.aspx?veza=3540>.

26 Zakon o porezu na dohodak građana ("Službeni glasnik RS", br. 24/01 , 80/02 - dr. zakon, 80/02, 135/04, 62/06, 65/06 - ispravka, 31/09, 44/09, 18/10, 50/11, 91/11 - US, 93/12, 114/12 - US, 47/13, 48/13 - ispravka, 108/13, 57/14, 68/14 - dr. zakon, 112/15)

Takođe, nisku zastupljenost ima i dinarska u ukupnoj štednji sektora stanovništva. Iako postoji povoljniji poreski tretman dinarske u odnosu na deviznu štednju i analize Narodne banke Srbije su pokazale veću isplativost dinarske štednje, sektor stanovništva više štedi u stranoj valuti. Isto tako, nepovoljno je što kod dinarske štednje veću zastupljenost ima kratkoročna štednja i to pretežno štednja po viđenju. Većina građana se, zbog dugog perioda makroekonomske nestabilnosti i hiperinflacije, koja je obezbedila dinarsku štednju u prošlosti, i dalje opredeljuje za štednju u devizama. Preferencije građana i isplativost dinarske štednje u narednom periodu zavisice pre svega od ukupne makroekonomske stabilnosti, visine inflacije, odnosa između kamatnih stopa na dinarsku i deviznu štednju, poreskog tretmana štednje i stepena aprecijacije, odnosno deprecijacije dinara.

Isto tako u Srbiji postoji nizak stepen učešća dinarskog u ukupnom javnom dugu koji iznosi oko 19%. Da bi se povećao stepen učešća dinarskog dela duga treba postići institucionalni okvir za emitovanje dinarskih hartija na međunarodnom finansijskom tržištu, dok na domaćem tržištu treba raditi na povećanju ročnosti emitovanih dinarskih hartija.

8. DALJI KORACI U POBOLJŠANJU REZULTATA PRIMENE STRATEGIJE DINARIZACIJE

U pogledu daljih koraka za poboljšanje strategije dinarizacije predloge možemo podeliti na one koje može da implementira Vlada Republike Srbije i Narodna banka Srbije.

Sa aspekta države Uprava za javni dug može da radi na strategiji produženja ročnosti emitovanja dinarskih hartija. Time bi se produžila ročnost krive prinosa, ali bi se stvorila stabilna baza investitora koji dugoročno plasiraju sredstva u hartije denominirane u nacionalnoj valuti. Istovremeno, veći plasman dinarskih hartija povećao bi dinarski deo duga u ukupnoj javnom dugu. Sledeće što država može da uradi jeste da, zajedno sa narodnom bankom, stvori dovoljno podsticajni investicioni ambijent da međunarodne finansijske organizacije mogu da emituju dinarske obveznice. Tako je početkom decembra 2016. godine Evropska banka za obnovu i razvoj emitovala trogodišnje dinarske obveznice u vrednosti od 2,5 milijardi dinara i ovim obveznicama će se trgovati na Beogradskoj berzi po inicijalnoj stopu koja je jednaka 3M BELIBOR + 0,4 p.p., uz obračun i isplatu kamate na kvartalnom nivou²⁷.

Sa aspekta Narodne banke Srbije pojedine kategorije mogu da se izuzmu iz obračuna obavezna rezerve²⁸. Predlog da je da se obračuna dinarske obavezne rezerve izuzmu novoodobreni dinarski stambeni krediti koje su poslovne banke tek nedavno počele da odobravaju. Upravo dinarski stambeni krediti, kao dugoročna obaveza, stvaraju mogućnost da sektor stanovništva ima usklađenu valutnu strukturu između obaveza i prihoda. Isto

27 Više informacija o ovoj emisiji obveznica može se pronaći na sajtu Evropske banke za obnovu i razvoj na web adresi: <http://www.ebrd.com/cs/Satellite?c=Content&cid=1395253989240&d=Mobile&pagename=EBRD%2FContent%2FContentLayout>

28 Tako je 2011. godine Narodna banka Srbije dala podršku i Programu mera za ublažavanje negativnih efekata svetske ekonomske krize u Republici Srbiji tako što je bankama omogućila umanjeње obračunate obavezne rezerve za 25% prirasta subvencionisanih kredita odobrenih za održavanje likvidnosti i finansiranje trajnih obrtnih sredstava, izvozne poslove i investicije.

tako, povoljno je, zarad razvoja domaćeg tržišta kapitala, da i poslovne banke emituju dugoročne dinarske obveznice²⁹.

ZAKLJUČAK

Potpisivanjem Memoranduma o strategiji dinarizacije finansijskog sistema u Srbiji u martu 2012. godine Narodna banka Srbije i Vlada Republike Srbije su definisale ciljeve, mere i aktivnosti koje će preduzeti u cilju jačanja poverenja u nacionalnu valutu i povećanja njene upotrebe u finansijskom sistemu. Pri tome, sama primena strategije dinarizacije jeste da se postigne zadovoljavajući stepen upotrebe dinara u okviru finansijskog sistema koji neće ugroziti finansijsku i makroekonomsku stabilnost u zemlji. Različite mere su i Narodna banka Srbije i Vlada Republike Srbije preduzeli kako bi se stepen dinarizacije povećao. Sa aspekta Narodne banke Srbije korišćeni su pre svega instrumenti monetarne politike. Primena diferenciranih stopa obavezne rezerve, kako sa gledišta ročnosti sredstava, tako i sa gledišta valutne strukture, je trebalo da doprinese većoj zastupljenosti dinarskih sredstava, po mogućnosti da ta sredstva budu dugoročna. Zatim u pogledu obezbeđivanja dinarske likvidnosti narodna banka može da primeni kredite za likvidnosti, kreditne olakšice, repo operacije i svop aukcije deviza. Pored toga, prisutna je primena različitih prudencijalnih mera kao i edukativnih aktivnosti. Takođe i Vlada Republike Srbije je nastojala da merama iz svoje nadležnosti poveća stepen dinarizacije. Pre svega putem strategije upravljanja javnim dugom Vlada nastoji da poveća dinarsko učešće u javnom dugu. Takođe, Vlada je primenjivala programe subvencionisanih kredita, koji su pretežno bili zastupljeni u dinarskom znaku, ali i stimulativnom poreskom politikom nastoji da podržava dinarsku štednju. Pored prethodno pobrojanih aktivnosti, Vlada je intenzivno radila i radi na stvaranju institucionalnog i regulatornog okruženja koje će doprineti unapređenju primarnog i sekundarnog tržišta čisto dinarskih hartija od vrednosti, pojednostavljenju procedura i smanjenju troškova sekundarnog trgovanja državnim hartijama od vrednosti, a sve kako bi se povećalo zaduženje u domaćoj u odnosu na stranu valutu. Takođe, pored porasta zaduženja u domaćoj valuti radi se i na plasiranju dugoročnih emisija dinarskih hartija od vrednosti, kako bi se stvorila dugoročna kriva prinosa koja će biti osnov uspostavljanja cene dugoročnih dinarskih kredita.

Međutim, rezultati strategije dinarizacije nakon pet godina primene su skromni imajući u vidu da je učešće dinarskih plasmana u ukupnim plasmani sektora privrede i stanovništva ispod 30%, dok je učešće dinarskih depozita u ukupnim depozitima sektora privrede i stanovništva oko 20%. To ukazuje da bankarski sektor ima vrlo ograničen potencijal dinarskih izvora sredstava, a time i plasmana, čime se generiše potencijalni valutni rizik između valute generisanja prihoda i rashoda pri otplati kreditnih obaveza, kako za sektor privrede, tako i za sektor stanovništva.

29 Početkom maja 2012. godine uspešno je emitovana prva trogodišnja dinarska bankarska obveznica u Srbiji od strane Societe Generale banke, u iznosu od 1,7 milijardi dinara, uz fiksnu premiju od 5,25% iznad referentne kamatne stope Narodne banke Srbije. Uspešna realizacija prve emisije dinarske bankarske obveznice svakako predstavlja pozitivan signal i drugim bankama, preduzećima, ali i međunarodnim finansijskim institucijama, za korišćenje ovog načina dugoročnog dinarskog finansiranja.

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EVALUACIJA SKALA ZA MERENJE RELACIONIH NORMI U KANALIMA MARKETINGA U REPUBLICI SRBIJI

EVALUATION OF SCALES TO MEASURE RELATIONAL NORMS IN MARKETING CHANNELS IN THE REPUBLIC OF SERBIA

JEL KLASIFIKACIJA: L14, M21, M31

APSTRAKT:

Osnovni cilj ovog istraživanja je provera pouzdanosti i validnosti srpskog prevoda već postojećih skala za merenje relacionih normi, a koje se ekstenzivno koriste u marketinškim istraživanjima objavljivanim u inostranoj literaturi. Takođe, testira se i teorijska pretpostavka o relacionizmu kao faktoru drugog reda. Istraživanje se vrši postupkom konfirmatorne faktorske analize, modeliranjem strukturnih jednačina, uz upotrebu kako metoda maksimalne verodostojnosti, tako i Bajesove ocene. Rezultati, na osnovu uzorka od 30 maloprodavaca, pokazali su da predložene skale za solidarnost, fleksibilnost i uzdržavanje od upotrebe moći imaju zadovoljavajuće karakteristike u procesu merenja relacionizma kao latentne varijable višeg reda, dok korišćeni indikatori za reciprocitet i integritet uloga ne predstavljaju pouzdana i validna merila u istraživanju kanala marketinga u Republici Srbiji.

**KLJUČNE REČI:****RELACIONE NORME, SKALE, POUZDANOST, VALIDNOST**

ABSTRACT:

The main goal of this research is to evaluate reliability and validity of the Serbian translation of the existing scales of measurement of the relational norms, which have been extensively used in marketing research papers published abroad. Also, theoretical assumption of relationalism as second-order factor is tested. The research is conducted through application of Confirmatory Factor Analysis and Structural Equation Modeling, using both methods of maximum likelihood and Bayesian estimation. The results, based on the sample of 30 retailers, show that suggested scales for solidarity, flexibility and restraint in the use of power have satisfactory characteristics in the process of measuring relationalism as higher-order latent variable, while indicators for reciprocity and role integrity are not reliable and valid in the context of marketing channels research in the Republic of Serbia.

**KEY WORDS:****RELACIONAL NORMS, SCALES, RELIABILITY, VALIDITY**

1. UVOD

Pristupi analizi odnosa u kanalima marketinga su evoluirali od neoklasičnog, zasnovanog na racionalnom izboru i savršenoj konkurenciji, ka onima koji više uvažavaju svu složenost realnosti obavljanja razmena. Oliver Williamson, na bazi premisa o postojanju troškova vršenja tržišnih transakcija², ograničenoj racionalnosti i oportunističkom, detaljno razvija ekonomiju transakcionih troškova. Imperativ predstavlja kreiranje organizacije i upravljačkih mehanizama, u rasponu od tržišta do hijerarhije, koji obezbeđuju zaštitu od eksploatacije, odnosno minimiziranje transakcionih troškova. Optimalna organizacija je determinisana nivoom neizvesnosti, frekvencijom ponavljanja transakcija i obimom idiosinkratičkih investicija³. Iako danas predstavlja dominantnu perspektivu, analiza transakcionih troškova se smatra suviše statičnom i troškovno orijentisanom, a kritikuju se i pretpostavka o neizbežnom oportunističkom, neuvažavanju značaja poverenja i zanemari-vanje hibridnih upravljačkih modela.

Teorija relacionih ugovora predstavlja alternativni i komplementarni odgovor na pitanja analize odnosa, dalje promišćući sociološku perspektivu i uvažavajući prigovore upućene ekonomiji transakcionih troškova. Ian Roderick Macneil sugerise da se svaka razmena nalazi na određenoj tački kontinuumu diskretno-relaciono. Dok čisto diskretne transakcije predstavljaju jednokratnu i brzu razmenu između potpunih stranaca spojenih slučajnošću, odnosno razmenu bez prošlosti, budućnosti i elemenata društvene strukture, što u praksi gotovo nikada nije slučaj, razmena na relacionom kraju spektra pripisuje pojedinačnim epizodama drugorazredni značaj i fokusirana je na održavanje odnosa.⁴

Relaciona teorija navodi da su ponašanje i percepcije učesnika u transakcijama oblikovani pod uticajem deset opštih normi koje su prisutne u svakoj razmeni: 1) integritet uloga, 2) reciprocitet, 3) implementacija planiranja, 4) sprovođenje sporazuma, 5) fleksibilnost, 6) ugovorna solidarnost, 7) norme povezivanja, 8) kreiranje i ograničavanje moći, 9) norma doličnog ponašanja i 10) harmonizacija sa društvenom matricom.⁵ Intenzitet i sama priroda normi se menjaju tokom procesa razvoja odnosa na liniji diskretno-relaciono.

Relacionizam odbacuje inherentnost oportunističkog i tretira ga kao posledicu određenih faktora⁶. Posmatranje savremene prakse u organizaciji razmena ukazuje na jačanje trendova bliskih, dugoročnih i partnerskih odnosa između nezavisnih učesnika, koji antagonizam zamenjuju win-win aranžmanima, netržišnim i bilateralnim upravljanjem, uzajamnim prilagođavanjem i komuniciranjem poverljivih informacija, čak i u uslovima koji, prema analizi transakcionih troškova, zahtevaju integraciju.

Autori iz oblasti marketinga su prepoznali značaj pristupa koji ne tretira svaku transakciju kao nezavisnu pojavu, već uvažava vremensku dinamiku i socijalne faktore, odnosno iskustvo i poverenja stečeno u prethodnim epizodama razmene, a što je uslovalo i uspon marketinga odnosa⁷. Izazov u istraživanjima je bio pretočiti Macneil-ova deskriptivna za-

2 Coase (1937), str. 386–405.

3 Williamson (1979), str. 233–261.

4 Macneil (1978), str. 854–905.

5 Macneil (1983), str. 340–418.

6 John (1984), str. 278–289.

7 Dwyer et al. (1987), str. 11–27.

pažanja u jasne koncepte koji tretiraju savremene odnose između učesnika u kanalima. Norme su operacionalizovane na različite načine, a nijedno od relevantnih istraživanja nije merilo svih deset (prosečno 2,72⁸), pa je prirodno što su i rezultati bili ponekad kontradiktorni. Najveći broj naučnih radova se oslanja na uticajan članak Kaufmann-a i Stern-a⁹, koji su prvi istraživali efekte integriteta uloga, solidarnosti i reciprociteta na odnose u kanalima marketinga. Neki autori nalaze za shodno da i samostalno definišu nove norme koje, po njihovom mišljenju, odražavaju duh teorije, poput normi pomoći, razmene informacija, nadgledanja, očekivanja kontinuiteta¹⁰, zajedničkog rešavanja problema¹¹ i participacije¹². Pojedine, poput norme povezivanja, uopšte nisu operacionalizovane na zadovoljavajući način, a neke su obuhvaćene surogatima, pa Heide i John¹³ koriste normu zajedničke akcije umesto implementacije planiranja i integriteta uloga.

2. CILJEVI ISTRAŽIVANJA

Kako relacionizam predstavlja socio-ekonomski fenomen, jasno je da je oblikovan i kulturnim i institucionalnim ambijentom. Manifestacije relacionizma su svakako različite u Kini (guanxi), kao primeru kolektivističkog kulturnog obrasca, u odnosu na zapadne ekonomije, posebno SAD, kao izrazito individualističkog društva¹⁴. U tom smislu se mogu očekivati i razlike u primenljivosti određenih skala u kontekstima konkretnih privreda.

Istraživanja relacionizma u kanalima marketinga u Republici Srbiji, prema dostupnim informacijama, do sada nisu vršena, skale nisu prevođenje na srpski jezik, niti su podvrgnute rigoroznoj evaluaciji pouzdanosti i validnosti. Na osnovu toga se javlja i potreba za proverom primenljivosti skala u uslovima privrede Republike Srbije, što predstavlja i osnovni cilj ovog rada.

Fokus je na normama prema kategorizaciji Macneil-a, a čija operacionalizacija u inostranoj literaturi nije sporna. Na uzorku od 30 maloprodavaca sa teritorije Republike Srbije je testirana pouzdanost i konvergentna validnost skala za merenje relacionih normi, odnosno pretpostavka o relacionizmu kao nadređenom faktoru.

8 Perrien et al. (2008), str. 95-101.

9 Kaufmann and Stern (1988), str. 534-552.

10 Noordewier et al. (1990), str. 80-93.

11 Heide and Miner (1992), str. 265-291.

12 Jap and Ganesan (2000), str. 227-245.

13 Heide and John (1990), str. 24-36.

14 Gu et al. (2008), str. 12-28.

3. ISTRAŽIVANJE

3.1. Uzorak

Istraživanje je vršeno u kanalu marketinga mleka i mlečnih proizvoda u Republici Srbiji, u periodu septembar-decembar 2015. godine. Populaciju su činila 723 maloprodajna privredna društva (šifra delatnosti - 4711), a prema bazi podataka Ministarstva trgovine, turizma i telekomunikacija Republike Srbije. Izabran je prost slučajni uzorak od 300 preduzeća, koja su telefonski kontaktirana u svrhu dobijanja saglasnosti i identifikovanja odgovarajuće osobe za slanje upitnika. Inicijalni pristanak za učešće je dalo 74 preduzeća, od čega je 30 poštom poslalo upotrebjive upitnike (stopa odgovora od 40,54%).

3.2. Skale

Upitnik se sastoji od 17 stavki (Prilog), koje mere pet relacionih normi: solidarnost (SOL), reciprocitet (REC), fleksibilnost (FLEX), uzdržavanje od upotrebe moći (UUM) i integritet uloga (IU). Skale su Likertovog tipa, sa sedam podeoka, koji navode stepen slaganja ili neslaganja sa određenim tvrdnjama o odnosima sa glavnim dobavljačem. Jačanje intenziteta normi signalizira da se odnos pomera od diskretnog ka relacionom kraju spektra.

Solidarnost je u diskretnim razmenama fokusirana na završetak individualne transakcije i podržana je ugovornim zakonodavstvom, dok je u više relacionim odnosima usredsređena na održavanje jedinstvenog i važnog dugoročnog odnosa¹⁵. Skala za merenje solidarnosti je preuzeta od Heide-a i John-a¹⁶, a sastoji se od tri indikatora koji izražavaju očekivane napore učesnika u cilju očuvanja odnosa.

Reciprocitet je, u uslovima višeg nivoa relacionizma, fokusiran na maksimiziranje koristi i pravednu raspodelu u dužem roku, dok se u diskretnim razmenama to očekuje od svake pojedinačne transakcije. Norma se meri na osnovu skala pozajmljenih od Kaufmann-a i Stern-a¹⁷, sa tri pitanja koja tretiraju nivo prethodne određenosti i praćenja pojedinačnih transakcija.

Fleksibilnost u relacionim razmenama podrazumeva kontinuirano zajedničko planiranje i adaptaciju¹⁸. Četiri pitanja, usmerena na ocenu ispitanika o nivou do koga se partneri prilagođavaju uslovima okruženja i potrebama druge strane, prethodno su koristili Heide-a i Miner¹⁹.

Norma uzdržavanja od upotrebe moći je važna u uslovima neravnoteže zavisnosti, sa obzirom da štiti normu reciprociteta, a time i odnos u celini. Skale potiču od Heide-a i

15 Kaufmann and Stern (1988), str. 534-552.

16 Heide and John (1992), str. 32-44.

17 Kaufmann and Stern (1988), str. 534-552.

18 Macneil (1983), str. 340-418.

19 Heide and Miner (1992), str. 265-291.

Miner²⁰, sa tri indikatora koji mere nivo do koga se partneri obično uzdržavaju od eksploatacije slabijeg.

Norma integriteta uloga reflektuje nivo do koga su uloge jednodimenzionalne, sa jasno određenim pravima i obavezama, a što je karakteristika diskretnosti, odnosno složene, kada uključuju i različite aspekte koji nisu unapred predviđeni i direktno povezani sa transakcijama²¹. Skala sa četiri pitanja je preuzeta od Hatten i ostali²².

Relacionizam (REL), kao sindrom fokusa na održavanje bliskih odnosa saradnje, prema teoriji²³ predstavlja latentnu varijablu drugog reda, koja se u ovom istraživanju sastoji od dimenzija solidarnosti, reciprociteta, fleksibilnosti, uzdržavanja od upotrebe moći i integriteta uloga. U literaturi se nivo relacionizma najčešće dobija kombinacijom rezultata merenja relacionih normi.

3.3. Statistički metodi primenjeni u istraživanju

Karakteristike skala, odnosno njihova pouzdanost i validnost, evaluiraju se Kronbahovim koeficijentom alfa (Cronbach's alpha), kao merilom interne konzistentnosti, odnosno postupkom konfirmatorne faktorske analize (Confirmatory Factor Analysis - CFA) u oceni konvergentne validnosti.

Primena postupka CFA je povezana sa pitanjima minimalnog uzorka, tretmana ordinalnih podataka dobijenih na osnovu Likert skala i podataka koji odstupaju od normalnog rasporeda. Istraživanja²⁴ su pokazala da i veoma mali uzorci mogu obezbediti nepristrasne, konzistentne i efikasne ocene na osnovu metoda maksimalne verodostojnosti (u daljem tekstu MMV), pa se MacCallum i ostali²⁵ protive opštim pravilima o veličini uzorka. Sa druge strane, u marketinškim istraživanjima se podaci dobijeni na osnovu upitnika Likert-tipa uobičajeno tretiraju kao i intervalni, iako statističari to ne preporučuju²⁶. Kada govorimo o problemu distribucije, Hu i ostali²⁷ navode da je MMV robustan na manje izraženu nenormalnost, a Curran i West²⁸ navode maksimalno dozvoljene apsolutne vrednosti od 2,00 za asimetriju, odnosno 7,00 za spljoštenost.

Imajući u vidu odsustvo konsenzusa u odgovoru na pomenuta pitanja, u postupku CFA su u ovom istraživanju paralelno u upotrebi MMV, koji se i najčešće koristi, odnosno Bajesova ocena. Bajesova analiza ne zavisi od asimptotskih pretpostavki²⁹ i sve je prisutnija u istraživanjima jer je pogodna u slučajevima malog uzorka, ordinalnih i podataka koji

20 Ibid.

21 Kaufmann and Stern (1988), str. 534-552.

22 Hatten et al. (2012), str. 1-16.

23 Noordewier et al. (1990), str. 80-93.

24 De Winter et al. (2009), str. 147-181.

25 MacCallum et al. (1999), str. 84-89.

26 Jakobsson (2004), str. 437-440.

27 Hu et al. (1992), str. 351-362.

28 Curran et al. (1996), str. 16-29.

29 Evermann and Tate (2014), str. 1481-1514.

ne prate normalnu distribuciju, a nije osetljiva ni na ekstremne vrednosti³⁰. Pristup dva metoda omogućava i poređenje sa rezultatima prethodnih istraživanja, koja uglavnom koriste tradicionalne frekvencionističke metode.

4. DISKUSIJA REZULTATA ISTRAŽIVANJA

4.1. Pokazatelji jednodimenzionalne normalnosti

Analiza statističkih svojstava je vršena pomoću programa SPSS 23.0. Sve vrednosti Kolmogorov-Smirnov i Shapiro-Wilk testova normalnosti su statistički značajne na nivou $p < 0,05$, što sugerise da podaci odstupaju od normalne distribucije. Vizuelna provera pokazatelja asimetrije pokazuje da su podaci u većini slučajeva negativno zakrivljeni, odnosno da odgovori većine ispitanika postižu visoke vrednosti. Sa druge strane, imajući u vidu da se asimetrija kreće u rasponu od $-1,503$ ($0,427$) do $1,030$ ($0,427$), a spljoštenost od $-1,219$ ($0,833$) do $1,631$ ($0,833$), pretpostavka normalnosti nije ozbiljno narušena, pa se može očekivati da ocene dobijene na osnovu MMV budu nepristrasne, čak i u uslovima malog uzorka³¹.

4.2. Pouzdanost i validnost skala

U marketinškim istraživanjima se za testiranje interne konzistentnosti redovno koristi Kronbahov koeficijent alfa, sa pragom od $0,7$ ³². Skala za solidarnost postiže zadovoljavajući rezultat od $\alpha = 0,781$, što je blisko vrednosti u istraživanju koje su izvršili Ayers, Dahlstrom i Skinner³³ ($\alpha = 0,76$). Takođe, u celosti pouzdanom se pokazala i baterija pitanja za merenje norme uzdržavanja od upotrebe moći, sa vrednošću $\alpha = 0,782$, što je viši rezultat od onoga koji navode Heide i Miner³⁴ ($\alpha = 0,68$). Kod skale za fleksibilnost je bilo neophodno izbaciti indikator F4, kako bi se postigao rezultat od $\alpha = 0,742$, što je niže od vrednosti $0,88$ koju izveštavaju Heide i Miner³⁵. Skala za merenje norme integriteta uloga, nakon uklanjanja dva pitanja, I1 i I3, postiže koeficijent od $\alpha = 0,705$, dok Hatten i ostali³⁶ navode rezultat od $0,62$. Sa druge strane, skala za reciprocitet se u celosti pokazala kao nepouzdana, sa rezultatom $\alpha = -0,201$ (nakon uklanjanja stavke R3, $\alpha = 0,282$), pa je izbačena iz dalje analize. Za istu skalu, Kaufmann i Stern³⁷ navode rezultat od $0,53$, dok Dant i Schull³⁸ izveštavaju vrednost od $0,54$.

30 Hoy et al. (2012), str. 87-93; Arbuckle (2013); Evermann and Tate (2014), str. 1481-1514.

31 Weston and Gore (2006), str. 719-751; Curran et al. (1996), str. 16-29.

32 Hulin et al. (2001), str. 55-69.

33 Ayers et al. (1997), str. 107-116.

34 Heide and Miner (1992), str. 265-291.

35 Ibid.

36 Hatten et al. (2012), str. 1-16.

37 Kaufmann and Stern (1988), str. 534-552.

38 Dant and Schul (1992), str. 38-54.

U narednoj fazi se testira konvergentna validnost, kako bi se utvrdilo da li mere istog konstrukta međusobno koreliraju na odgovarajući način. Testiranje je vršeno postupkom CFA, modeliranjem strukturnih jednačina (SEM) uz pomoć programa AMOS 22.0. CFA istražuje odnose između direktno merenih indikatora i latentnih varijabli. Polazi se od pretpostavljene faktorske strukture, kako bi se, na osnovu različitih pokazatelja kvaliteta (GOF – goodness of fit), zaključilo da li model adekvatno predstavlja podatke dobijene merenjem.

Faza je započeta evaluacijom jednofaktorskog modela, gde je testirano da li skale predstavljaju jednodimenzionalnu meru relacionizma, a zatim je testirana pretpostavka o relacionizmu kao nadređenom faktoru, postupkom CFA drugog reda. U ovom modelu indikatori potiču iz relacionih normi kao faktora prvog reda, dok faktori prvog reda potiču iz nadređenog faktora relacionizma. Utvrđuje se da li svi GOF indikatori dostižu zahtevani nivo, a zatim i da li su faktorska opterećenja dovoljno velika i statistički značajna, kako bi se utvrdilo da li je neophodna modifikacija modela, odnosno brisanje pojedinih indikatora.

Za ocenu kvaliteta modela u postupku na osnovu MMV su korišćeni sledeći indikatori³⁹ i preporučene granične vrednosti: χ^2 ($p > 0,05$)⁴⁰, $\chi^2/\text{broj stepeni slobode}$ ($< 2,00$), RMSEA ($< 0,06$), CFI ($> 0,95$), TLI ($> 0,95$).⁴¹

Kada je u pitanju Bajesova analiza, korišćena je neinformativna apriorna raspodela sa graničnom vrednošću statistike konvergencije C.S.⁴² od 1,02. Merilo GOF predstavlja indikator posterior predictive p-value, čija vrednost bliska 0,5 sugeriše dobar kvalitet modela⁴³, dok je u funkciji poređenja modela korišćen pokazatelj DIC⁴⁴ (Deviance Information Criterion), koji se zasniva na Bajesovoj devijansi. Model sa manjom vrednošću DIC je adekvatniji.

Prvi model, u kome svi indikatori zasićuju jedan faktor, ne postiže zadovoljavajuće indekse kvaliteta modela, kako u slučaju MMV, tako i Bajesove analize, dok model drugog reda postiže bolje vrednosti. Međutim, u jednofaktorskom modelu stavke I2 i I4 imaju niska standardizovana faktorska opterećenja od 0,22 i 0,22 za MMV odnosno 0,205 i 0,241 za Bajesovu ocenu, dok u složenijem modelu faktor integriteta uloga pokazuje opterećenje od samo 0,32 (MMV), odnosno 0,237 (Bajesova ocena). U prvom modelu ovi indikatori nisu statistički značajni, dok u drugom nije statistički značajan faktor integriteta uloga, sve na nivou $p < 0,05$, što zahteva njihovo uklanjanje iz dalje analize.

Konačna dva modela za poređenje se sastoje od jednog faktora i devet indikatora, odnosno tri faktora prvog reda (SOL, FLEX i UUM), sa po tri indikatora, i jednog nadređenog faktora (REL). Pokazatelji GOF potvrđuju da je model sa nadređenim faktorom superioran u odnosu na jednofaktorski model, kako u slučaju primene MMV u oceni parametara, tako i u slučaju Bajesove analize, s što se može videti u tabeli br. 1. Jednofaktorski model ne zadovoljava kriterijume na osnovu pokazatelja TLI ($< 0,95$), odnosno RMSEA

39 Jackson et al. (2009), str. 6-23.

40 Barrett (2007), str. 815-824.

41 Hooper et al. (2008), str. 53-60.

42 Arbuckle (2013).

43 Gelman et al. (1996), str. 733-807; Gelman (2013), str. 1-8.

44 Spiegelhalter et al. (2002), str. 583-639.

(>0,06), dok model drugog reda ispunjava zahteve po svim indikatorima. Kod Bajesove ocene je rezultat za posterior predictive $p = 0,21$ kod jednofaktorskog modela, dok je kod modela koji opisuje složeniju faktorsku strukturu taj rezultat $p = 0,54$.

► TABELA 1. POKAZATELJI KVALITETA MODELA

MODEL	χ^2	DF	χ^2/DF	P-VALUE	RMSEA	CFI	TLI	POSTERIOR PREDICTIVE P	DIC
1	32,030	27	1,186	0,231	0,080	0,950	0,934	0,21	89,08
2	18,423	25	0,737	0,824	0,000	1,000	1,000	0,54	81,10

Prednost složenijeg modela je potvrđena i na osnovu χ^2 razlike ($\Delta\chi^2$), koja je značajna na nivou od $p < 0,05$ kod MMV, odnosno nižom vrednošću DIC, kada je u pitanju Bajesova statistika, pa možemo zaključiti da je potvrđena teorijska pretpostavka o relacionizmu kao nadređenom faktoru drugog reda.

Kao pokazatelj validnosti konvergencije se koristi indikator AVE (Average Variance Extracted), koji sugerišu Fornell i Larcker, a meri odnos vrednosti varijanse indikatora koju objašnjava faktor i vrednosti ukupne varijanse, sa preporučenim pragom od 0,5⁴⁵. Dakle, validnost konvergencije postoji ukoliko je najmanje 50% varijanse objašnjeno od strane konstrukta, a sva faktorska opterećenja su statistički značajna. Takođe, u kontekstu CFA, Fornell i Larcker⁴⁶ predlažu i koeficijent CR (Composite reliability) kao pokazatelj pouzdanosti superioran u odnosu na Cronbach's alpha, sa pragom od 0,7⁴⁷.

Mardia koeficijent iznosi 9,183, sa kritičnom vrednošću od 1,787 < 1,96, pa ne možemo odbaciti pretpostavku o višedimenzionalnoj normalnosti. Rezultati pokazuju da svi faktori dostižu preporučeni minimum od 0,5 za AVE, odnosno 0,7 za CR. Svi indikatori dobro zasićuju faktore prvog reda, sa statistički značajnim standardizovanim faktorskim opterećenjima koji se kreću od 0,54 do 0,90 kod ocena na osnovu MMV, odnosno od 0,565 do 0,847 za Bajesovu ocenu. Takođe, svi faktori prvog reda statistički značajno zasićuju faktor drugog reda, sa standardizovanim faktorskim opterećenjima od 0,65 do 0,99 za MMV, odnosno od 0,571 do 0,858 za Bajesovu ocenu. Na osnovu navedenog, možemo zaključiti da je ispunjen uslov konvergentne validnosti.

Korelacija između faktora solidarnosti i nadređenog faktora relacionizma je najveća, od 0,858 za Bajesovu ocenu, do 0,99 za MMV, pa možemo reći da norma solidarnosti najbolje indicira nivo relacionizma, a što je u skladu i sa nekim prethodnim istraživanjima. Heide i John⁴⁸ tako izveštavaju faktorsko opterećenje od 0,939. Tabela 2 sumira rezultate CFA.

45 Fornell and Larcker (1981), str. 39-50.

46 Ibid.

47 Hair et al. (2011), str. 139-151.

48 Heide and John (1992), str. 32-44.

TABELA 2. REZULTATI KONFIRMATORNE FAKTORSKE ANALIZE ZA MODEL SA NADREDENIM FAKTOROM

KONSTR.	INDIKATOR/ PODKONSTR.	MMV	BAJESOVA OCENA				
		CFA faktorsko opterećenje	CR	AVE	CFA faktorsko opterećenje	CR	AVE
REL	SOL FLEX UUM	0,99** 0,65** 0,94*	0,903	0,762	0,858 0,571 0,814*	0,798	0,575
SOL	S1 S2 S3	0,83** 0,85** 0,54*	0,792	0,568	0,821 0,776 0,565*	0,769	0,532
FLEX	F1 F2 F3	0,60** 0,69** 0,90*	0,780	0,549	0,620 0,695 0,836*	0,763	0,522
UUM	U1 U2 U3	0,87** 0,78** 0,60*	0,799	0,575	0,847 0,778 0,603*	0,791	0,562

Napomena: * fiksirani parametar; ** značajno na nivou $p < 0,05$

Krajnji zaključci evaluacije skala su identični u slučaju oba metoda, sa tim da su vrednosti ocena uglavnom nešto niže u slučaju Bajesove analize.

5. ZAKLJUČAK

Ovaj rad predstavlja prvo rigorozno testiranje karakteristika skala za merenje relacionih normi u kanalima marketinga u Republici Srbiji. Podaci dobijeni na osnovu pitanja Likert tipa, na uzorku od 30 maloprodajnih preduzeća, prošli su testiranje pouzdanosti i CFA u cilju provere konvergentne validnosti. Zahtevi statistički ispravnog tretmana podataka i mogućnosti poređenja sa rezultatima prethodnih istraživanja su usloveli paralelnu upotrebu MMV i Bajesove analize, sa istovetnim krajnjim zaključcima.

Pokazatelji GOF sugerišu superiornost modela sa relacionim normama kao faktorima prvog i relacionizmom kao latentnom varijablom drugog reda u odnosu na jednofaktorski model, čime je potvrđena pretpostavka o složenosti strukture relacionizma. Mere normi solidarnosti, uzdržavanja od upotrebe moći i fleksibilnosti su pokazale dobre karakteristike. Sa druge strane, skala za merenje reciprociteta se pokazala nepouzdanom, a indikatori integriteta uloga nisu prošli test validnosti. Možemo zaključiti da su tri od deset Macneil-ovih opštih normi zadovoljavajuće operacionalizovane, odnosno da je opravdano skorove za te norme kombinovati u kompozitni rezultat u analizi relacionizma.

Najveće ograničenje ovog istraživanja predstavlja veličina uzorka, što nije neočekivano, imajući u vidu raspoloživu populaciju i sklonost ka učešću u istraživanjima u Republici Srbiji. Sa druge strane, sa sličnim ograničenjima se susreću i strani autori, pa su Kauf-

mann i Stern svoj klasični rad⁴⁹ zasnovali na istraživanju sa 32 učesnika. Ostaje otvoreno i pitanje generalizovanja rezultata, sa obzirom da je istraživanje vršeno u kanalima koji su strukturirani na više konvencionalnim osnovama, pa bi se nalazi mogli razlikovati u drugačijim organizacionim kontekstima. U literaturi se češće istražuju kanali sa višim nivoom povezanosti između aktera, poput franšiznih.

Dalje napore je potrebno uložiti u operacionalizaciju ostalih relacionih normi. Kada su u pitanju norme reciprociteta i integriteta uloga, neophodno je oceniti karakteristike drugih skala koje se javljaju u literaturi, poput onih koje koriste Palmatier i ostali⁵⁰, odnosno Ivens⁵¹. Merenje relacionizma je važan korak u kreiranju strategija razvoja odnosa u kanalima marketinga. Nužno je da menadžeri uspostave nivo relacionog upravljanja koji odgovara njihovim potrebama i karakteristikama okruženja, sa obzirom na potencijalnu povezanost stepena relacionizma, ukupnog kvaliteta odnosa i performansi u kanalu.

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PRILOG: STAVKE UPITNIKA

Solidarnost (SOL):

S1 - Rešavanje problema koji iskrсну tokom odnosa između nas i našeg glavnog dobavljača mleka se smatra zajedničkom, a ne individualnom obavezom.

S2 - Obe kompanije se trude da uvedu poboljšanja koja će doneti korist našem odnosu kao celini, a ne samo jednoj od strana.

S3 - Kako našoj kompaniji, tako i našim glavnim dobavljačima mleka ne smeta da u nekom momentu dugujemo uslugu jedni drugima.

Integritet uloga (IU):

I1 - Sa svojim glavnim dobavljačem mleka redovno diskutujemo o pitanjima koja prevazilaze čistu kupoprodaju.

I2 - U našem međusobnom odnosu nas jedino interesuje da glavni dobavljač mleka odgovori našim potrebama kada su u pitanju količine, rokovi isporuke i cene.*

I3 - Ono što mi i naši glavni dobavljači mleka očekujemo jedni od drugih je veoma složeno, jer se očekuje saradnja kako u vezi sa poslovnim tako i neposlovnim pitanjima.

I4 - Naše uloge u odnosu su jednostavne: mi smo kupci, a oni su dobavljači.*

Reciprocitet (REC):

R1 - Mi pažljivo pratimo kako naš glavni dobavljač mleka obavlja svoju funkciju (zadatke) u svakoj pojedinačnoj transakciji između nas, kako bismo bili sigurni da se oni ponašaju u skladu sa našim očekivanjima.*

R2 - Naša kompanija vrši ocenu odnosa sa najvećim dobavljačem mleka nakon svake pojedinačne transakcije, kako bismo obezbedili ostvarivanje očekivanog.*

R3 - Uslovi u ugovorima sa najvećim dobavljačem mleka su precizno definisani (cene i količine su jasno određene, bez upotrebe termina "u skladu sa potrebama" ili "u skladu sa tržišnim cenama u datom trenutku", na primer).*

Fleksibilnost (FLEX):

F1 - Odnose sa našim glavnim dobavljačem mleka karakteriše fleksibilnost u situacijama kada neka od strana zahteva promene.

F2 - Promene u ugovorenim cenama su moguće, ukoliko se to smatra neophodnim.

F3 - Obe strane očekuju da mogu vršiti prilagođavanja u međusobnim odnosima kada nastanu nove okolnosti.

F4 - Kada se desi nešto nepredviđeno, obe strane će radije sklopiti novi sporazum, nego insistirati na poštovanju originalnih uslova sporazuma.

Uzdržavanje od upotrebe moći (UUM):

U1 - Obe kompanije smatraju da se poverljive informacije ne smeju koristiti na štetu druge strane.

U2 - Naši odnosi sa glavnim dobavljačem mleka su takvi da se ne očekuje da bilo koja od strana ispostavlja neke zahteve koji mogu štetiti drugoj strani.

U3 - Obe strane očekuju da se moćnija od naše dve kompanije uzdrži od upotrebe svoje pregovaračke snage u nametanju sopstvene volje.

Napomene: sva merenja su vršena upotrebom Likert skala od sedam stepeni, u rasponu od "uopšte se ne slažem" do "slažem se u potpunosti". Simbol * označava obrnuto kodiranje.

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AN INVESTIGATIVE ANALYSIS INTO CAPITAL MARKET AND ECONOMIC GROWTH IN NIGERIA

JEL: G19

ABSTRACT:

The study aims at investigating the impact of capital market on economic growth in Nigeria. The research adopts a time-series research design depending comprehensively on secondary data with coverage from 1983 to 2013. The study employs regression analysis as data analysis method including unit root test using Augmented Dicker Fuller (ADF). The findings from this study suggest that three exhibit positive while one exhibit inverse relationship with economic growth. Also, two variables were statistically significant while the other two were statistically insignificant. We recommend that there should be an improvement in the negativity of All Share Index by encouraging extension of long term funds to investors in the capital market rather than short term funds as it will help to boost the economic growth as more funds would be invested in the economy. Also, there

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should be an increase in the availability and sufficiency of investment instruments such as options, derivatives, future and convertibles for investors as this will boost the value of transactions in the market.

**KEY WORDS:****CAPITAL MARKET, ECONOMIC GROWTH, MARKET CAPITALIZATION, LISTED SECURITIES**

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1. INTRODUCTION

Years ago, various researches on the capital market acknowledged great attention from modern finance and economics literature bringing about its responsibilities in the establishment of long-term, non-debt financial capital which supports establishments to elude overdependence on debt financing, hence refining company debt-to-equity ratio and equally in the deployment of wealth for national growth. According to Ndako (2010), the capital market is regarded as a multifaceted institution through whereby the long term funds of the key areas of the economy which consist of the households, firms, and government are organized, connected and completely accessible to different segments of the economy. Funds must be resourcefully utilized to maintain businesses and the economies to award their human, material, and controlling resources for ideal productivity in other to conserve economic growth.

The capital market has been known to be an institution that enhances the socio-economic growth and development of both the evolving and well-known economies. This is achieved by means of some of the critical functions which includes; controlling resources, encouraging transformations to advance the financial sectors, financial intermediation services to combine shortage to the surplus sector of the economy, and a genuine device that mobilizes and distributes savings among economical purposes which are needed for the growth and development of the economy (Alile, 1984). This market also aid to transfer investments or long-term funds to companies with increasing output thereby causing economic growth and development (Alile, 1997). Ekundayo (2002) contends that in other for a nation to accomplish viable growth and development, there has should be several local and foreign investments made in the country.

This growth is made possible via the channels suggested by the capital market which could be provided directly or indirectly. Still, long term capital deficiency has caused most African nations, including Nigeria to struggle for economic development. Despite this deficiency, some of the vital roles performed by the capital market include; liquidity formation, savings deployment, risk modification, better reassurance for corporate control, and improved delivery and information system. An increase in the efficiency and usefulness of these functions via quick service distribution can expand the growth rate of the economy (Okereke-Onyiuke, 2000; Levine and Servos, 1996; Obadan, 1998; McKinnon, 1973).

The theoretical framework on the significances of capital market on economic growth dates back to the period of Schumpeter, (1911) which justified that a deep-rooted financial system can assist technical revolution and economic growth by way of providing financial services and resources to investors. The above contention f Schumpeter, (1911) was later improved as the McKinnon-Shaw, (1973) hypothesis, which is a strategy analysis device for evolving economies with concrete approval and extreme importance on the usefulness of financial systems in assisting capital accretion and financial intermediation.

In mid-1961, Nigerian capital market began operations with few securities specifically eight equities and stocks; with seven British corporations listed on the Nigerian Stock Exchange (NSE). These corporations at the same time had double quotations on the London stock Exchange. The market progressed with 0.3 million shares valued at N1.5m in 334 deals at the commencement of its operations. This value continued to rise progressively

in 2009 to N685,717.3m in 1,739,365 deals and dropped to 1,211,269 deals worth N1,334,783.1 million in 2014 (CBN, 2014). According to the NSE report (NSE, 2009), in 1995 the Federal Government initiated some laws that avoided investors from foreign countries from partaking in the domestic capital market. These laws include; The Foreign Exchange; Nigerian Investment Promotion Commission Degree No 16, 1995; Monitoring and Miscellaneous Provision Decree No 17, 1995; Companies and Allied Matters Decree of 1990 and Investment and Security Act (ISA) 45 of 1999. These laws gave both the Nigerian local investors and foreign investors the equal rights, freedoms and chances to invest in Nigerian capital market securities. An additional crucial procedure included is the Central Security Clearing System (CSCS) which commenced operations in April 1997. It is an essential depository system for all the share certificates of quoted securities new issues.

With a market size of over 233 listed equities and regular strength of the market causing the outcome of the instability induced by global economic crisis, there is a need to study theoretical outlooks regarding the effects of Nigerian capital market on economic growth. From evidence in existing literature across different countries, the arguments are fairly questionable and with mixed results regarding the effects of capital market on economic growth. For example Ben and Ghazouani (2007), and Irving (2005) discovered that capital market does not affect growth. While others maintained that there exists a positive effect between the capital market and economic growth (Mishra et al, 2010; Vazakidis and Adamopoulos, 2009; Brasoveanu et al, 2008), yet others noted that it is negative (Eichengreen and Leblang, 2003). Certain studies viewed the effects to be diverse across countries at various phases of institutional and economic growth (Bekaert et al., 2003; Edwards, 2001) and countries with diverse macroeconomic structures (Arteta et al, 2001). Rancièrè et al. (2008) found that we could assume the growth effect of capital markets to be lesser in countries with high-income than in countries with middle-income. This study aims at exploring the influence of capital market on Nigerian economic growth. Above is the introduction in Section one. Section two reviews some related literature, Section three deals with the methodology, section four analyzes the data and interprets the results, and lastly, section five summarizes, concludes and recommend based on the findings of the study.

2. LITERATURE REVIEW/THEORETICAL AND EMPIRICAL FRAMEWORK

Capital market is the market for raising both medium and long term funds. This market is an institution that provides the services of both lending and borrowing of long term funds. The capital market comprises of two types of market which includes the primary and the secondary market. The primary market is the market where new securities are transacted for cash via investment agents. The resources are then used for capital investment in form of reserved outstanding securities of the company, funding of new plant or equipment, protection of additional working capital, fixing of modern IT infrastructure, enlargement of branches etc. Cash created in the primary market goes to the issuing

company. While, in the secondary market, present securities are transacted and the cash generated goes to the selling investors.

The securities transacted in the capital market can be grouped into fixed income securities and variable income securities. Fixed income securities are instruments that offers fixed income to their investors and these securities include; bonds, debenture, mortgage-backed securities and asset-backed securities. Variable income securities include equities, preference shares and derivative securities. Mbat (2001) defined it as an aid out of which long term funds can be accessible by the via the process of financial intermediation. Nevertheless, not all deficit economic divisions have an easy contact with the capital market even though all surplus economic divisions have contact the capital market. The security of the investors' funds is imposed by limiting the number of debtors in the market. The debtors of the market need to fulfill some specific conditions so as to guarantee that investors are not exposed to excessive risks. This has an intense consequence for the economic growth of any country. Nigerian capital market helps in the revolution of the economy. Savings mobilization, liquidity, corporate control, risk diversion, and procurement of information is modified through capital market operation (Anyanwu, 1998). Thus the operation of the stock market can adjust the speed of economic growth by means of modification of the value of these services (Equakan, 2005). Okereke-Onyuike (2000) speculates that the little financial resources from the capital market is a risky element for the viable growth of the economy.

The researchers listed some of the benefits of capital markets funding, some of which are; no short term repayment period, funds are held for medium and long term period, funds are giving to state and local government with no tensions and these governments are given sufficient time to repay the loan. Nigeria supported the Structural Adjustment Programme (SAP), originated by World Bank in 1986 which motivated economic rules and has led to several transformations in the capital market.

Performance of the Nigerian Capital Market

Since 1986, studies about the capital market indicators exhibited that the market has faced an outstanding improvement. Originally, dealings in equities in the market were weak due to the level of information distribution and dispensation which has impacted poorly on market behaviours. Nevertheless, via the computerization of transaction and improved transparency in the provision of corporate information, there has been a change in terms of competency in the market. For instance, the market transactions especially the number of listed companies, market capitalization and all share index. The formation of the Second-tier Securities Market (SSM) in 1985 and the deregulation of interest rates in 1989, combined with the sale of some government owned companies in 1991 led to the better performance of all four key indicators such as the number of listed companies, number of listed securities, all share index, and market capitalization. Additionally, the deregulation of interest rate made many private investors to source funds in the equity market as bank lending came to be costly. At the beginning of 2000, the number of registered companies grew by 22.0 percent from 195 to 217 at the end of December. Also in 1987, the number of total securities registered and transacted grew from 244 to an ultimate of 276 in 1996 before falling to 264 in 2010. The major securities transacted in the market during this period were government development stocks, corporate bonds,

debentures, and equities. As at December 2010, securities registered and transacted in the market were 47 government bonds, 7 industry loan and preference shares, and 217 equities (SEC, 2010). A lot was done in the year 2013 that brought the investors' confidence back into the market. Part of the features that drove the market during the year 2013 was the institution of a new electronic trading platform by the Nigerian Stock Exchange (NSE) known as the X-Gen, which will pave way for investors, stockbrokers and other stakeholders to access the market from everywhere at all times.

The NSE took innovative step in its objective of becoming an enormous and planned market by launching a catalyst for enhancing transaction on the exchange, the X-Gen. In addition, the platform should facilitate NSE's 2016 \$1.0tn market capitalization target. This should equally drive the Nigerian capital market's aspirations to move from a frontier market to an emerging market, acquiring participation at the World Federation Exchanges (WFE) and confirm its inclusion on the Morgan Stanley Capital International (MSCI) Emerging Market Index.

The X-Gen will serve as a feasible networking platform for stakeholders and players to gain additional understanding into the fastest developing instrument. The expansion is related to accepting the movement of the global exchanges which emphasizes on scale, scope and efficacy in servicing its markets. Another issue that brought about market growth was the full compliance on the post listing requirement for the companies listed on the exchange. This effort makes the companies to sit tight and comply with the information disclosure and adhere to full corporate governance. Experience has revealed that in various progressive nations, new technology initiation has made it likely to combine stocks without essentially developing it through the addition of more markets and stock exchanges. The Security and Exchange Commission (SEC) registered two Over-the-Counter (OTC) markets in other to maintain the OTC market and tackle the issue of trading platform restrictions. These markets which are; National Association of Securities Dealers (NASD) and Financial Market Dealers Quotation (FMDQ) were created to give unlisted companies an opportunity to transact in the market. The NASD OTC platforms offers financial performance of non-listed companies and corporate governance of companies that till now might not be in the public province. Most essentially, this platform provides a prospect for non-listed securities to be traded in a structured and transparent market and there are chances of making shares not registered on the NSE. The need for an OTC market is well understood and more convincing than ever because Nigeria had a portfolio of new public issue of securities for many companies like what occurred in the course of the bank consolidation and stock market boom of 2008, and like what happened during the post Nigerian Enterprise Promotion Acts period of the late 1970s.

The market also received a boost during the year 2013 with the launch of the FMDQ OTC market platform. This was another bold step to deepen and give depth and quality to the fastest growing market in the continent. It was also another opportunity to witness the new level partnership and synergy between the players in the money and capital markets, who are determined to reposition Nigeria, as a viable market in the globe, after 2008 financial crisis.



Market Capitalization

Market capitalization is one indicator that has been commonly used in evaluating the magnitude of a capital market in an economy. The market capitalization drops in a bearish market and rises in a bullish market. From 1988 to 1994, the total market capitalization was below N10 billion. It later increased to N1.359 trillion in 2003 and N5.12 trillion in 2006. In 2007, market capitalization recorded the maximum worth of N13.229 trillion. But it fell to N7.030 trillion in 2009 as a result of the universal financial breakdown. It later rose to N19.08 trillion in 2013 but decreased by N2.20 trillion in 2014 (CBN, 2014). The proportion of market capitalization to the economy's Gross Domestic Product (GDP) aids to measure the size of the stock market. In 1981, this was 10.5%, but dropped at 7.4% in 1994. It later increased to 9.3% in 1995, 18.9% in 2003, and 25.9% in 2010. In 2011, it fell to 24.0%, but later increased to 35.6% in 2013 (CBN, 2013).

Listed Securities

In 1961, the total equities listed on the NSE increased from 3 to 13 in 1971, 196 in 2007 and 201 in 2010. For the SSM, as at 1985, it was 1 and later increased to 20 in 1995 and 1996. In 1993, it dropped from 23 and again fell to 19 in 1997 and from then it remained at 16 from 1998 to 2010. The overall securities increased from 8 in 1961 to 261 in 2001, 288 in 2005-2006, 301 in 2008 and then dropped to 265 in 2009, 250 in 2011, and later rose to 279 in 2013, 280 in 2014. With all these changes, total listed securities were still low even with almost 50 years of the existence of the Nigerian Stock Exchange (SEC, 2013; NSE, 2014).

Value of Transactions

From 1961 to 1975, the NSE annual value was lower than N100 million. Still, it was between N100 million and N600 million from 1976 to 1994. In 1995, the trading value increase and was above N1 billion. It later increased to N120.70 billion in 2003 to N2.379 trillion in 2008. There was a decrease in these transactions from 2009 to 2011. In 2012, it increased to N808.99 billion, N2.38 trillion in 2013 after which it finally fell to N1.34 trillion in 2014 (CBN, 2014). Government Stock was in control of the market between 58.91% and 99.5% from 1961 to 1990, while from 1995 to 2014, industrial securities took over and was in control of the market, most especially equities (CBN, 2014).

Challenges of the Nigerian Capital Market

The recent events in the Nigerian Capital Market as to why investors are still terrified to raise money in the capital market can be seen as follows; illiquidity challenge of the market, embezzlement of resources & extravagant expenditures, corruption, insufficient information about the market, lack of active control & regulation on the part of the SEC, tardy growth of securities market, deferment in the provision of share certificates,

problem of manual call-over, double taxation, small size of the market, and problem of macroeconomic volatility

Empirical studies on the relationship between Capital Market and Economic growth

Various studies have been carried out on the relationship between capital market and economic growth. For example, Odetayo and Sajuyigbe, (2012) examine “the impact of Nigerian capital market on economic growth and development during the period 1990 – 2011 using ordinary least square regression. The authors discover that the variables have significant impact on the economic growth” (p. 4-7). In the same opinion, Kolapo and Adaramola, (2012) carried out their research and discovered that Nigerian capital market development has a significant relationship with economic growth. Chinwuba and Amos (2011), examine “the impact of the Nigerian capital market performance on the economic development of Nigeria by using the Ordinary least Square regression model. The result indicates that the performance of the capital market impact positively on the economic growth of Nigeria” (p. 409). Mishra, et al (2010) examined the impact of capital market efficiency on economic growth of India using the time series data on market capitalization, total market turnover and stock price index over the period covering from the first quarter of 1991 to the first quarter of 2010. Their study disclosed that there is a connection between capital market efficiency and economic growth in India.

In France, Vazakidis and Adamopoulos, (2009), employed “Cointegration, Granger Causality test and Vector Error Correction model, to examine the relationship between stock market development and economic growth for period of 1965 to 2007. They found that there exists a positive relationship between economic growth and stock markets development” (p. 7-8). Yet, Flavia and Petru, (2010) ascertained that capital markets has not grasped a level of enlargement that would empower it to accomplish its core purpose in the economy, the gap with the countries of Europe still being fairly high. This study will update the work of previous researchers by extending the time frame of the study so as to either validate or disapprove previous work.

3. METHODOLOGY

The statistical method that will be used in this study is Ordinary Least Squares (OLS) econometric method using a time series secondary data from 1983-2013 and unit root test will also be used in this study to test for stationarity. The data were acquired from the Central Bank of Nigeria (CBN) statistical bulletin and World Development Indicator (WDI). The impact of capital market on the growth of the Nigerian economy has observed series of studies and experimental evidences, yet the challenge is not yet resolved, hence, there is need for more research work.

Statement of Hypotheses

The basic opinions of the study are combined into the following propositions and the investigation will be carried out based on them:

Hypothesis 1

H_0 : Capital market has no significant impact on the growth of the Nigerian economy.

Hypothesis 2

H_0 : There is no positive relationship between value of transactions and economic growth in Nigeria.

Model Specification

The model attempts to observe the relationship between capital market as it affects the economic growth of Nigeria from 1983 to 2013. GDP which is the dependent variable was measured as a function of independent variables which are ASI, MCAP, VTRAN, ND.

This statement is inscribed in functional form as;

$$\text{GDP} = f(\text{ASI}, \text{MCAP}, \text{VTRAN}, \text{ND}) \quad (1)$$

This model can further be inscribed in explicit form as;

$$\text{GDP} = \alpha_0 + \alpha_1 \text{ASI} + \alpha_2 \text{MCAP} + \alpha_3 \text{VTRAN} + \alpha_4 \text{ND} + \varepsilon \quad (2)$$

Where;

α_0 - constant term

GDP - Gross Domestic Product

ASI – All Share Index

MCAP – Market Capitalization

VTRAN – Value of Transaction

ND – Number of deals

E - Error term

Where $\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4$ are the parameters.

The model was logged so as to disrupt them into a lesser figures and to escape problem of large numbers. The t-1 is the past time period, hence the dependent variable, independent variables and the error term carry the t-1. Hence,

$$\text{LogGDP}_{t-1} = \alpha_0 + \alpha_1 \text{logASI}_{t-1} + \alpha_2 \text{logMCAP}_{t-1} + \alpha_3 \text{logVTRAN}_{t-1} + \alpha_4 \text{logND}_{t-1} + \mu_{t-1}$$

The apriori expectations are $\alpha_1 > 0$ $\alpha_2 > 0$ $\alpha_3 > 0$ and α_4 , which means we presume a positive connection between the dependent variable and the independent variables.

4. DATA ANALYSIS & INTERPRETATION OF THE RESULT

Data Analysis

The variables presented below include gross domestic product, all share index, market capitalization, value of transaction, and number of deals in Nigeria for a period of 30 years (1983 to 2013). The model identified in chapter three was assessed using the Ordinary Least Square (OLS) estimation.

Unit root test

Generally, the unit root test encompasses the test of stationarity or non-stationarity for variables used in the regression analysis. The Augmented Dickey Fuller (ADF) test is used in order to examine unit roots. The result is reported in levels and first differences in each case. The decision rule that is applied using ADF is that; if the computed absolute value of the tau statistic ($|\tau|$) exceeds the Dickey Fuller or critical tau values, we reject the hypothesis, in which case the time series is stationary. On the other hand, if the computed $|\tau|$ does not exceed the critical tau value, we do not reject the null hypothesis, in which case the time series is non-stationary (Gujarati, 2004). Tables 1&2 shows the unit root test for the variables.

▶ TABLE 1: RESULT FOR AUGMENTED DICKEY FULLER TEST (LEVELS)

ADF TEST STATISTICS	INTERCEPT AND TREND	PROBABILITY	CRITICAL VALUES
ADF Test Statistics- LOGGDP	-1.947	0.6056	1% critical value -4.297
			5% critical value -3.568
			10% critical value -3.22
ADF Test Statistics –LOGASI	-0.712	0.9629	1% critical value- 4.297
			5% critical value -3.568
			10% critical value -3.218
ADF Test Statistics – LOGMCAP	-4.767	0.0033	1% critical value -4.297
			5% critical value -3.568
			10% critical value -3.218
ADF Test Statistics – LOGVTRAN	-3.018	0.1447	1% critical value -4.309
			5% critical value -3.574
			10% critical value -3.222
ADF Test Statistics – LOGND	-1.864	0.6477	1% critical value -4.297
			5% critical value -3.568
			10% critical value -3.218

Source: Eviews 7 computation.

▶ **TABLE 2: RESULT FOR AUGMENTED DICKEY FULLER TEST (1ST DIFFERENCE)**

ADF TEST STATISTICS	INTERCEPT AND TREND	PROBABILITY	CRITICAL VALUES
ADF Test Statistics- LOGGDP	-4.990	0.0022	1% critical value -4.339
			5% critical value -3.588
			10% critical value -3.229
ADF Test Statistics –LOGASI	-4.194	0.0134	1% critical value -4.324
			5% critical value -3.581
			10% critical value -3.225
ADF Test Statistics – LOGMCAP	-8.113	0.0000	1% critical value -4.310
			5% critical value -3.574
			10% critical value -3.222
ADF Test Statistics – LOGVTRAN	-4.285	0.0109	1% critical value -4.324
			5% critical value -3.581
			10% critical value -3.225
ADF Test Statistics – LOGND	-3.978	0.0211	1% critical value -4.310
			5% critical value -3.574
			10% critical value -3.222

Source: E views 7 computations

Table 1 shows the unit root test result at levels. As shown on the table, the variable, LOGGDP with ADF absolute value of -1.947 is less than the critical values of -4.297, -3.568 and -3.22 at 1%, 5% and 10% level of significance respectively. It shows that there is a 61% chance that there could be an error by estimating the variable. Therefore, the null hypothesis cannot be rejected. This implies that LOGGDP is not stationary at levels. The ADF test statistics for LOGASI is -0.712 which is also less than the ADF critical values of -4.297, -3.568 and -3.218 at 1%, 5% and 10% level of significance respectively. This explains that there is 96% chance that there could be an error by estimating the variable.

The null hypothesis cannot be rejected at level. The ADF test statistics for LOGMCAP is -4.767 which is greater than the ADF critical values of -4.297, -3.568 and -3.218 at 1%, 5% and 10% level of significance respectively. This explains that LOGMCAP is highly significant, therefore, the existence of the unit root test is rejected and the variable is stationary. The ADF test statistics for LOGVTRAN is -3.018, which is less than the ADF critical values of -4.309, -3.574 and -3.222 at 1%, 5% and 10% level of significance respectively. This explains that there is a 14% chance that there could be an error by estimating the variable. Therefore, it is not significant. The variable is not stationary. The ADF test statistics for LOGND is -1.864, which is less than the ADF critical values of -4.297, -3.568 and -3.218 at 1%, 5% and 10% level of significance. This proves that LOGND is not significant at level. This explains that there is a 64% chance that there could be an error in estimating the variable.

Table 2 shows the result for unit root at first difference. As shown in the table, the ADF test statistics for LOGGDP with the value of -4.990 exceeds the ADF critical values of -4.339, -3.588 and -3.229 at 1%, 5% and 10% level of significance, thus we conclude that LOGGDP is stationary at 1st difference. The ADF test statistics for LOGASI with a value of -4.194 exceeds the ADF critical values of -3.581 and -3.225 at 5% and 10% respectively (but less than 1% critical value of -4.324), thus we conclude that LOGASI is stationary at 1st difference.

The ADF test statistics for LOGMCAP with a value of -8.113 exceeds the ADF critical values of -4.310, 3.574 and -3.222 at 1%, 5% and 10% significance levels respectively and thus conclude that LOGMCAP is also stationary at 1st difference. The ADF test statistics for LOGVTRAN with a value of -4.285 exceeds the ADF critical values of -3.581 and -3.225 at 5% and 10% respectively (but less than 1% critical value of -4.324) and thus conclude that LOGVTRAN is also stationary at 1st difference. The ADF test statistics for LOGND with a value of -3.978 exceeds the ADF critical values of -3.574 and -3.222 at 5% and 10% significance levels respectively (but less than 1% critical value of -4.310) and thus conclude that LOGND is also stationary at 1st difference.

▶ **TABLE 3. OLS WHEN LOGGED**

VARIABLES	COEFFICIENT	STD. ERROR	T-STATISTICS	PROB	R-SQUARE	ADJ R-SQUARE	D.W STATS
LASI	-0.325319	0.108302	-3.003811	0.0058	0.861242 F-statistics	0.839895 35.71095	0.613726
LMCAP	0.009754	0.062587	0.155854	0.8774			
LVTRAN	0.305711	0.124203	2.461369	0.0208			
LND	0.292584	0.195899	1.493545	0.1473			
C	16.49108	0.938177	17.57779	0.0000			

Source: Researchers' computation

Interpretation of result

Table 3 shows a relationship between the dependent variable (GDP) and the explanatory variables (ASI, MCAP, VTRAN, ND). Both the dependent and the independent variables were logged as a result of massive figures recorded. From the above table, the results derived from the estimation are interpreted below. This interpretation is classified into two categories (diagnostic test and individual test). The diagnostic test which includes DW stats, R- squared, Adjusted R-squared and F-statistics shows whether the regression line is a good one or not, that is good-fit of the regression line. Therefore, the joint explanatory variables fit the dependent variable. DW statistics is used to show the presence of autocorrelation. Form the Durbin Watson Table, we see that $d_L = 1.160$ and $d_U = 1.735$. Since $d = 0.613726 < 1.160$, we reject the null hypothesis, and conclude that there is a significant positive autocorrelation.

R-squared shows the total variation in Y explained by over a proportion of variation in the independent variable X. According, to the estimated result, the total variation in GDP is explained by over 86% of the variation in ASI, MCAP, VTRAN, and ND. Therefore it is a good-fit, which means that the joint significance of the explanatory variables ASI, MCAP, VTRAN and ND fits the dependent variable well. Adjusted R-squared in the result also shows that the total variation in GDP is explained by over 84% of the variation in ASI, MCAP, VTRAN and ND. Therefore it is a good-fit, which means that the joint significance of the explanatory variables ASI, MCAP, VTRAN and ND fits the dependent variable well. F- Statistics is used to determine the joint significance of the explanatory variables in the model. In this result, it shows that the explanatory variables ASI, MCAP, VTRAN and ND are jointly significant. Therefore the F-statistic is significant with the figure 35.71095 since it is above 4.

The individual test which includes; probability value, t-statistics, and standard error shows that the estimated parameter α_1 and α_3 (that is, LASI and LVTRAN) are statistically significant at the level of 5% since their probability values are less than 0.05 (or 5%) and their absolute values of their t-statistics are greater than 2 which is the rule of thumb for t-statistics. Also, if all the variables are held constant, estimated GDP will be equals to 16.49108. The interpretation of the estimated model is shown below.

α_1 means that a proportional change in all share index will lead to a less proportional change in gross domestic product. This therefore means that there is an inelastic relationship between all share index and gross domestic product.

α_3 means that a proportional change in the value of transactions will lead to a more proportional change in gross domestic product. This means that an elastic relationship between the number of deals and gross domestic product.

5. SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

Summary of Findings

The summary of the study findings are presented as:

- 1) From the study, an inverse relationship is observed to exist between GDP and all share index given its slope coefficient of -0.325319. The relationship is also observed to be statistically significant as the t-value of -3.004 which exceeds the critical t value at 5% significance level.
- 2) There is a positive relationship between GDP and Market capitalization (MCAP) given its slope coefficient of 0.0098. The relationship is also observed not to be statistically significant at a t-value of 0.156 at 5% significance level. The relationship was observed to be statistically insignificant at 5%.
- 3) There is a positive relationship between GDP and the value of transactions given its slope coefficient of 0.306. The relationship is also observed to be statistically signifi-

cant at a t-value of 2.461 at 5% significance level. The relationship was observed to be statistically significant at 5%.

- 4) There is a positive relationship between GDP and number of deals given its slope coefficient of 0.293. The relationship is also observed to be statistically insignificant at a t-value of 1.494 at 5% significance level. The relationship was observed to be statistically insignificant at 5%.

Conclusion

Two diagnostic tests were carried out on the data such as Augmented Dickey Fuller (ADF) test which was employed in order to analyze unit roots for the variables and multiple regression analysis which was used to estimate the parameters. The result for the ADF showed that at levels, only MCAP was stationary, while the other variables were not stationary. But at first difference, all the variables were stationary. The multiple regression analysis showed that two parameters were statistically significant at 5% which are all share index and value of transactions, while the other parameters which are market capitalization and number of deals were not statistically significant at 5%.

The findings revealed that an inverse relationship exists between Gross domestic product (GDP) and all share index (ASI). The relationship between GDP and market capitalization (MCAP), value of transaction (VTRAN) and number of deals (ND) was observed to be positive. Hence, we reject the null hypotheses and conclude that capital market has a significant impact on economic growth. However, the research evidence have shown diverse findings for some economies, with respects to the Nigerian capital market, a major difficulty is the loss of investors' confidence in the Nigerian capital market bringing about uncontrolled corporate misconduct on both the capital market operators, management and quoted companies. There is however, a necessity for some effective and efficient measures to be taken so as to reinstate this weakening confidence in the market.

Recommendations

In line with the above findings, we therefore recommend as follows;

- 1) There should be an improvement in the negativity of the All Share Index by encouraging that long term funds should be given to investors in the capital market rather than short term funds as it will help to boost the economic growth as more funds would be invested in the economy.
- 2) Government should encourage more foreign investors to partake in the market so that it will help to improve the falling market capitalization.
- 3) There should be an increase in the availability and sufficiency of investment instruments such as options, derivatives, future and convertibles for investors as this will boost the value of transactions in the market.
- 4) Lastly, appropriate regulatory agencies in the capital market should be concentrated on improving fair trading transactions and dealings through the proficiency and transparency of the stock market.

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APPENDIX 1:

YEAR	GROSS DOMESTIC PRODUCT (NAIRA)	ALL SHARE INDEX	MARKET CAPITALISATION (NAIRA)	VALUE OF TRANSACTION (NAIRA)	NUMBER OF DEALS
1983	35,451,565,749	109.55	5,700,000,000	397,900,000	11,925
1984	28,500,815,241	118.8916667	5,500,000,000	256,500,000	17,444
1985	28,873,977,228	117.2833333	6,600,000,000	316,600,000	23,571
1986	20,721,499,308	149.8166667	6,800,000,000	497,900,000	27,718
1987	24,093,203,445	176.9166667	8,200,000,000	382,400,000	20,525
1988	23,272,161,397	210.8083333	10,000,000,000	850,300,000	21,560
1989	24,231,168,859	273.8687583	12,800,000,000	610,300,000	33,444
1990	30,757,075,595	423.6583333	16,300,000,000	225,400,000	39,270
1991	27,392,886,873	671.6166667	23,100,000,000	242,100,000	41,770
1992	29,300,921,687	931.0166667	31,200,000,000	491,700,000	49,029
1993	15,789,003,753	1229.025	47,500,000,000	804,400,000	40,398
1994	18,086,400,536	1913.225	66,300,000,000	985,900,000	42,074
1995	28,546,958,641	3815.116667	180,400,000,000	1,838,800,000	49,564
1996	34,987,951,375	5955.141667	285,800,000,000	6,979,600,000	49,515
1997	35,822,342,618	7638.591667	281,900,000,000	10,330,500,000	78,089
1998	32,004,613,750	5961.875	262,600,000,000	13,571,100,000	84,935
1999	35,870,792,988	5264.191667	300,000,000,000	14,072,000,000	123,509
2000	46,385,996,027	6701.175	472,300,000,000	28,153,100,000	256,523
2001	44,138,014,092	10185.075	662,500,000,000	57,683,800,000	426,163
2002	59,116,868,250	11631.86667	764,900,000,000	59,406,700,000	451,850
2003	67,655,840,108	15559.895	1,359,300,000,000	120,703,000,000	621,717
2004	87,845,403,978	24738.65083	2,112,500,000,000	225,820,500,000	973,526
2005	112,248,324,602	22876.71667	2,900,060,000,000	262,929,600,000	1,021,966.6
2006	145,429,802,542	27647.50909	5,120,900,000,000	470,253,800,000	1,367,954
2007	166,451,202,370	48773.30833	13,181,690,000,000,000	2,086,294,590,000	2,615,020
2008	208,064,724,514	50424.70167	9,562,970,000,000	2,379,142,700,000	3,535,631
2009	169,481,270,115	23091.54583	7,030,840,000,000	684,451,200,000	1,739,365
2010	369,062,403,182	24775.59333	9,918,210,000,000	797,551,600,000	1,925,314
2011	411,743,801,712	23393.64667	10,275,344,760,000	638,925,700,000	1,235,467
2012	462,979,245,902	23432.62083	14,800,944,400,000	808,991,419,900	1,147,174
2013	521,803,314,654	36207.0775	19,077,418,000,000	2,350,875,700,000	3,224,639

Source: World Development Index (WDI) 2014 and Central Bank of Nigeria (CBN) statistical bulletin 2013.

APPENDIX 2: REGRESSION RESULT FOR GROSS DOMESTIC PRODUCT, ALL SHARE INDEX, MARKET CAPITALIZATION, VALUE OF TRANSACTION AND NUMBER OF DEALS

Dependent Variable: LOGGDP				
Method: Least Squares				
Date: 01/27/16 Time: 14:28				
Sample: 1983 2013				
Included observations: 31				
VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.
LOGASI	-0.325319	0.108302	-3.003811	0.0058
LOGMCAP	0.009754	0.062587	0.155854	0.8774
LOGVTRAN	0.305711	0.124203	2.461369	0.0208
LOGND	0.292584	0.195899	1.493545	0.1473
C	16.49108	0.938177	17.57779	0.0000
R-squared	0.861242	Mean dependent var		24.79212
Adjusted R-squared	0.839895	S.D. dependent var		1.042705
S.E. of regression	0.417219	Akaike info criterion		1.236281
Sum squared resid	4.525871	Schwarz criterion		1.467569
Log likelihood	-14.16235	Hannan-Quinn criter.		1.311675
F-statistic	40.34418	Durbin-Watson stat		0.613726
Prob(F-statistic)	0.000000			

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STRANE DIREKTNE INVESTICIJE U ENERGETSKOM SEKTORU REPUBLIKE SRBIJE

FOREIGN DIRECT INVESTMENT IN ENERGY SECTOR OF THE REPUBLIC OF SERBIA

JEL KLASIFIKACIJA: F21, O13, Q42

APSTRAKT:

U ovom radu razmatraju se mogućnosti energetskog sektora za privlačenje stranih direktnih investicija. Energetski sektor Republike Srbije karakteriše zastarelost proizvodnih kapaciteta i proizvodnja finalne energije najvećim delom iz fosilnih goriva, kao i izraženi potencijali u vidu korišćenja obnovljivih izvora energije. Strane direktne investicije u energetski sektor dolaze iz evropskih zemalja. U ukupnom iznosu najviše je investirala Rusija, ali su nažalost to bile investicije u proizvodnju i preradu nafte. Strana ulaganja u obnovljive izvore energije su retka i skromna. Najviše je zastupljena akvizicija kao oblik stranih direktnih investicija, što je posledica procesa privatizacije. Nedostaju kapitalne greenfield investicije u obnovljive izvore energije. Feed-in tarife kao sistem podsticaja

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nisu dovoljne da obezbede neophodna sredstva za finansiranje otkupa energije od povlašćenih proizvođača.

**KLJUČNE REČI:****ENERGETIKA, STRANE DIREKTNE INVESTICIJE, FEED-IN TARIFE, OBNOVLJIVI IZVORI ENERGIJE**

ABSTRACT:

This paper discusses the possibilities for the energy sector to attract foreign direct investment. Serbia's energy sector is characterized by obsolescence of production capacity and production of final energy mainly from fossil fuels as well as possible resources through the use of renewable energy sources. Foreign direct investment in the energy sector come from European countries. The highest total amount invested by Russia, but unfortunately it was investment in oil production and refining. Foreign investment in renewable energy sources are rare and modest. acquisition is most represented as a form of foreign direct investment as a result of the privatization process. There is a lack of capital greenfield investments in renewable energy. Feed-in tariffs as an incentive system are not sufficient to provide the necessary funds to finance the purchase of energy from privileged producers.

**KEY WORDS:****ENERGY, FOREIGN DIRECT INVESTMENT, FEED-IN TARIFFS, RENEWABLE ENERGY SOURCES**

1. UVOD

Energetski sektor je višestruko značajan za jednu nacionalnu ekonomiju. Sa jedne strane zadovoljava energetske potrebe stanovništva i omogućava ekonomski rast kao jedan od najznačajnijih inputa za industrijsku proizvodnju. Sa druge strane, može negativno uticati na životnu sredinu ali isto tako pruža mogućnost korišćenja obnovljivih prirodnih resursa na racionalan način. Ovo je posebno značajno za zemlje u razvoju. Potrebe ovih zemalja za privrednim rastom iziskuju takav energetski sistem koji ne samo da će biti osnova za industrijsku proizvodnju već će omogućiti i dugoročan održivi ekonomski razvoj. Zbog nedostatka domaće akumulacije, zemlje u razvoju su prinuđene da privlače kapital iz inostranstva.

Prisutan je trend rasta stranih direktnih investicija u obnovljive izvore energije. Iako je inicijativa za sve veće učešće obnovljivih izvora energije potekla od razvijenih zemalja, koje su ujedno i najveći zagađivači životne sredine, ovaj trend nije zaobišao ni zemlje u razvoju. Očekivani pozitivni efekti stranih direktnih investicija u pogledu transfera tehnologije, stvorili su oštru konkurenciju na globalnom tržištu slobodnog kapitala. Ovo je još izraženije nakon svetske ekonomske krize kada su tokovi investicija drastično opali.

Za dugoročni održivi razvoj R. Srbije energetski sektor je od izuzetnog značaja. Posebno zbog činjenice da raspolaže značajnim potencijalnim obnovljivim izvorima energije. Ovo je sa jedne strana šansa da se privuku dodatne investicije u zemlju, a sa druge da se unapredi tehnološka osnova za proizvodnju finalne energije, koja je zastarela i bazira se na korišćenju fosilnih goriva.

Dobijanjem statusa kandidata za članstvo u Evropskoj uniji, potpisivanjem Sporazuma o energetske zajednici, kao i prihvatanjem inicijativa Evropske unije da do 2020. godine udeo obnovljivih izvora energije u ukupnoj proizvodnji finalne energije iznosi 20% a do 2030. godina preko 27%, R. Srbija se obavezala na brojne reforme u energetske sektoru. Kako bi se postavljeni ciljevi ostvarili neophodna su finansijska sredstva i dobro koncipiran institucionalni okvir. Neophodno je naći odgovarajući model kako bi se privuklo što više stranih direktnih investicija, naročito u energetske sektor, gde R. Srbija ima značajne neiskorišćene resurse. Posledice svetske ekonomske krize nisu zaobišle ni R. Srbiju, tako da kreatori makroekonomske politike treba da ulože značajan napor da stvore povoljan poslovni ambijent i učine zemlju atraktivnom investicionom destinacijom na dug vremenski period. Energetski sektor je možda dobra prilika da se ti ciljevi i realizuju.

2. GLOBALNI TRENDVI SDI U ENERGETIKU

Tražnja za energijom se više nego udvostručila u poslednjih 40 godina, sa prosečnom godišnjom stopom rasta od 2,2%. Potrošnja energije je rasla po godišnjoj stopi od 1,4% devedesetih godina prošlog veka, da bi nakon 2000. godine godišnja stopa rasta potrošnje porasla na 2,6%². U navedenom vremenskom periodu prevladavala je upotreba fosilnih goriva. Takođe, bili su prisutni veliki gubici u proizvodnji i distribuciji energije, što

je imalo negativne ekonomske i ekološke implikacije. Ubrzani ekonomski razvoj u zemljama kao što su Kina i Indija, potrebe za energijom doveo je do znatno višeg nivoa. Kako bi se smanjila proizvodnja energije iz fosilnih goriva, došlo se do toga da treba povećati proizvodnju energije iz obnovljivih izvora³. Empirijski rezultati takođe postavljaju pitanje nejednakosti u pogledu klimatskih promena i ekonomskog razvoja, kako razvijene zemlje emituju dve trećine globalne emisije štetnih gasova zbog sopstvenog ekonomskog razvoja i ostvaruju viši životni standard. Istovremeno su dovele do negativnih eksternih efekata globalnog zagrevanja. Povećanjem emisije gasova staklene bašte indukovane su klimatske promene koje su značajno uticale na ostatak sveta, posebno na stanovništvo koje živi u siromašnim zemljama. Takav problem nejednakosti treba da se reši kroz više strategija, uključujući upotrebu energetske efikasnosti, alata za ublažavanje emisije gasova staklene bašte, kroz plaćanje poreza na zagađivanje i šemu trgovine emisijom gasova⁴.

Od početka globalne ekonomske krize, ukupne strane direktne investicije imaju tendenciju pada. Globalni tokovi investicija su i sada svega na 40% investicija pre početka krize. Generalno, zemlje OECD-a su najviše osetile posledice nedostatka stranog kapitala, dok su zemlje u razvoju uspele da privuku čak i više stranih ulaganja u odnosu na prethodni period. Evropa je bila najteže pogođen region. Prilivi stranih direktnih investicija su opali na 75%, dok su odlivi opali na nivo od 80% u odnosu na period pre početka svetske ekonomske krize⁵.

Poslednjih godina prisutan je trend rasta stranih direktnih investicija iz Kine u zemlje Evropske unije. Istraživanja su pokazala da su se kao investitori mahom pojavljivale kineske privatne kompanije koje nisu listirane na berzi. Dominantan način ulaska je greenfield investicija, za razliku od trenda u prethodnom periodu gde su preovladavale akvizicije i zajednička ulaganja. Ključni faktor u privlačenju stranih direktnih investicija u oblasti energetike je institucionalno okruženje. Na osnovnu dobro uređene regulative i sistema podsticaja najviše investicija u oblasti energetike je otišlo u Nemačku. Investiranje je prisutno i u zemljama sa lošijom regulativom, ali se tada kao investitori javljaju kompanije sa manjim investicionim mogućnostima⁶.

Ovakav trend je oporavio lošu dinamiku investicija u zemljama Evropske unije. Uprkos razvijenom sistemu podsticaja za proizvodnju električne energije iz obnovljivih izvora energije opalo je interesovanje za ulaganja kompanija iz EU u ovaj segment privrede. Kineske kompanije su tu videle mogućnost za brz rast, naročito što je tržište proizvodnje energije iz obnovljivih izvora u ekspanziji. Takođe, koristi su imale i evropske kompanije, kojima je kroz partnerstvo sa kineskim kompanijama omogućen direktan i lakši način ulaska na kinesko tržište.

Projekcije govore da će Kina svoju aktivu u inostranstvu sa 6,4 biliona dolara povećati na 20 biliona dolara do kraja 2020. godine. Ovo će svakako imati implikacije kako na zemlju domaćina tako i na globalna tržišta⁷. Na ovaj način donekle se tržište EU oporavilo u pogledu privlačenja stranog kapitala i intenzivirana su ulaganja u sektor obnovljivih izvora energije.

3 Kontorovich, et al. (2014), str. 534-543.

4 Podobnik (2015), str. 252-274.

5 Gestrin (2016), str.

6 Lv and Spigarelli (2015), str. 14-26.

7 Hanemann and Huotari (2015), str 5-12.

3. KARAKTERISTIKE ENERGETSKOG SEKTORA REPUBLIKE SRBIJE

Energetski sektor ima izuzetno veliki značaj u procesu pridruživanja R.Srbije i drugih zemalja regiona u Evropsku uniju. U tom smislu, napori za realizaciju Sporazuma o energetske zajednici zemalja Jugoistočne Evrope su neophodni, ali i reforme unutar postojećih zakona koji će omogućiti usklađivanje i primenu energetske direktive koje su na snazi na evropskom energetske tržištu. Pred zemlje članice Energetske zajednice postavljeni su odgovarajući zahtevi vezani za unapređenje energetske sektora. One moraju da ispune ove zahteve ako žele da dobiju jednak status i uspešno posluju na energetske tržištu⁸.

Pored obaveza iz strategije Evropa 2020, da do 2020. godine najmanje 20% proizvodnje bude iz obnovljivih izvora energije. Evropska unija je postavila nove ciljeve da do 2030. godine ukupne proizvodnje energije iz obnovljivih izvora energije iznosi 27% i više. Međutim u R.Srbiji je proizvodnja električne energije mahom vezana za korišćenje lignita. Ovo je rezultiralo time da energetske intenzitet bude veći 1,7 puta od proseka za zemlje članice Evropske unije. Prisutan je znatan stepen uvozne zavisnosti, koja je u 2014. godini iznosila 27,9%, dok je u 2013. godini njen iznos bio niži (24,1%). Međutim, većina zemalja članica Evropske unije ima viši stepen uvozne zavisnosti, pa je prosek za celu Evropsku uniju 53,2%, što je vrednost skoro duplo veća u odnosu na stepen energetske zavisnosti R. Srbije. Zbog konstantnog opadanja industrijske proizvodnje u strukturi potrošnje dominiraju domaćinstva sa 36% u ukupnoj finalnoj potrošnji energije, dok je učešće domaćinstava u Evropske uniji svega 27%. U odnosu na prosečne vrednosti u Evropske uniji od 32%, učešće saobraćajnog sektora je 23% u finalnoj potrošnji energije. U ukupno isporučenoj električnoj energiji krajnjim potrošačima energija proizvedena u termoelektranama učestvuje sa 69,8%, hidroelektrana sa 29,56%, elektranama povlašćenih proizvođača obnovljivih izvora energije sa 0,64⁹.

► TABELA 1. PROIZVODNJA PRIMARNE ENERGIJE I SPOLJNOTRGOVINSKA RAZMENA ENERGIJE (U TJ) U REPUBLICI SRBIJI 2011-2015. GODINE

PROIZVODNJA ENERGIJE PO INPUTIMA	GODINA				
	2011.	2012.	2013.	2014.	2015.
Nafta i naftni derivati	46,535	51,256	52,899	50,592	46,613
Prirodni gas	18,823	19,762	19,676	20,639	21,207
Hidroenergija	33,275	35,690	39,071	41,821	38,819
Ugalj	327,611	304,725	321,168	239,185	301,471
Geotermalna energija	268	261	188	235	257
Ogrevno drvo	13,997	11,480	46,691	46,532	461,140
Ukupna primarna proizvodnja energije	440,509	423,174	479,877	399,421	454,789
Uvoz električne energije	252,305	210,644	209,013	211,829	240,022
Izvoz električne energije	40,391	35,640	51,537	50,825	61,663

Izvor: Republički zavod za statistiku, Energetski bilansi 2011-2015, dostupno na <http://www.stat.gov.rs/WebSite/Default.aspx>

8 Filipović (2013), str. 49-57.

9 Agencija za energetiku Republike Srbije (2015), str. 4-10.

Efikasnost energetskeg sektora se može meriti i korišćenjem indeksa energetske trileme. Ovaj koncept je razvio Svetski savet za energetiku (World Energy Council – WEC) 2011. godine. Primenom ovog indeksa vrši se balansiranje između energetskeg i strukturnih performansi jedne zemlje. Na ovaj pruža se mogućnost rangiranja zemalja u pogledu održivosti energetskeg sektora. Po ovoj višedimenzionalnoj analizi Srbija i Bosna i Hercegovina se nalaze na začelju rangiranih zemalja u okruženju, iako su zemlje bogate prirodnim energetskegim resursima. Od zemalja regiona najbolje je plasirana Albanija, pre svega zbog proizvodnje energije uz očuvanje ekološke dimenzije¹⁰.

Prema projekcijama za period 2011-2020. godine očekuje se prosečna stopa rasta sektora energetike u iznosu od 3,1%. Takođe, očekuje se da će učešće energetike sa 4,3% GDP-a u 2011. godini porasti na 6,3% GDP-a u 2020. godini. Kako bi se ostvarili planirani rezultati u oblasti energetike neophodno je usvojiti nekoliko strateških pravaca:

- privlačenje investicija u iznosu od 14 milijardi evra za izgradnju i modernizaciju postojećih energetskeg i gasnih postrojenja,
- uključivanje obnovljivih izvora energije i veća diversifikacija u izvorima za proizvodnju energije,
- kontinuirano povećanje energetske efikasnosti kako u potrošnji, tako i u proizvodnji električne energije¹¹.

Strane direktne investicije u energetskeg sektor su relativno skromne. U periodu 2010-2015. godine učešće stranih direktnih investicija u energetskeg sektor je 6,5% od ukupnih investicija. Svi investitori dolaze iz Evrope a sa izuzetkom Rusije, investitori su iz zemalja članica Evropske unije. Pored prikazanih podataka u Tabeli 2. prisutne su još tri investicije kompanije NIS i to dve u 2014. godini i jedna u 2015. godini. Sve tri investicije su lokacijski smeštene u Zrenjaninu, ali se ne navodi ukupan iznos investicija pomenute kompanije.

Što se tiče tipa stranih direktnih investicija samo je 6 greenfield investicija. Od toga 3 greenfield investicije su vezane za distribuciju i prodaju naftnih derivata kroz sistem benzinskih pumpi. Akvizicijom kroz proces privatizacije strani investitori su stekli 8 kompanija. Preostali tip investicija je vezan za zajednička ulaganja i sistem koncesija. Lokacijski strane investitore najviše privlači region Beograda i Vojvodine¹².

10 Kragulj and Parežanin (2015), str. 817-822.

11 Filipović (2010), str. 41-57.

12 Nacionalna alijansa za ekonomski razvoj (2016), dostupno na <http://www.naled-serbia.org/investments/index/Baza+investicija> [Pristupljeno: 15/03/17]

▶ TABELA 2. STRANE DIREKTNE INVESTICIJE U ENERGETSKI SEKTOR U R. SRBIJI 2011-2016. GOD.

INVESTITOR	GODINA	ZEMLJA	IZNOS U EVRIMA	MESTO
Linde AG	2001	Nemačka	40.000.000	Bečej
OMV	2001	Austrija	150.000.000	Beograd
Hellenic Petroleum EKO SERBIA	2002	Grčka	100.000.000	Beograd
LUKOIL	2003	Rusija	210.000.000	Beograd
MOL	2005	Mađarska	70.000.000	Beograd
OMV	2007	Austrija		Vršac
Gazprom Neft / NIS Novi Sad	2009	Rusija	947.000.000	Novi Sad
Energie Steiermark-Beogas	2011	Austrija	7.400.000	Beograd
Bridge Power Investments	2012	Češka	1.500.000	Sombor
Enprode investment	2012	Turska	5.000.000	Stara Pazova
Jetoil	2013	Grčka	10.000.000	Smederevo
Carl Warrlich GmbH & Energotrade	2013	Nemačka	1.500.000	Bela Crkva
Gascom Renew	2013	Italija	4.000.000	Kuršumljija
Energy from biomass	2013	Italija		Titel
MESSER	2016	Austrija	5.000.000	Pančevo
GAZPROMNJEFT	2016	Rusija	800.000.000	Pančevo
RENERGIE Raiffeisen- Vetropark Indija	2016	Austrija	35.000.000	Indija
IMP Holding GmbH	2016	Nemačka	500000	Beograd
Prima Energy	2016	Slovačka	1.800.000	Beočin
Agro Energy	2016	Slovačka	8.000.000	Bač

Izvor: Nacionalna alijansa za ekonomski razvoj (2016), dostupno na <http://www.naled-serbia.org/investments/index/Baza+investicija>

4. PODSTICAJI ZA INVESTICIJE U ENERGETIKU

Sistem podsticaja se pre svega zasniva na feed-in tarifama, koje plaćaju potrošači kroz račun za isporučenu električnu energiju. Sistem je nediskriminatoran i dostupan je i domaćim i stranim investitorima. Kroz ovaj sistem se garantuje otkupna cena električne energije, koja se proizvodi iz obnovljivih izvora energije. Prva forma feed-in tarifa pojavila se u SAD-u, još davne 1978. godine, donošenjem Zakona o nacionalnoj energetici. U Evropi se feed-in tarife pojavljuju prvo u Nemačkoj donošenjem Zakona o uvođenju električne energije u mrežu, a zatim i u Španiji i Danskoj. U R.Srbiji primena feed-in tarifa je počela 24. januara 2013. godine, kada je doneta Uredba o podsticajnim cenama za otkup električne energije¹³

Od 2015. godine feed-in tarifa za obnovljive izvore energije iznosi 0,093 din/kWh. U odnosu na prethodne godine feed-in tarifa je povećana. U 2013. godini je iznosila 0,044 din/kWh, dok je u 2014. godini njen iznos bio 0,081 din/kWh¹⁴. Prema podacima EPS Snabdevanja, prosečna potrošnja domaćinstva je 362 kWh, što znači da u proseku svako domaćinstvo odvaja mesečno 33,57 dinara za feed-in tarifu. U Tabeli 3. je prikazan ukupan iznos fakturisanih i naplaćenih prihoda po osnovu feed-in tarifa, kao i isplaćen iznos naknada povlašćenim proizvođačima. Iz priloženog mogu se uočiti dva problema. Prvi se odnosi na razliku između fakturisanog i naplaćenog iznosa, što je posledica slabe naplate od strane snabdevača električnom energijom. Drugi se odnosi na to da u 2015. i 2016. godini čak ni fakturisani iznos nije bio dovoljan za pokrivanje naknade povlašćenim proizvođačima energije. Izuzetak je 2013. godina u kojoj naplaćeno više po osnovu feed-in tarifa nego što je isplaćeno povlašćenim proizvođačima.

► **TABELA 3. FEED-IN TARIFE U R. SRBIJI 2013-2016. GODINE U MILIONIMA DINARA**

FEED-IN TARIFA	2013	2014	2015	2016
Fakturisani iznos	557,13	2.775,25	2.680,33	2.707,82
Naplaćeni iznos	452,64	2.176,07	2.019,79	2.543,47
Isplaćeni iznos proizvođačima	343,97	2.730,30	2.706,96	3.916,14

Izvor: EPS Snabdevanje (2013-2016), Izveštaj o prikupljenim i utrošenim sredstvima za naknadu za podsticaj proizvodnje povlašćenih proizvođača električne energije.

Definisane su tri kategorije proizvođača za koje su odobrene podsticajne mere kroz sistem feed-in tarifa: povlašćeni proizvođač električne energije, privremeni povlašćeni proizvođač i proizvođač električne energije iz obnovljivih izvora energije. Investitor bira da li će koristiti naknadu kao povlašćeni proizvođač ili kao proizvođač iz obnovljivih izvora energije. Za prvu kategoriju kriterijum su instalirani proizvodni kapaciteti, dok je za drugu bitan izvor energije i nema ograničenja po pitanju kapaciteta. Privremeni povlašćeni proizvođač ima obavezu da položi finansijsku garanciju u dinarskoj protivvrednosti od 60 evra po kW instaliranog kapaciteta u elektrani. Pored ovoga sve kategorije proizvođača imaju dodatne troškove za sticanje građevinske dozvole, energetske dozvole i za pribavljanje licence za status povlašćenog proizvođača. Od 1. januara 2017. godine, uvedena je obaveza podnošenja izveštaja za realizovanu proizvodnju u prethodnoj godini. Povlašćeni proizvođači su u obavezi da dostave izveštaje do februara tekuće godine za ostvarene rezultate u prethodnoj godini¹⁵. Na ovaj način je obezbeđen bolji monitoring korišćenja sredstava iz feed-in tarifa. U Tabeli 4. prikazani su povlašćeni proizvođači po tipu elektrane za proizvodnju električne energije. Pored solarnih elektrana na zemlji, status povlašćenih potrošača steklo je 165 vlasnika solarnih elektrana na objektu do 30 kWh i 21 vlasnik solarnih elektrana na objektu snage od 30 do 500kWh.

14 Agencija za energetiku Republike Srbije (2015), str. 52.

15 Vlada Republike Srbije (2016), *Uredba o uslovima i postupku sticanja statusa povlašćenog proizvođača električne energije, privremenog povlašćenog proizvođača i proizvođača električne energije iz obnovljivih izvora energije* (odredbe člana 27.)

▶ TABELA 4. POVLAŠČENI PROIZVOĐAČI ELEKTRIČNE ENERGIJE PO OBJEKTIMA

OBJEKAT	UKUPNO	GODINA						
		2010	2011	2012	2013	2014	2015	2016
Hidroelektrane	71	12	4	5	12	13	8	17
Solarne elektrane na zemlji	17	/	/	7	5	5	/	/
Elektrane na vetar	17	/	/	7	/	2	6	2
Elektrane na biogas	11	/	1	3	/	1	/	6
Visokoeffikasne kogeneracije	10	2	1	/	2	2	2	1

Izvor: Ministarstvo rudarstva i energetike R. Srbije (2016), dostupno na <http://www.mre.gov.rs/doc/registar09.02.17.html>

Podsticajna otkupna cena zavisi od tipa i instalirane snage energetskog postrojenja, kao i od maksimalnog efektivnog rada. Otkupne cene su izražene u evrocentima po kilovat času i svakog februara se vrši njihova korekcija u skladu sa inflacijom u evro zoni¹⁶ U 2015. godini najviše je isplaćeno u ukupnom iznosu za male hidroelektrane (preko 1,5 miliona dinara). Najvišu podsticajnu otkupnu cenu su imale solarne elektrane od 25,96 do 28,96 din/MWh u zavisnosti od tipa solarne elektrane. Najmanje je isporučeno energije iz elektrana na vetar, gde je otkupna cena bila 17,17 din/MWh, dok je podsticajna otkupna cena za male hidroelektrane iznosila 10,21 din/MWh¹⁷

5. ZAKLJUČAK

Globalni trendovi investiranja ukazuju da su dominantne strane direktne investicije u oblasti obnovljivih izvora energije i da se one kreću iz Kine u Evropsku uniju. Najviše je greenfield investicija. Za razliku od ovog trenda u R. Srbiji najveće investicije su bile u postrojenja za proizvodnju i preradu nafte. Pojedinačno najveće investicije dolaze iz Rusije. Preostale investicije su iz zemalja članica Evropske unije. Dominantan način sticanja vlasništva je akvizicija kroz proces privatizacije. Registar povlašćenih proizvođača električne energije je transparentan, ali nedostaje podatak o strukturi kapitala. Tako da ne možemo uvideti da li je kapital domaćeg ili inostranog porekla. Na osnovu toga ne možemo zaključiti da li sistem podsticaja kroz feed-in tarife privlači i strane investitore.

U proizvodnji finalne električne energije i dalje dominiraju fosilna goriva. Od obnovljivih izvora energije u proizvodnji električne energije najveći doprinos ima hidropotencijal. Međutim, najviše energije se proizvede u velikim hidroelektranama koje su u državnom vlasništvu. Primetno je poboljšanje u pogledu učešća privatnog sektora u ulaganjima u energetiku, ali su nažalost instalirani energetski kapaciteti skromni. U strukturi ulaganja privatnog sektora dominiraju male hidroelektrane i solarne elektrane na objektima. Nedostaju veća kapitalna ulaganja. Institucionalni okvir za ulaganja u energetski

¹⁶ Vlada Republike Srbije (2016), *Uredba o podsticajnim merama za proizvodnju električne energije iz obnovljivih izvora i iz visokoeffikasne kombinovane proizvodnje električne i toplotne energije* (odredbe člana 4. i člana 5.)

¹⁷ Agencija za energetiku Republike Srbije (2015), str. 52.

sektor je transparentan i solidno postavljen. Međutim, rezultati po pitanju ulaganja u energetske sektor su relativno skromni, posebno po pitanju obnovljivih izvora energije. Sredstva ostvarena putem feed-in tarife nisu dovoljna da se otkupi proizvedena energija od povlašćenih proizvođača. Sa druge strane, postavlja se pitanje pravičnosti finansiranja obnovljivih izvora energije kroz račune za utrošenu električnu energiju. Potrošači, pored poreza na dodatnu vrednost plaćaju i akcizu na utrošenu energiju, tako da na feed-in tarife mogu gledati kao na neku vrstu dodatnog poreza. Ako tome dodamo da u ukupnoj isporučenoj energiji povlašćeni proizvođači učestvuju sa svega 0,64%, nezadovoljstvo krajnjih kupaca može biti samim tim veće. Neophodno je tražiti nove načine finansiranja podsticaja za obnovljive izvore energije, budući da sredstva prikupljena feed-in tarifama nisu dovoljna za finansiranje isporučene energije od strane povlašćenih proizvođača. Takođe, proces dobijanja svih neophodnih dozvola za sticanje statusa povlašćenog proizvođača može biti jako dug proces. Svakako da je od 2013. godine i od početka liberalizacije energetskog tržišta učinjen značaj pomak u razvoju energetskog sektora, ali se očekivalo značajno više stranih direktnih investicija u ovaj sektor privrede uzimajući u obzir potencijale obnovljivih izvora energije R. Srbije.

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CIP - Каталогизacija u publikaciji
Народна библиотека Србије, Београд

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EKONOMSKE ideje i praksa : kvartalni časopis iz oblasti ekonomije, poslovne ekonomije i menadžmenta, statistike i poslovne informatike / glavni urednik Miomir Jakšić. - 2016, br. 23 (decembar) - . - Beograd (Kamenička 6) : Centar za izdavačku delatnost Ekonomskog fakulteta u Beogradu, 2014- (Beograd : Čugura print). - 24cm

**Tromesečno
ISSN 2217-6217 = Ekonomske ideje i praksa
COBISS.SR-ID 184934668**

