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ORIGINALNI NAUČNI RADOVI

POREĐENJE PREDVIĐANJA PRIMENOM UNIVARIJACIONIH I MULTIVARIJACIONIH MODELA

Čokić Senada¹

Sažetak: *U današnjoj modernoj ekonomskoj literaturi, gotovo je nemoguće govoriti o bilo kakvom vidu poslovanja, a da se u obzir ne uzmu rizici i posledice koje oni mogu doneti. Uopšteno govoreći, rizik definišemo kao neizvesnost budućeg ishoda. Jedan od najpoznatijih oblika jeste tržišni rizik ili neizvesnost u promenama cena akcija. Smatra se da je tržišni rizik najveći rizik koji je prisutan u investicijskom poslovanju sa akcijama. Najčešći uzroci promena cena jesu nesklad u ponudi i potražnji na tržištu i promena kamatnih stopa. Sa druge strane, tržišni rizik je najlakše identifikovati i kvantifikovati jer se cene akcija beleže prilikom svake transakcije, a preko cena je lako dalje pratiti i prinose koje te akcije donose.*

*U stručnoj terminologiji koristi se reč **volatilnost** kako bi se direktno opisao rizik promene vrednosti akcije (ili nekog drugog finansijskog sredstva). Volatilnost predstavlja i mehanizam za merenje rizika i upravljanje njime, a koristi se i za procenu vrednosti finansijskih sredstava, upravljanje aktivom i optimizaciju portfolija.*

Ključne reči: *volatilnost / GARCH / predviđanje / univarijacioni model / multivarijacioni model.*

UVOD

Da bi se mogle doneti kvalitetne odluke za poslovanje u budućnosti, a na osnovu podataka iz prošlosti, potrebno je koristiti modele koje daje ekonometrija. Ona je grana ekonomije koja na specifičan način povezuje ekonomiju, matematiku, statističke metode i stvarne podatke.

U ovom radu je napravljeno poređenje između dva modela: univarijacionog i multivarijacionog, i na kraju je dat zaključak koji od modela daje bolje predviđanje.

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Sa matematičkog gledišta, volatilitnost predstavlja uslovnu standardnu devijaciju prinosa, a analitički modeli koje koristimo da bi je prikazali jesu varijante *ARCH* i *GARCH*. Navedeni modeli su postali široko primenjivani u analizi podataka vremenskih serija u kojima je prisutna heteroskedastičnost, tj. pojava da varijanse grešaka koje nastaju nisu konstantne, nego da se menjaju kako menjamo vreme. Osnovni cilj ovih modela jeste izračunavanje neke od mera volatilitnosti (poput standardne greške), koju je moguće koristiti pri donošenju različitih finansijskih odluka, poput analize rizika, izbora portfolija ili formiranja cena hartija od vrednosti.

Američki ekonomista *Robert Fry Engle III* (rođen 10.11.1942) prvi je predstavio ovakve koncepte za proveru volatilitnosti u svom radu *Autoregressive Conditional Heteroskedasticity With Estimates of the Variance of UK Inflation*.² On je uočio da prethodni modeli koji su pretpostavljali konstantnu volatilitnost za predviđanje kretanja cena akcija i finansijskih derivata nisu davali najbolje rezultate. Stoga je razvio nove statističke modele koji su pretpostavljali da cene akcija i cene ostalih derivata imaju periodično malu i visoku volatilitnost i od tada su ovi modeli ključni u modernoj teoriji cena finansijskih derivata i u praksi. Godine 2003, zajedno sa profesorom Clive Grangerom dobija i Nobelovu nagradu u ekonomiji za „metode analiziranja ekonomskih vremenskih serija sa vremenski promenljivom volatilitnošću (ARCH).” Engle-ov najveći doprinos je upravo otkriće metoda za analizu nepredvidljivih kretanja cena na tržištu i kretanja kamatnih stopa, tj. uvođenje modela koji na vrlo dobar način uspevaju da, sa određenom preciznošću, predvide i prate put kretanja cene akcija.

MODELIRANJE *GARCH* (1,1) MODELA U *MATLAB*-U

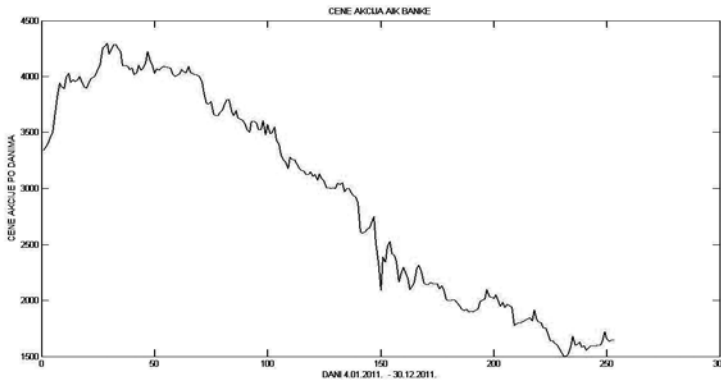
Jedan od vrlo dobrih programskih paketa za simulaciju i proveru *GARCH* modela jeste *MATLAB*, koji nam – zahvaljujući nizu ugrađenih funkcija – olakšava rad. *MATLAB* je softverski paket namenjen za rešavanje matematičkih problema, analizu podataka i grafički prikaz. On u sebi integriše numeričku analizu i matricnu analizu, dok sve vreme rešava numerički. Pored matematičkih, koristi se i za rešavanje mnogih inženjerskih i istraživačkih problema. Poslednjih godina, *MATLAB* se vrlo često koristi u izučavanju i simuliranju finansijskih problema i to zbog specijalnih skupova alata koje sadrži u sebi (takozvani *toolbox*): *Financial Toolbox*, *Financial Time Series Toolbox* i *GARCH Toolbox*.

² Rad je objavljen u časopisu *Econometrica: Journal of the Econometric Society*, 1982. godine.

ANALIZA AKCIJA AIK BANKE A.D. NIŠ

Za opisivanje modela korišćene su cene akcija AIK banke a. d. Niš. Kako bi se što bolje predstavilo modeliranje kretanja cena u *MATLAB* programu, sproved ćemo analizu cena akcija navedene banke u periodu od 4.1.2011. godine do 30.12.2011. godine. Ovaj period obuhvata ukupno 253 dana trgovanja akcijama. Prvo ćemo uneti dnevne cene u *MATLAB* pomoću komande *Import Data*.

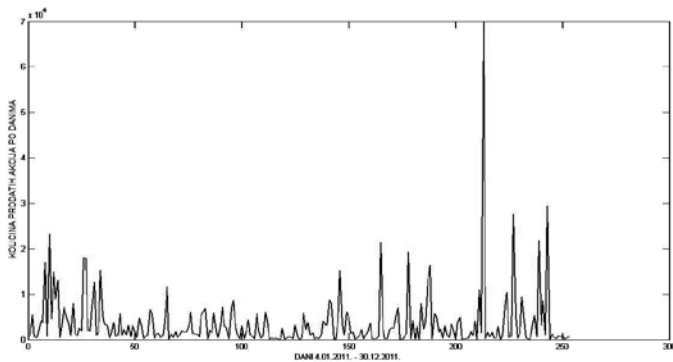
Slika 1: Kretanje cena akcija po danima (u dinarima).



Izvor: Autor

Na *Slici 1* smo prikazali kretanje cena u datom periodu koje su predstavljene u dinarima.

Slika 2: Broj kupljenih akcija po danima.



Izvor: Autor

Na *Slici 2* je prikazan broj kupljenih akcija po danima. Vidimo da je ispoštovan jedan od osnovnih tržišnih zakona – što je veća potražnja veća je i cena akcija.

U nastavku smo za dobijanje logaritamskih prinosa koristili ugrađenu funkciju *Price2ret*: *prinosi = price2ret(cena)* (pretvara vremensku seriju cena u vremensku seriju logaritamskih stopa prinosa).

Ugrađena funkcija *Price2ret* konvertuje vremenske serije cena u logaritamske serije prinosa akcija na sledeći način:

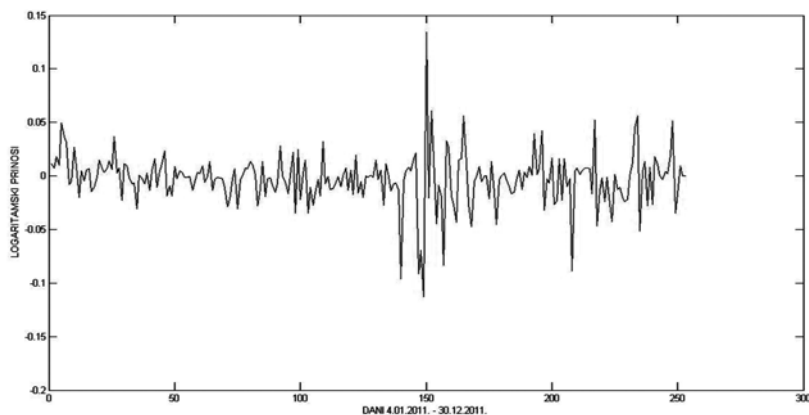
$$y_t = \log P_t - \log P_{t-1} = \log \frac{P_t}{P_{t-1}} = \log \left(1 + \frac{P_t - P_{t-1}}{P_{t-1}} \right), \quad t = 1, 2, \dots, n$$

Na osnovu Taylor-ovog razvoja, vidimo da je y_t (logaritamski prinos), $t = 1, 2, \dots, n$ približno jednak relativnom prinosu $\frac{P_t - P_{t-1}}{P_{t-1}}$, $t = 1, 2, \dots, n$. Razlog zašto se koriste

logaritamski prinosi, a ne relativni, jeste njihova osobina aditivnosti. Takođe, *GARCH* model zahteva prinose umesto cena, a na ovaj način transformišemo podatke u stacionarnu vremensku seriju.

Na *Slici 3* su prikazani logaritamski prinosi dobijeni pomoću gorenavedene *MATLAB* funkcije.

Slika 3: Logaritamski prinosi.



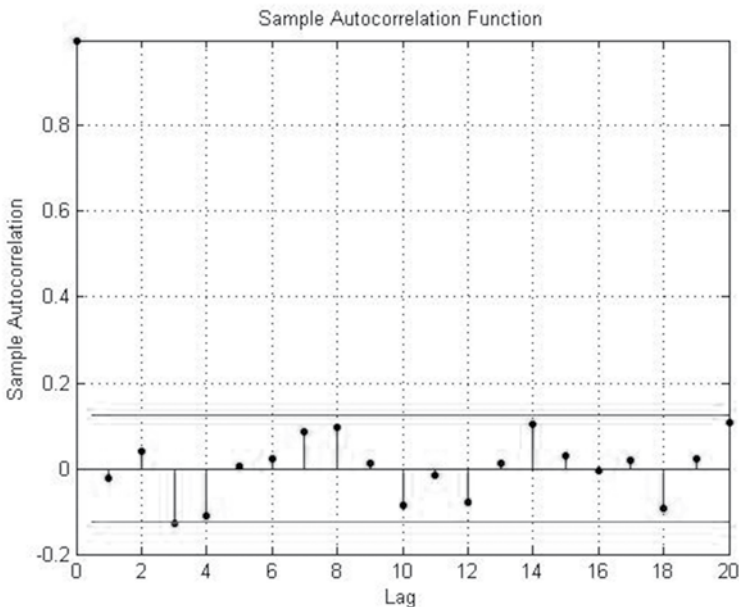
Izvor: Autor

Tabela 1. Pregled osnovnih karakteristika vremenske serije *prinosi*.

FUNKCIJA U MATLAB-U	VREDNOST
MEAN (PRINOSI) – očekivana vrednost uzorka za prinose	-0.00279
STD (PRINOSI) – standardna devijacija	0.00154
KURTOSIS (PRINOSI) – mera spljoštenosti	6.88579
SKEWNES (PRINOSI) – mera asimetrije	-0.20514

Izvor: Autor

Uočava se velika vrednost mere spljoštenosti (veća je od 3), što govori o izduženosti („debelim repovima“) posmatrane vremenske serije. Ono što je interesantno za posmatranje jeste autokorelaciona povezanost prinosa koju možemo očitati sa sledećeg grafika (*dobija se uz pomoć funkcije autocorr(prinosi)*):

Grafik 1. Autokorelaciona povezanost prinosa.

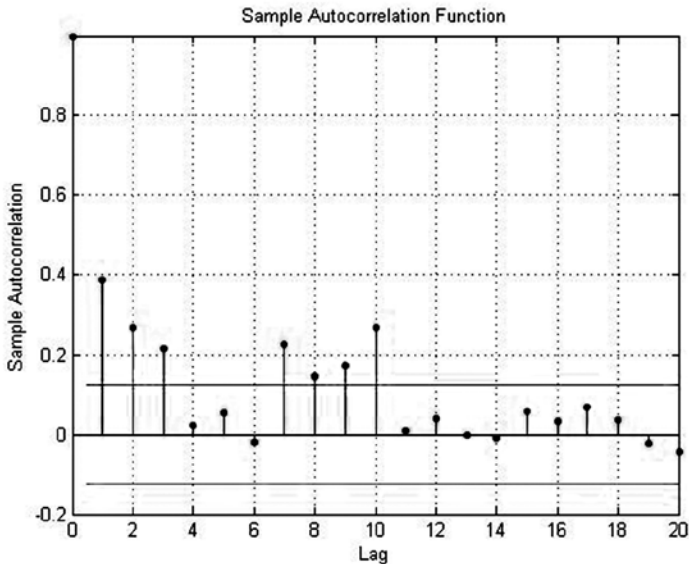
Izvor: Autor

Vidimo da su vrednosti koeficijenata dosta male, što govori da povezanost među prinosa gotovo i ne postoji (*Grafik 1*). Mnogo drugačiji rezultat dobija se ako se posmatra kvadrat prinosa (*Grafik 2*) gde se uočava postojanje malo značajnije korelacione zavisnosti. Vrednovanje korelacije može se odrediti korišćenjem *Ljung-Box*-ovog testa kod kojeg za nultu hipotezu uzimamo da nema autokorelacije, naspram alternativne da postoji. Test statistika je:

$$Q = N(N+2) \sum_{k=1}^{20} \frac{r_k^2}{(N-k)} \quad H_0: Q = 0$$

$$Q: \chi_{1-\alpha, 20}^2 \quad H_1: Q > 0$$

Grafik 2. Autokorelaciona povezanost kvadrata prinosa.



Izvor: Autor

Za naš uzorak, test je potvrdio značajno prisustvo heteroskedastičnosti (u *MATLAB*-u je korišćena funkcija *lbqtest(prinosi.^2)* koja je kao rezultat vratila 1, što znači odbacivanje nulte hipoteze).

Kao što se vidi sa *Slike 3*, najveći gubitak (negativni prinos) je bio 149. dana trgovanja. U *Tabeli 2* su prikazani samo podaci oko tog datuma, dok je celokupna tabela prikazana kao dodatak.

Tabela 2.

DANI	DATUM	CENA	KOLIČINA	LOGARITAMSKI PRINOS
148	8/5/2011	2 510	1 189	-0.06928
149	8/8/2011	2 342	6 129	-0.11288
150	8/9/2011	2 092	4 689	0.134009

Izvor: Autor

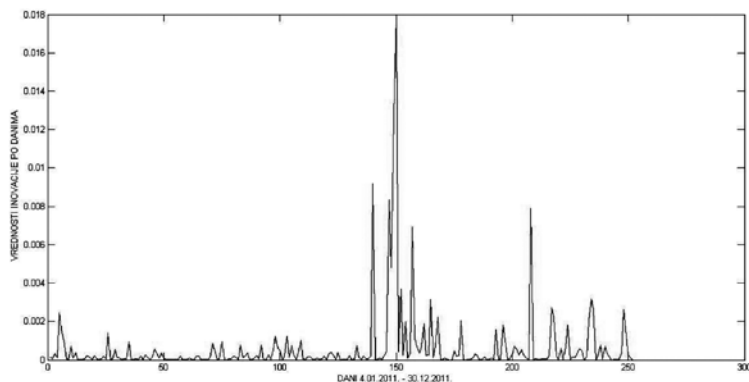
Naravno da nas interesuje i dobitak (iako veći uticaj na formiranje cena akcija imaju gubici, a ne dobiti). Najveća dobit se desila 150. dan kada je prinos bio 0.134009.

Na sledećoj slici su prikazane vrednosti, ali kvadrirane, niza $\{a_t, t = 1, 2, \dots\}$ koji se često u literaturi naziva inovacija. U *MATLAB* programu ove vrednosti dobijamo na sledeći način: $niza = prinosi.*prinosi$ (predstavlja a^2 uz pretpostavku da je srednji logaritamski prinos jednak nuli). Naime, *MATLAB* ovaj niz posmatra kao rezidual, što je opravdano jer niz $\{a_t, t = 1, 2, \dots\}$ možemo zapisati na sledeći način:

$$a_t^2 = \sigma_t^2 \varepsilon_t^2 = (y_t - \mu)^2$$

pa vrednost niza $\{a_t, t = 1, 2, \dots\}$ možemo tumačiti kao standardne devijacije prinosa.

Slika 3: Logaritamski prinosi



Izvor: Autor

Sa *Slike 4* vidimo da 150. dana trgovanja imamo neku vrstu šoka i naglog porasta vrednosti inovacije za taj dan (ona iznosi 0.017958 i najveća je za posmatrani period). To je razumljivo jer, kao što se vidi iz poslednje formule, vrednosti inovacije i logaritamskih prinosa su direktno srazmerne. U *Tabeli 3* je dodata nova kolona u odnosu na *Tabelu 2* – vrednost inovacije:

Tabela 3.

DAN	DATUM	CENA	KOLIČINA	LOG. PRINOS	VREDNOST INOVACIJE
149	8/8/2011	2 342	6 129	-0.11288	0.012743
150	8/9/2011	2 092	4 689	0.134009	0.017958
151	8/10/2011	2 392	1 459	-0.0207	0.000428

Izvor: Autor

Može se zaključiti da je inovacija veća kod pozitivnog prinosa, pa pošto ona direktno utiče na prinos, veća je promena prinosa kod pozitivne inovacije nego kod negativne.

U nastavku proveravamo da li niz *prinosi* dolazi iz normalne raspodele (pošto to zahteva *MATLAB* funkcija *ugarch* koju u nastavku koristimo) i to radimo pomoću testa normalnosti (*Jarque-Bera test*) čija je test statistika:

$$JB = \frac{4}{6} \left(S^2 + \frac{(1-3)^2}{4} \right)$$

pri tome se kod ovog testa koristi *hi*-kvadrat raspodela sa dva stepena slobode za određivanje kritične vrednosti ($JB : \chi_{1-\alpha,2}^2$, α je neki mali broj).

Hipoteze koje proveravamo jesu: $H_0 : JB = 0$ nasuprot $H_1 : JB > 0$.

To u *MATLAB*-u radimo na sledeći način:

$[h,p] = jbtest(prinosi)$ (funkcija proverava *JB*-test statistiku i vraća vrednosti h i p ; ako je $h + 1$ i $p > 0,05$ odbacujemo nultu hipotezu, u suprotnom je prihvatamo)

U našem slučaju dobijamo da je $h = 0$ dok je $p = 0.061$ što znači da prihvatamo nultu hipotezu da niz prinosa dolazi iz normalne raspodele. Dalje koristimo alate koji su nam na raspolaganju u programskom paketu za ocenu parametara:

$[Kappa, Beta, Alpha] = ugarch(prinosi, 1, 1)$ (*ugarch* funkcija računa parametre za *GARCH* (1,1) koristeći ugrađenu funkciju verodostojnosti)

Na osnovu gornje funkcije dobijamo ocenjene vrednosti parametara:

$$Beta = 0.59605 \quad (\hat{\beta})$$

$$Alpha = 0.40395 \quad (\hat{\alpha})$$

$$Kappa = 0.000057597 \quad (\hat{w})$$

Vidimo da smo dobili $\hat{\alpha} + \hat{\beta} = 0.00004553 + 0.7987 = 0.7987 < 1$ odnosno da je proces slabo stacionaran. Iste rezultate, uz malo detaljniju analizu dobijamo i na sledeći način:

```
spec11 = garchset('P',1,'Q',1,'Display','off');
```

```
[coeff11,errors11,LLF11] = garchfit(spec11,prinosi);
```

```
garchdisp(coeff11,errors11)
```

(funkcija *garchset* (*param1, val1, param2, val2, ...*) vraća ocenjene vrednosti parametara. U slučaju *GARCH(1,1)* imamo da je *param1* = *P*, *param2* = *Q*, dok je *val1* = 1 i *val2* = 1. Funkcija *garchfit* ocenjuje parametre metodom maksimalne verodostojnosti, dok funkcija *garchdisp* (*Coeff, Errors*) prikazuje tabelarno ocenjene parametre, standardne greške i t-statistike). Kao rezultat dobijamo tabelu:

Tabela 4.

PARAMETRI	OCENJENA VREDNOST	STANDARDNA GREŠKA	t-STATISTIKA
$\hat{\mu}$	-0.0025243	0.001447	-1.744
$\hat{\alpha}$	4.5538e-05	1.488e-05	3.0604
$\hat{\beta}$	0.7987	0.05268	15.1614
$\hat{\omega}$	0.11492	0.033006	3.4819

Izvor: Autor

U nastavku su prikazane vrednosti za σ koje su računane na sledeći način:

$$\sigma(1) = \sqrt{\text{Kappa}/(1-\text{Alpha}-\text{Beta})}$$
 (ocena početne volatilnosti)

for $i = 2 : (\text{dani} - 1)$,

$$\sigma(i) = \sqrt{\text{Kappa} + \text{Beta} * \sigma(i-1) * \sigma(i-1) + \text{Alpha} * \text{prinosi}(i-1) * \text{prinosi}(i-1)}$$
;

end

a na *Slici 5* je prikazana volatilnost po danima dobijena na ovaj način.

Slika 5: Volatilnost po danima.



Izvor: Autor

Za početnu vrednost sigme dobijamo 0.0234 i vidimo da se ona posle toga smanjuje, i da za period koji mi posmatramo uglavnom ne prelazi 0.07.

Sada u *Tabeli 5* dodajemo novu kolonu – volatilnost po danima:

Tabela 5.

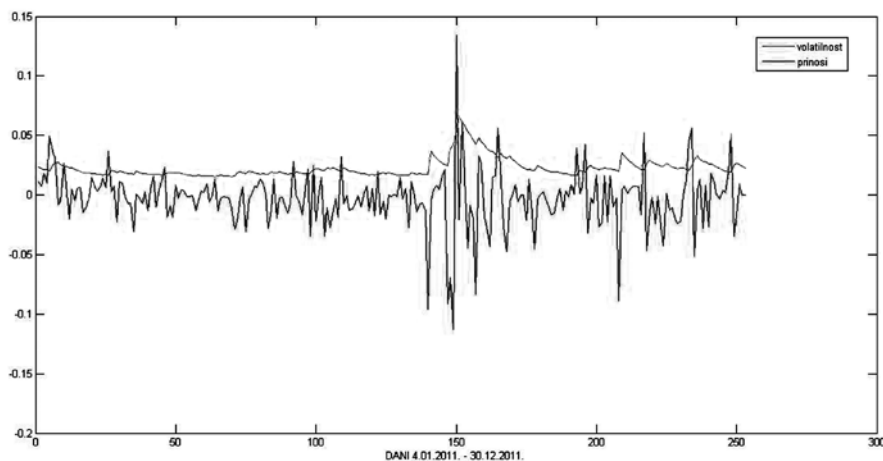
DANI	DATUM	CENA	KOLIČINA	LOG: PRINOS	VREDNOST INOVACIJE	VOLATILNOST PO DANIMA
149	8/8/2011	2 342	6 129	-0.11288	0.012743	0.042391
150	8/9/2011	2 092	4 689	0.134009	0.017958	0.054318
151	8/10/2011	2 392	1 459	-0.0207	0.000428	0.066924

Izvor: Autor

Kao što se vidi na *Slici 5* i u *Tabeli 5*, najveća volatilnost se javlja baš 151. dana, tj. dan nakon „šoka“ zbog velikog skoka prinosa. Ovo je bilo i prirodno da se desi jer sigmu za naredni dan uvek računamo na osnovu informacija iz prošlosti (procenjujemo *GARCH (1,1)* – a kod njega gledamo vrednosti iz prethodnog vremenskog perioda, a u ovom slučaju, od prethodnog dana). Vidi se da je ta nagla promena prinosa dovela do smanjenja tražnje i naglog pada cena taj dan – 8.9.2011.

Dalje, na *Slici 6* prikazane su sigme i prinosi zajedno, čisto da bi bilo lakše uočiti da veći skokovi prinosa utiču na veće skokove sigme i da se krive „prate“ međusobno.

Slika 6: Uporedni prikaz sigmi i prinosa.



Izvor: Autor

Sada, kada imamo sve vrednosti parametara, naš model *GARCH (1,1)* možemo eksplicitno izraziti:

$$y_t = \underbrace{-0.0025243}_{(0.0014471)} + a_t$$

$$\sigma_t^2 = \underbrace{0.11492}_{(0.033006)} + \left(\underbrace{4.5538e-05}_{(1.488e-05)} \right) a_{t-1}^2 + \underbrace{0.7987}_{0.05268} \sigma_{t-1}^2, \quad t = 1, \dots, 254 \quad (*)$$

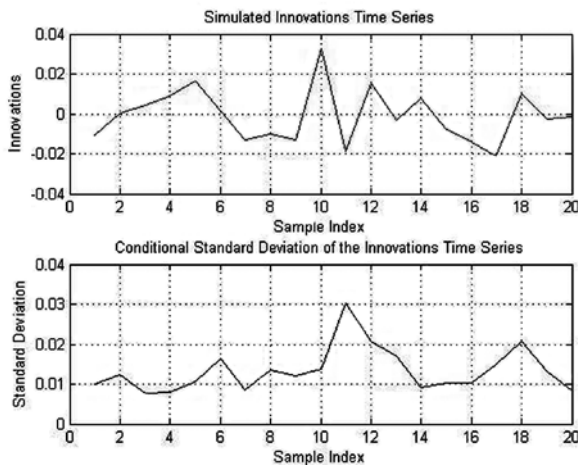
Na kraju, na *Slici 7* su prikazane simulirane vrednosti inovacija za narednih dvadeset dana, a zatim standardne devijacije koje smo dobili na sledeći način:

$[U,H] = ugarchsim(Kappa, Alpha, Beta, 10)$ (funkcija simulira vrednosti α_t za sledećih 10 koraka, pa po *GARCH (1,1)* računa volatilnost, tj. standardne devijacije u tom periodu)

U predstavlja vektor inovacija (α_t), dok je H vektor uslovnih varijansi (σ_t). Ocena za naredni period se vrši na osnovu ocenjenih vrednosti parametara, u našem slučaju, ocenjenog modela *GARCH (1,1)* (*).

Funkcija *ugarchplot(U,H)* crta α_t i volatilnost.

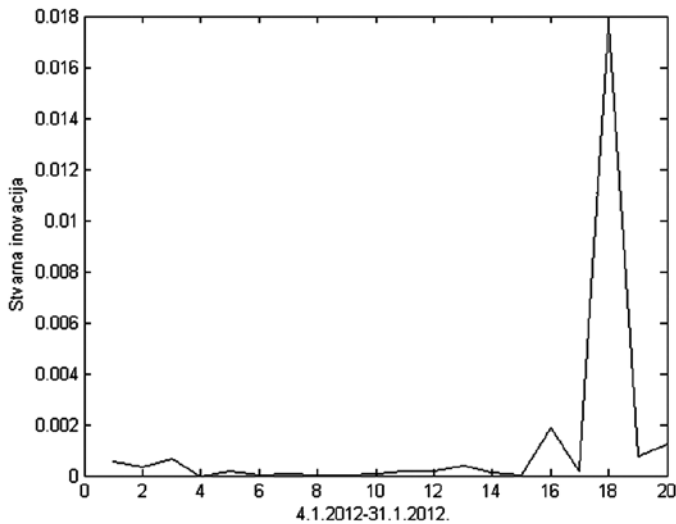
Slika 7: Simulirane vrednosti inovacija za 20 dana.



Izvor: Autor

Iz stvarnih cena akcija u periodu 4.1.2012–31.1.2012. dobija se niz stvarnih inovacija (*Slika 8*), što nam daje mogućnost da vidimo koliko dobro naš *GARCH* opisuje model.

Slika 8: Stvarne inovacije.



Izvor: Autor

U *Tabeli 6* su upoređene stvarne i simulirane vrednosti inovacija za period 04.1.2012–31.1.2012. godine:

Tabela 6.

DANI	STVARNE INOVACIJE	SIMULIRANE INOVACIJE
1	0.000576	0.1021
2	0.00033856	0.1516
3	0.00068121	0.0594
4	0	0.0634
5	0.00018496	0.1114
6	0.00000049	0.2697
7	0.00006084	0.0745
8	0.00002025	0.1846
9	0.00001024	0.1454
10	0.00008281	0.1913
11	0.00019044	0.9192
12	0.00017424	0.4293
13	0.00039204	0.2856

14	0.00012996	0.0832
15	0.000004	0.1047
16	0.001849	0.1035
17	0.00018769	0.2185
18	0.01771561	0.4249
19	0.00073984	0.1726
20	0.001219357	0.0661

Izvor: Autor

Nažalost, kao što se vidi iz tabele, nismo dobili baš slične rezultate. Brojni su razlozi ovakvog stanja, a jedan od glavnih jeste uticaj krize na tržište, i šokovi koji se kao njene posledice skoro svakodnevno događaju. *GARCH* se i pokazao kao model koji nije baš odgovarajući kada su u pitanju neka velika odstupanja na tržištu, te se stalnom modifikacijom proširuje njegova učinkovitost.

PREDVIĐANJE POMOĆU MULTIVARIJACIONOG MODELA

Kao što je bilo rečeno na početku rada, obrađeni su univarijacioni model (konkretno *GARCH(1,1)* model) i multivarijacioni model (višestruka linearna regresija). Na osnovu regresije urađeno je i predviđanje. Kao nezavisna promenljiva, uzete su cene akcija AIK BANKE a. d. Niš, a kao zavisne promenljive posmatrane su novčana masa *M1*, referentna kamatna stopa i javni rashodi.³ Novčana masa *M1* sastoji se od:

- gotovog novca u opticaju i
- depozitnog novca – sredstva na tekućim i žiro računima – izdvojena i osigurana sredstva za investicije – sredstva za zajedničku potrošnju – sredstva za stambenu izgradnju – ostala novčana sredstva.

Posmatrani period je 2011. godina. Podaci nezavisnih promenljivih dati su u milionima dinara (novčana masa *M1* i javni rashodi), te je bilo neophodno logaritmovati ih. Referentna kamatna stopa je izražena u procentima tako da ona nije morala biti modifikovana. Što se tiče cena akcija, one su date na dnevnom nivou i to samo radnim danima u nedelji (vikendi su izuzeti). S obzirom da su svi ostali podaci dati na mesečnom nivou, i ovi su prikazani na mesečnom nivou. Prvo su izračunate promene cena akcija na dnevnom nivou ($\Delta cena = \frac{c_n - c_{n-1}}{c_{n-1}}$, $n = 1, \dots, 253$).

³ Podaci za nezavisne promenljive preuzeti su sa veb-sajta Narodne banke Srbije <http://www.nbs.rs/>, dok su cene akcija preuzete sa veb-sajta Beogradske berze <http://www.belex.rs/>.

Zatim su računate aritmetičke sredine mesečnih promena i, na kraju, promene aritmetičkih sredina mesečnih promena. Tako se na kraju dobila serija od 12 podataka (12 meseci u 2011. godini). Podaci su dati u *Tabeli 8*.

Tabela 8.

Mesec u 2011. godini	Promena cena AIKB	Novčana masa M1	Referentna kam.stopa	Javni rashodi
1/2011	0.007740738	2.35011228	0.12	4.78780678
2/2011	-0.0060028	2.359475001	0.12	4.83341743
3/2011	-0.00330183	2.361801471	0.1225	4.84591251
4/2011	-0.00359766	2.367398789	0.125	4.85712676
5/2011	0.002563711	2.368149228	0.125	4.83624244
6/2011	-0.00497689	2.374530228	0.12	4.87940901
7/2011	-0.00068318	2.404113285	0.1175	4.89888143
8/2011	0.00309376	2.408331565	0.1175	4.85431212
9/2011	-0.00359156	2.408946815	0.1125	4.8516912
10/2011	0.004577123	2.407446994	0.1075	4.874829
11/2011	-0.00416212	2.421258328	0.1	4.88490916
12/2011	0.012047078	5.467895074	0.0975	4.94407879

Izvor: Autor

U excel-u je odrađena regresiona analiza i dobijeni su sledeći rezultati:

Tabela 9.

SUMMARY OUTPUT	
<i>Regression Statistics</i>	
Multiple R	0.744333723
R Square	0.554032691
Adjusted R Square	0.386794951
Standard Error	0.004456948
Observations	12

ANOVA

	df	SS	MS	F	Significance F
Regression	3	0.000197423	6.58076E-05	3.31284487	0.077953
Residual	8	0.000158915	1.98644E-05		
Total	11	0.000356338			

	Coefficients	Standard Error	t Stat	P-value
Intercept	0.39	0.262374718	1.480845276	0.176921456
Novčana masa M1	0.01	0.00216659	2.677075878	0.028052851
Ref. kamatna stopa	-0.11	0.207133864	-0.531240115	0.609681035
Javni rashodi	-0.08	0.052138165	-1.541714589	0.161713599

Izvor: Autor

Naravno, prvo je provereno da li među nezavisnim promenljivama postoji jaka veza – pokazano je da postoji.

Na osnovu linearne regresije ocenjen je model:

$$\Delta \text{cena} = 0.3885 + 0.0058 \cdot M1 - 0.11 \cdot \text{Ref. KamStopa} - 0.0803 \cdot \text{javniRashodi}$$

Na osnovu gorenavedenog modela pravljeno je predviđanje za mesec januar 2012. godine. Predviđanje je dalo prognozu za promenu cena akcija u prvoj polovini 2012. godine.

Tabela 10.

Predviđanje				Approx. 95%					
M1	ref. kam. stopa	jav. rashodi	point prediction	t-value	Approx. St Err. of prediction	Margin of error	Lowest Bound	Upper Bound	Interval Width
5.4396	0.095	4.8560	0.0193	-1.8595	0.005348	-1.8541997	1.873493972	-1.83490543	-3.7084
5.4569	0.095	4.8738	0.0180	-1.859	0.005348	-1.8541997	1.872165789	-1.83623361	-3.7084
5.4255	0.095	4.9001	0.0156	-1.8595	0.005348	-1.8541997	1.869872942	-1.83852646	-3.7084
5.4402	0.095	4.9823	0.0091	-1.8595	0.005348	-1.8541997	1.863343603	-1.8450558	-3.7084
5.41867	0.095	4.8468	0.0196	-1.8595	0.005348	-1.8541997	1.874116174	-1.83428323	-3.7084
5.4298	0.1	4.8895	0.0160	-1.8595	0.005348	-1.8541997	1.870196786	-1.83820261	-3.7084

Izvor: Autor

Kolona sa t -vrednosti dobije je pomoću *excel*-ove funkcije *tin*v koja vraća t -vrednost studentove t raspodele kao funkciju verovatnoće sa brojem stepeni slobode (*tin*v(0.5, Residual)).

Aproksimacija standardne greške dobija se tako što se pomnože vrednost standardne greške sa 1,1 (koja nastaje pri povećanju greške za 10%). Granična greška se dobija kao zbir t -vrednosti i aproksimacije standardne greške. Donja granica intervala poverenja nalazi se tako što se od tačke predviđanja oduzme aproksimacija standardne greške, dok se gornja granica dobija sabiranjem tačke predviđanja sa aproksimacijom standardne greške. Dužina intervala predstavlja razliku gornje i donje granice intervala poverenja. Predviđene vrednosti označene su u četvrtoj koloni u *Tabeli 10*.

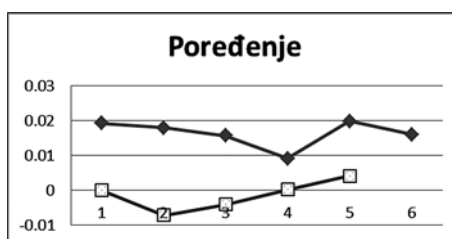
Na *Slici 9* dat je uporedni pregled stvarnih promena, kao i predviđenih promena cena akcije (plavom bojom su označene predviđene vrednosti promena cena akcija, a crvenom bojom su date stvarne promene cena akcija). U *Tabeli 11* je dat uporedni pregled predviđenih i stvarnih promena cena akcija za prvu polovinu 2012. godine.

Tabela 11.

Stvarna promena cena AIKB	Predviđena promena
-0.00007286	0.019294272
0.00000272	0.017966089
-0.00710326	0.015673241
-0.00400402	0.009143903
0.00021037	0.019916474
0.00417229	0.015997086

Izvor: Autor

Slika 9. Uporedni pregled stvarnih i predviđenih cena akcija.



Izvor: Autor

Međutim, kada se uporede predviđene vrednosti sa stvarnim vrednostima promene cena akcija vidi se značajno odstupanje. Mnogo je razloga za ovakve rezultate. Kao

i kod univarijacionog modela, jedan od glavnih razloga jeste uticaj krize na tržište, i šokovi koji se kao njene posledice skoro svakodnevno događaju. Po mišljenju autora ovoga rada, u multivarijacionom modelu je to izraženije iz razloga što su i nezavisne promenljive takođe pod uticajem krize i njenih posledica.

ZAKLJUČAK

Kada se uporede univarijacioni i multivarijacioni model, tačniju prognozu (bližu stvarnim vrednostima) dao je univarijacioni model. Mišljenje je autora da je to zato što situacija na tržištu ima manje uticaja na univarijacioni model iz razloga što se posmatraju samo jedni podaci i na osnovu njih se vrši prognoza, dok kod multivarijacionog modela ima više faktora koji utiču na zavisnu promenljivu, te je samim tim i jači uticaj spoljnih faktora na zavisnu promenljivu.

Međutim, ovim radom je prikazan samo mali deo teorije *ARCH* i *GARCH* modela, vrlo moćnog aparata u savremenoj ekonometrijskoj analizi. Kao potvrda njihove atraktivnosti javljaju se mnoge modifikacije osnovnog modela što samo pokazuje da se ovi modeli izučavaju, modifikuju i poboljšavaju.

Naravno, kao ni ostali modeli, ni ovi prikazani u radu nisu savršen prikaz stvarnog stanja, ali predstavljaju dobar alat pri analizi finansijskih tržišta. Posebno *ARCH* i *GARCH* pošto vrlo brzo izračunavaju „vrednost rizika“, a samim tim daju brzu aproksimaciju tržišnog rizika. Uz korišćenje dobrih softverskih paketa, ova metoda postaje vrlo efikasan alat u današnjim modernim finansijskim tokovima.

COMPARISON OF FORECASTS USING UNIVARIATE AND MULTIVARIATE MODELS

Cokic Senada

Abstract: *In today's modern economic literature it is virtually impossible to talk about any form of business without taking into account risks and their consequences. Generally speaking, risk is defined as uncertainty of future outcome. One of its most well-known forms is market risk or uncertainty about share prices change. Market risk is considered to be the highest risk in investment business with shares. The most common causes of price changes are disproportion in supply and demand in the market as well as changes in interest rates. On the other hand, market risk is the easiest one to identify and quantify as share prices are recorded in each transaction and it is easy to monitor the dividends that the shares give using these prices.*

*In professional terminology the word **volatility** is used in order to indirectly refer to the risk of share value change (or any other financial resource). Volatility is a mechanism of risk measurement and management and it is also used for financial resources evaluation, asset management and portfolio management.*

Key words: *volatility / GARCH / forecast / univariate model / multivariate model*

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ZNAČAJ POJEDINIH INDIKATORA POSLOVANJA ODREĐENIM GRUPAMA ANALITIČARA

Vučković Branko¹

Sažetak: *Finansijski izveštaji su skup informacija o finansijskom položaju preduzeća i o uspešnosti poslovanja preduzeća, kao i informacija o novčanim tokovima i promenama na kapitalu. Svi ovi izveštaji definisani su u jednu zaokruženu celinu u određenom vremenskom periodu, a kod nas su zakonski regulisani u periodu od godinu dana. Predmet istraživanja u ovom radu je da se na osnovu analize poslovanja definiše značaj pojedinih indikatora poslovanja određenim grupama analitičara koji sa raznih aspekata mogu biti zainteresovani za poslovanje određenog privrednog društva. Finansijska analiza je urađena na studiji slučaja „Signal“ d. o. o. Sombor za period 2008–2012. godine.² Na osnovu izvršene finansijske analize preduzeća, određeni su indikatori poslovanja koji su od značaja za određene grupe analitičara kao što su: vlasnici preduzeća, menadžment preduzeća, poslovni partneri, poslovne banke i država, a pre svega poreska uprava. U toku istraživanja, korišćene su sledeće metode: metoda analize, metoda sinteze i studija slučaja.*

Ključne reči: *finansijska analiza / finansijski izveštaj / racio analiza / indikatori poslovanja / novčani tokovi*

UVOD

Suština definisanja pojma analize finansijskih izveštaja u funkciji poslovnog odlučivanja nalazi se u shvatanju da analiza treba da podvrgne posmatranju, ispitivanju, oceni i formulisanju dijagnoze one procese koji su se desili u preduzeću i koji se kao takvi nalaze sažeti i evidentirani u okviru finansijskih izveštaja. Predmet istraživanja se odnosi na sagledavanje finansijskih, investicionih i poslovnih

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² Rad predstavlja deo iz magistarskog rada „Analiza finansijskih izveštaja u funkciji poslovnog odlučivanja – Studija slučaja: ‘Signal’ d. o. o. Sombor“, odbranjen na Fakultetu za ekonomiju i inženjerski menadžment u Novom Sadu, 2013. godine.

aktivnosti preduzeća koja predstavljaju poslovne događaje koje računovodstvo beleži i obelodanjuje na kraju svake poslovne godine kroz finansijske izveštaje.

Cilj istraživanja je da se analizom finansijskih izveštaja preduprede potencijalni problemi koji se mogu dogoditi u preduzeću odstupanjem od propisanih odnosa i pretpostaviti dalje smernice rada posmatranog preduzeća (Besley i Brigham, 2009). Finansijsku i racio analizu primenjuju kako kompanije visokih tehnologija, tako i mala i srednja preduzeća (Veselinović i Drobnjaković, 2012).

Takođe, cilj istraživanja predstavlja izbor minimuma pokazatelja finansijske analize neophodnih da bi određeni analitičari mogli doneti zaključke o radu i budućnosti posmatranog preduzeća, i doneti odluku da li sa njim ući u poslovne odnose. U zavisnosti od zainteresovanosti analitičara, definisani su i ciljevi analize. Iz jedne celovite analize vlasnici i deoničari su više zainteresovani za analizu sredstava i njihovih izvora, analizu dobiti i njenu raspodelu, dok su poslovni partneri (poverioci i kupci) kao i finansijeri (banke) zainteresovani za kreditnu sposobnost preduzeća i njenu kratkoročnu i dugoročnu likvidnost, kao sigurnost da će izmiriti obaveze nastale iz poslovanja.

Poreski organi žele da utvrde pravu osnovicu za oporezivanje, a država da proceni kojim bi merama ekonomske politike mogla pospešiti određenu proizvodnju i na taj način u budućnosti ostvariti povećane budžetske prihode.

Menadžeri svih nivoa odlučivanja koriste finansijske izveštaje da bi mogli planirati, organizovati i kontrolisati proces proizvodnje tako da pokriju sve troškove poslovanja, uključujući i plate svih zaposlenih, kao i da ostvare dobit za vlasnike i akcionare.

Hipoteze istraživanja

S obzirom na definisani problem i cilj istraživanja, postavili smo polaznu hipotezu da svako preduzeće koje u svojim finansijskim izveštajima iskazuje negativne rezultate u odnosu na propisane norme ima poremećaje u finansijskim tokovima koji se odražavaju na ukupan uspeh (neuspeh) preduzeća.

O PREDUZEĆU „SIGNAL” D. O. O. SOMBOR

„Signal“ d. o. o. Sombor, preduzeće za proizvodnju i održavanje saobraćajne signalizacije, projektovanje i inženjering, sa sedištem u Somboru, osnovano je 1991. godine kao mala porodična radionica sa svega nekoliko radnika. Do 1996.

godine obavljali su samo poslove horizontalnog obeležavanja puteva, za čiji je rad obezbeđena oprema od pet vozila, a proizvodnja znakova je bila smeštena u maloj lokalnoj radionici. U periodu 1998–2000. godine pristupilo se nabavci polovne opreme za izradu saobraćajnih znakova, pomoćnih tabli, bilborda i sl. jer je postojala tražnja koja nije mogla biti zadovoljena uvozom, a zbog ekonomske situacije je došlo do gašenja ove proizvodnje u okvirima društvenih preduzeća, što je stvorilo osnov za razvoj ovog preduzeća. Investicija kojom su zaokružili proizvodni proces i stekli komparativnu prednost nad konkurencijom bila je kupovina mašine od italijanskog proizvođača OMERA, kojom se upravlja kompjuterski, te omogućava potpunu automatizaciju procesa savijanja i isecanja znakova.

„Signal“ d. o. o. Sombor bavi se projektovanjem, izradom i održavanjem horizontalne, vertikalne i svetlosne saobraćajne signalizacije, kao i turističke signalizacije (znakovi, table, barijere, svetlosna signalizacija – semafori, gumene barijere, solarni semafori, farbanje puteva hladnom plastikom i standardno farbanje, obeležavanje i dr.).

Osnovni proizvodni program se sastoji od izrade i projektovanja:

- a. vertikalne signalizacije,
- b. horizontalne signalizacije,
- c. svetlosne signalizacije,
- d. saobraćajne opreme i
- e. projektovanje i inženjering.

ANALIZA FINANSIJSKIH IZVEŠTAJA ZA PERIOD 2008–2012. GODINE

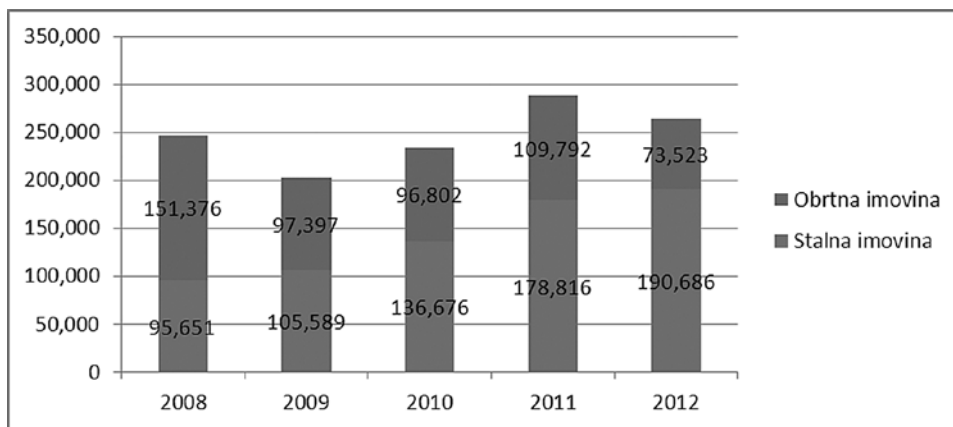
Uvažavajući međunarodne računovodstvene standarde (MRS) i međunarodne standarde finansijskog izveštavanja (MSFI) menadžment preduzeća pokušava da uspostavi strategiju upravljanja i da prati šta se dešava sa preduzećem kada se primenjuju i poštuju određene politike i pokazatelji, a šta se dešava kada se to ne poštuje. Sve te promene se evidentiraju preko finansijskih izveštaja koji opisuju krajnji rezultat poslovanja preduzeća u jednoj godini.

Tabela 1: Aktiva bilansa stanja preduzeća „Signal” d. o. o. Sombor.

Godine	2008	2009	2010	%rasa/ smanjenja	2011	%rasa/ smanjenja	2012	%rasa/ smanjenja
Ukupna aktiva	247.027	202.986	233.478	15%	297.666	27%	283.807	-5%
Stalna imovina	95.651	105.589	136.676	29%	178.816	31%	190.686	7%
Neuplaćeni upisani capital	0	0	0	0%	0	0%	0	0%
Goodwill	0	0	0	0%	0	0%	0	0%
Nematerijalna ulaganja	1.417	2.037	1.643	-19%	1.748	6%	1.428	-18%
Nekretnine, postrojenja, oprema i biološka sredstva	94.207	102.276	134.371	31%	176.707	32%	188.897	7%
Nekretnine, postrojenja i oprema	52.640	102.276	134.371	31%	176.707	32%	188.897	7%
Investicione nekretnine	41.567	0	0	0%	0	0%	0	0%
Biološka sredstva	0	0	0	0%	0	0%	0	0%
Dugoročni finansijski plasmani	27	1.276	662	-48%	361	-45%	361	0%
Učešća u kapitalu	0	1.249	635	-49%	334	-47%	334	0%
Ostali dugoročni finansijski plasmani	27	27	27	0%	27	0%	27	0%
Obrtna imovina	151.376	97.397	96.802	-1%	109.792	13%	73.523	-33%
Zalihe	30.351	36.288	34.409	-5%	35.391	3%	32.555	-8%
Stalna sredstva namenjena prodaji i sredstva poslovanja koja se obustavljaju	0	0	0	0%	0	0%	0	0%
Kratkoročna potraživanja, plasmani i gotovina	121.025	61.109	62.393	2%	74.401	19%	40.968	-45%
Potraživanja	116.123	54.775	56.171	3%	72.137	28%	38.207	-47%
Potraživanja za više plaćen porez na dobitak	0	0	0	0%	0	0%	660	
Kratkoročni finansijski plasmani	0	0	59		59	0%	59	0%
Gotovinski ekvivalenti i gotovina	3.203	5.576	51	-99%	1.139	2133%	51	-96%
Porez na dodatu vrednost i aktivna vremenska razgraničenja	1.699	758	6.112	706%	1.066	-83%	1.991	87%
Gubitak iznad visine kapitala	0	0	0	0%	0	0%	0	0%
Vanbilansna aktiva	8.029	8.029	8.029	0%	194	-98%	194	0%
Odložena poreska sredstva	0	0	0	0%	9.058		19.595	116%

Izvor: Kalkulacija autora

Grafikon 1. Kretanje vrednosti stalne i obrtne imovine preduzeća „Signal” d. o. o. Sombor u periodu 2008–2012. godine.



Izvor: Kalkulacija autora

Dobro poslovanje i velika neraspoređena dobit su odličan početak ulaska u investiciju, faktički iz sopstvenih sredstava (neraspoređene dobiti). Nekretnine, postrojenja i oprema rastu iz godine u godinu što govori da ovaj investicioni ciklus traje u celokupnom posmatranom periodu. Najveći intenzitet investicije je bio u 2010. i 2011. godini.

- Od toga, stalna imovina je porasla za 31% u odnosu na 2010, i to nekretnine postrojenja i oprema za 32%, i nematerijalna ulaganja za 6%, dok su dugoročni finansijski plasmani zabeležili pad od 45%.
- Takođe se povećala i obrtna imovina, i to za 13%, od čega zalihe za 3%, a kratkoročna potraživanja, plasmani i gotovina za 19%. Posmatrajući zalihe, vidi se da je preduzeće tokom posmatranog perioda držalo određeni nivo zaliha, koje su neophodne za održavanje kontinuirane proizvodnje. I na kraju, kao najlikvidnija sredstva, gotovinski ekvivalent i gotovina su porasli čak za 2,133%, i potraživanja 28%. Ovo nedvosmisleno pokazuje da je potraživanje od kupaca zauzelo značajnu kategoriju u obrtnoj imovini i da predstavlja jednu od razvojnih snaga preduzeća ili potencijalni problem u slučaju da kupci kasne sa plaćanjem. Mogući razlog tome je da su rokovi plaćanja predugački, što će se moći videti analizom novčanih tokova preduzeća, i praćenjem koeficijenta obrta.

- U 2011. godini su se pojavila i odložena poreska sredstva u iznosu od 9.059.000 RSD koja prethodne godine nisu bila u aktivi bilansa stanja.

Prateći dešavanja i promene u aktivi bilansa stanja u 2012. godini, u odnosu na dešavanja i promene u 2011. godini, dolazimo do sledećih zaključaka:

- Došlo je do smanjenja ukupne aktive za 5% što je uveliko prouzrokovano smanjenjem potraživanja od kupaca u iznosu od 33.930.000 RSD (47%).
- Činjenica je da preduzeće i dalje investira jer je došlo do povećanja stalne imovine za 7%, što je u manjem obimu nego prethodnih godina. Ovo nam govori da se investicioni ciklus privodi kraju i preduzeće formira svoju konačnu stalnu aktivu.

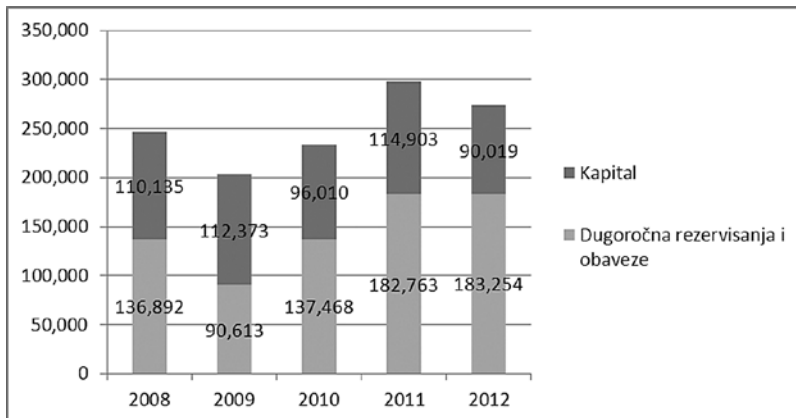
Tabela 2: Pasiva bilansa stanja preduzeća „Signal” d. o. o. Sombor.

Godine	2008	2009	2010	%rasta/ smanjenja	2011	%rasta/ smanjenja	2012	%rasta/ smanjenja
Ukupno pasiva	247.027	202.986	233.478	15%	297.666	27%	273.273	-8%
Kapital	110.135	112.373	96.010	-15%	114.903	20%	90.019	-22%
Osnovni kapital	16.158	16.158	16.158	0%	16.158	0%	16.158	0%
Neplaćeni upisani kapital	0	0	0	0%	0	0%	0	0%
Rezerve	479	479	479	0%	479	0%	479	0%
Revalorizacione rezerve	1.913	1.913	1.299	-32%	18.568	1329%	18.568	0%
Nerealizovani dobiti po osnovu hartija od vrednosti	0	0	0	0%	0	0%	0	0%
Nerealizovani gubici po osnovu hartija od vrednosti	0	0	0	0%	0	0%	0	0%
Nerasporedjeni dobitak	91.585	93.823	78.074	-17%	79.698	2%	54.814	-31%
Gubitak	0	0	0	0%	0	0%	0	0%
Otkupljene sopstvene akcije	0	0	0	0%	0	0%	0	0%
Dugoročna rezervisanja i obaveze	136.892	90.613	137.468	52%	182.763	33%	183.254	0%
Dugoročna rezervisanja	0	0	0	0%	0	0%	0	0%
Dugoročne obaveze	27.484	46.672	81.429	74%	76.756	-6%	73.872	-4%
Dugoročni krediti	23.707	40.878	62.085	52%	64.194	3%	73.381	14%
Ostale dugoročne obaveze	3.777	5.794	19.344	234%	12.562	-35%	491	-96%
Kratkoročne obaveze	109.408	43.941	56.039	28%	106.007	89%	109.382	3%

Kratkoročne finansijske obaveze	66.801	11.214	16.776	50%	42.461	153%	56.710	34%
Obaveze po osnovu sredstava namenjenih prodaji i sredstava poslovanja koje se obustavlja	0	0	0	0%	0	0%	0	0%
Obaveze iz poslovanja	40.170	30.366	34.172	13%	45.416	33%	46.889	3%
Ostale kratkoročne obaveze	2.355	1.980	4.577	131%	3.747	-18%	4.502	20%
Obaveze po osnovu poreza na dodatu vrednost i ostalih javnih prihoda i pasivna vremenska razganičenja	82	381	514	35%	13.419	2511%	1.281	-90%
Obaveze po osnovu poreza na dobitak	0	0	0	0%	964		0	-100%
Odložene poreske obaveze	0	0	0	0%	0	0%	10.531	
Vanbilansna pasiva	8.029	8.029	8.029	0%	194	-98%	194	0%

Izvor: Kalkulacija autora

Grafikon 2. Kretanje vrednosti pozicija kapital i dugoročna rezervisanja i obaveze preduzeća „Signal” d. o. o. Sombor u periodu 2008–2012. godine.



Izvor: Kalkulacija autora

U pasivi bilansa stanja sagledavamo iz kojih je izvora preduzeće beležilo visok stepen razvoja i koliko su ti izvori rizični za dalje poslovanje preduzeća. Određene nesrazmere u izvorima sredstava su se počele pojavljivati u 2011. godini u odnosu na 2010. godinu:

- Povećava se ukupna aktiva i ukupna pasiva za 64.188.000 RSD, tj. za 27%, a u tome kapital za 18.893.000 RSD ili za 20%, i to iz revalorizacionih rezervi u visini od 17.269.000 RSD ili za 1,329%, i neraspoređeni dobitak za 1.624.000 RSD ili za 2%. Ovo možemo smatrati povećanjem sopstvenih sredstava, što je dobro. Poseban kvalitet je u neraspoređenoj dobiti, dok se u revalorizacionim rezervama može desiti da budu i neobjektivno iskazane.
- Drugi deo pasive koji se povećao jesu dugoročna rezervisanja i obaveze koje su se povećale za 45.295.000 RSD ili 33%, s tim da su se dugoročne obaveze ukupno smanjile za 4.673.000 RSD, tj. za 6%, a u tome dugoročni krediti povećali za 2.109.000 RSD ili 3%, a smanjile su se ostale dugoročne obaveze za 6,782.000 RSD ili 35%.
- Izrazito povećanje je došlo kod kratkoročnih obaveza koje su se povećale za 49.968,000 RSD ili za 89%, a od toga kratkoročne finansijske obaveze za 25.685.000 RSD ili za 153%; obaveze iz poslovanja za 11.244.000 RSD, tj. 33%, i obaveze po osnovu poreza na dodatu vrednost i ostalih javnih prihoda i poreza za 12.905.000 RSD ili 2,511%. U ovom delu izvora sredstava konstatujemo rizik u poslovanju preduzeća jer je izvesno da su stalna sredstva finansirana iz kratkoročnih izvora, što znači da je izgradnja ili kupovina osnovnih sredstava u ovom periodu investicije izvršena iz kratkoročnih kredita i povećanjem ostalih obaveza iz poslovanja (uglavnom na teret dobavljača), a ovde je obezbeđeno i odloženo plaćanje poreskih obaveza. Svi ovi načini finansiranja su vrlo skupi i imaju svoje dodatne troškove. Krediti imaju trošak kamate; dobavljači ako kreditiraju imaju veće cene, a odložene poreske obaveze takođe visoke kamate, tako da je ovako izabran način finansiranja sredstava jedan od najskupljih. Ujedno, ovakva struktura izvora sredstava predstavlja potencijalni problem za likvidnost preduzeća. Neophodno je da preduzeće preduzme potrebne mere da veliki deo kratkoročnih izvora sredstava pretvori u dugoročne obaveze.

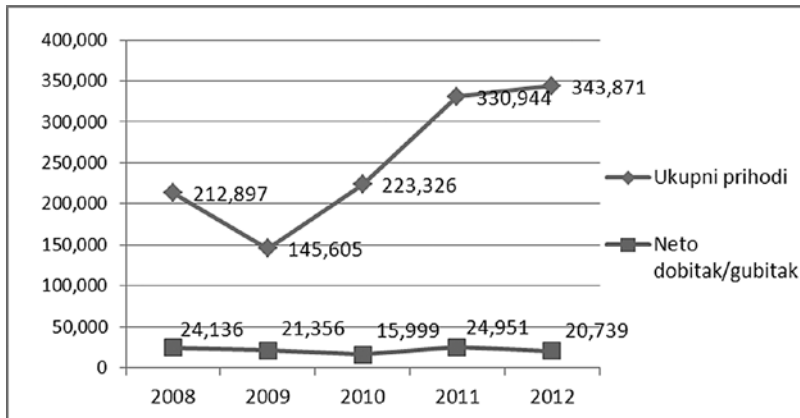
U 2012. godini preduzeće je smanjilo ukupnu pasivu i to, nažalost, na teret neraspoređenog dobitka njegovim podizanjem, čime je slika izvora sredstava u potpunosti izmenjena i gde se udeo sopstvenog kapitala u ukupnoj imovini smanjio, a preduzeće se uglavnom finansira iz tuđih izvora. U svakom slučaju je dobro da su ti izvori dugoročnog karaktera.

Tabela 3: Bilans uspeha preduzeća „Signal“ d. o. o. Sombor.

Godine	2008	2009	2010	2011	2012
Ukupni prihodi	212.897	145.605	223.326	330.944	343.871
Poslovni prihodi	205.342	143.925	217.675	312.541	311.172
Prihodi od prodaje	196.439	142.001	217.322	314.584	297.075
Prihodi od aktiviranja učinaka i robe	0	0	97	313	11.769
Povećanje vrednosti zaliha učinaka	8.895	1.843	241	0	1.946
Smanjenje vrednosti zaliha učinaka	0	0	0	3.062	274
Ostali poslovni prihodi	8	81	15	706	656
Finansijski prihodi	6.471	552	1.848	5.559	4.095
Ostali prihodi	1.084	1.128	3.803	12.844	28.604
Ukupni rashodi	188.761	124.249	206.924	298.719	322.814
Poslovni rashodi	172.285	111.060	190.355	248.960	268.737
Nabavna vrednost prodane robe	2.451	0	20.045	10	88
Troškovi materijala	90.414	51.162	94.262	149.645	164.699
Troškovi zarada, naknada zarada i ostali lični rashodi	31.235	27.783	32.132	36.943	44.706
Troškovi amortizacije i rezervisanja	7.821	5.111	7.800	11.014	12.252
šOstali poslovni rashodi	40.364	27.004	36.116	51.348	46.992
Finansijski rashodi	14.801	12.930	15.945	19.177	22.154
Ostali rashodi	1.675	259	624	30.582	31.923
Poslovni dobitak (EBIT)	33.057	32.865	27.320	63.581	42.435
Poslovni dobitak (EBITDA)	40.878	37.976	35.120	74.595	54.687
Dobitak/gubitak iz redovnog poslovanja pre oporezivanja	24.136	21.356	16.402	32.225	21.057
Neto dobitak/gubitak poslovanja koje se obustavlja	0	0	0	-131	0
Dobitak/gubitak pre oporezivanja	24.136	21.356	16.402	32.094	21.057
Porez na dobitak	0	0	403	7.143	318
Poreski rashod perioda	0	0	403	1.796	1.136
Odloženi poreski rashodi perioda	0	0	0	5.347	0
Odloženi poreski prihodi perioda	0	0	0	0	818
Isplaćena lična primanja poslodavcu	0	0	0	0	0
Neto dobitak/gubitak	24.136	21.356	15.999	24.951	20.739
Neto dobitak koji pripada manjinskim ulagačima	0	0	0	0	0
Neto dobitak koji pripada vlasnicima matičnog pravnog lica	0	21.356	15.999	24.951	20.739

Izvor: Kalkulacija autora

Grafikon 3. Kretanje neto dobitka i ukupnih prihoda preduzeća „Signal” d. o. o. Sombor u periodu 2008–2012. godine (u 000 RSD).

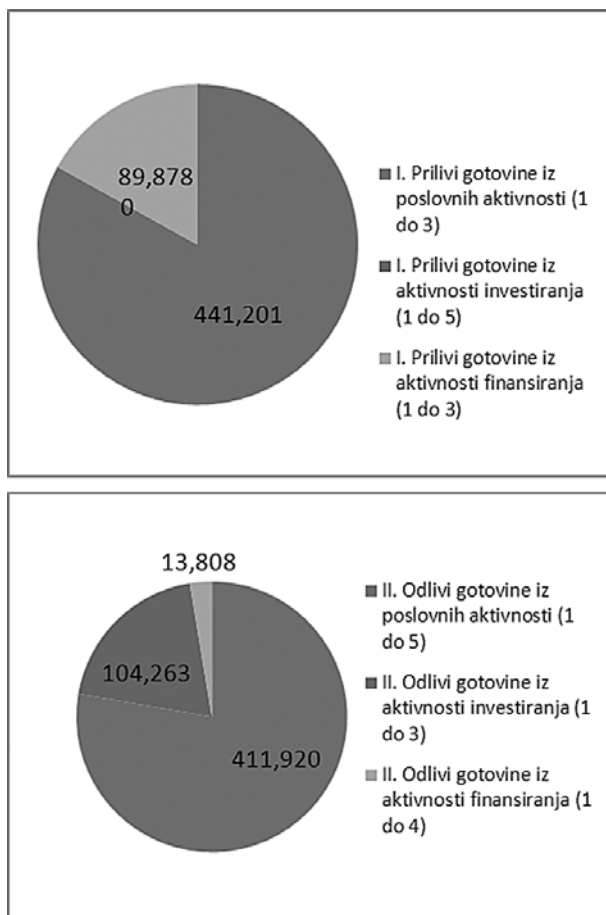


Izvor: Kalkulacija autora

U posmatranom periodu preduzeće „Signal“ d. o. o. Sombor je pretežne prihode ostvarivalo poslovanjem na domaćem tržištu. Udeo prihoda od izvoza kretao se u 2010. godini 5,19%, u 2011. godini oko 4%, a u 2012. godini 8,7%. Ujedno, prihodi od prodaje proizvoda i usluga na domaćem tržištu u 2012. godini su iznosili oko 87% dok razliku čini prodaja robe na domaćem tržištu.

U poslovnim rashodima u 2012. godini najveću stavku predstavljaju troškovi materijala, a u okviru njih troškovi materijala za izradu koji čine 85,7%, troškovi režijskog materijala oko 6,4%, a troškovi goriva u troškovima materijala čine 7,9%.

Primećujemo da u poslednje dve godine u delu troškova rastu i troškovi amortizacije što je normalno jer je pogon završen i pušten u rad. Ostali poslovni rashodi beleže rast što se ne može pravdati povećanjem proizvodnje i prodaje, već više knjigovodstvenom kategorijom prenosa nenaplaćenih potraživanja u ostale rashode. Finansijski rashodi takođe rastu što je i logično jer se preduzeće u velikom delu finansira iz bankarskih kredita.

Grafikon 4. Analitika priliva i odliva gotovine u 2011. godini.

Izvor: Kalkulacija autora

Racio analiza

Racio analiza predstavlja jedan od najfrekventnije korišćenih instrumenata finansijske analize za sveobuhvatno sagledavanje i ocenu finansijskog statusa i zarađivačke sposobnosti preduzeća (Veselinović i Drobniaković, 2012).

Racio analiza je proizvod različitih finansijskih izveštaja koji prikazuju finansijsku sliku preduzeća. Da bi sagledali finansijski položaj preduzeća, uspostavljaju se odnosi između pojedinih bilansnih pozicija. Ti odnosi se uspostavljaju u obliku racio brojeva, gde se određene veličine stavljaju u odnose u obliku prostih

matematičkih formula. Na ovaj način dobija se jasnija slika poslovnih aktivnosti preduzeća, uporediva sa drugim preduzećima iz grane, ili uporediva sa određenim pretpostavljenim veličinama.

Racio analiza može da se vrši u odnosu na podatke iz prethodnih perioda u odnosu na planirane (projektovane) podatke, te u odnosu na podatke određene grupacije preduzeća (Bringham i Houston, 2007).

Racio likvidnosti

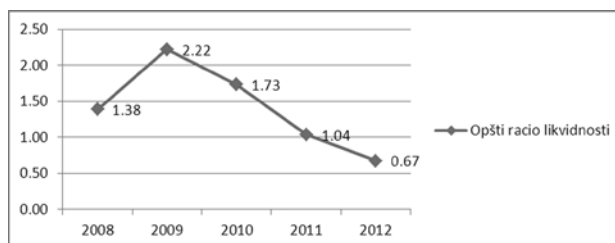
$$\text{Koeficijent opšte racio likvidnosti} = \frac{\text{ukupna obrtna sredstva}}{\text{ukupne kratkoročne obaveze}}$$

Tabela 4: Aktiva bilansa stanja preduzeća „Signal” d. o. o. Sombor.

GODINE	2008	2009	2010	2011	2012
<i>Opšti racio likvidnosti</i>	1,38	2,22	1,73	1,04	0,67

Izvor: Kalkulacija autora

Grafikon 5. Analitika priliva i odliva gotovine u 2011. godini.



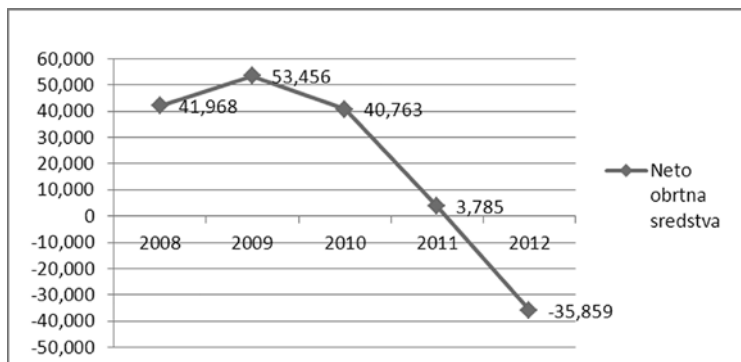
Izvor: Kalkulacija autora

$$\text{Rigorozni racio likvidnosti} = \frac{\text{likvidna sredstva}}{\text{kratkoročne obaveze}}$$

Tabela 5: Kretanje koeficijenta rigoroznog racija likvidnosti.

GODINE	2008	2009	2010	2011	2012
<i>Rigorozni racio likvidnosti</i>	1,11	1,39	1,11	0,70	0,37

Izvor: Kalkulacija autora

Grafikon 6. Dijagram kretanja rigorozne racio likvidnosti po godinama.

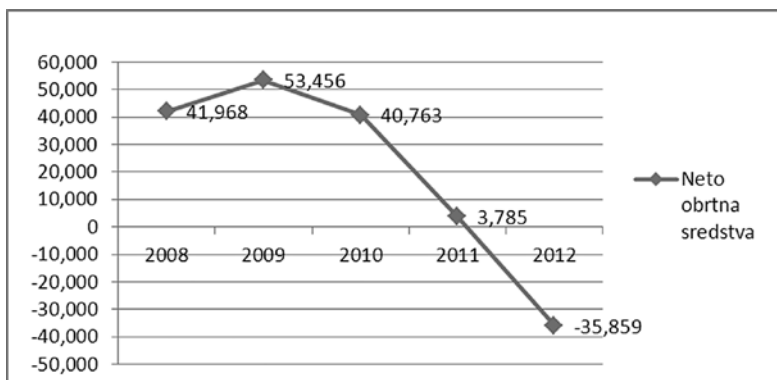
Izvor: Kalkulacija autora

$$\text{neto obrtna sredstva} = \text{obrotna sredstva} - \text{kratkoročne obaveze}$$

Tabela 6: Neto obrtna sredstva (NOS) po godinama (u 000 RSD).

GODINE	2008	2009	2010	2011	2012
<i>Neto obrtna sredstva</i>	41.968	53.456	40.763	3.785	-35.859

Izvor: Kalkulacija autora

Grafikon 7. Kretanje vrednosti neto obrtnih sredstava po godinama (u 000 RSD)

Izvor: Kalkulacija autora

- Prateći kretanje NOS-a u preduzeću „Signal” d. o. o. Sombor možemo zaključiti da je preduzeće iz faze sigurne likvidnosti, preinvestiranjem došlo u fazu negativnih neto obrtnih sredstava, što znači da prodajom celokupne obrtne imovine ne može pokriti kratkoročne obaveze.

Ovo je vrlo negativan trend i možda bi se mogao zaustaviti prodajom dela stalnih sredstava nepokretnosti koje nisu u funkciji (npr. bivše hale), čijim bi se konvertovanjem u obrtna sredstva poboljšao iznos neto obrtnih sredstava.

Racio zaduženosti

Predstavlja takav pokazatelj poslovanja koji prati odnos pozajmljenih sredstava prema ukupnim izvorima. U osnovi se izražava kao odnos između dugoročnih obaveza i ukupne imovine, i definiše koji deo imovine se finansira iz tuđih sredstava. Ta sva pozajmljena sredstva moraju i da se vrate sa pripadajućom kamatom. „U situaciji kada dobit raste, taj rast omogućava preduzeću da te obaveze ispuni prema zajmodavcu. U obrnutom slučaju, teret snose akcionari“ (Veselinović i Vunjak, 2011, str. 235).

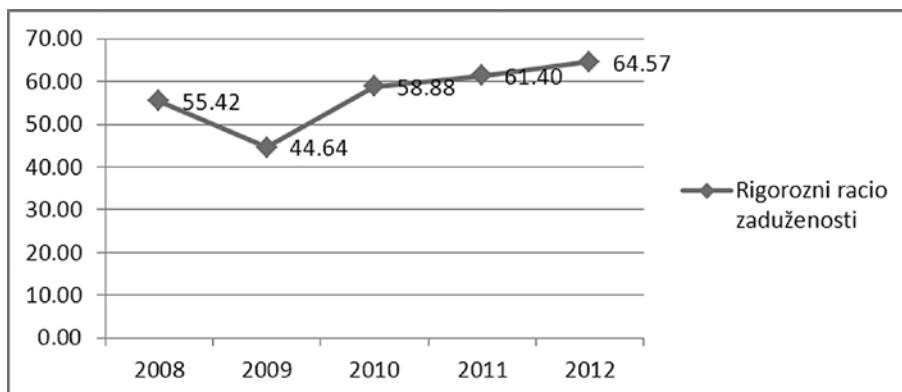
Kada nivo zaduženja doprinosi boljem ili lošijem ukupnom rezultatu poslovanja preduzeća, u tom slučaju radi se o uticaju finansijskog leveridža na poslovanje preduzeća.

$$\text{racio ukupne zaduženosti} = \text{ukupne obaveze} / \text{ukupna imovina}$$

Tabela 7: Koeficijent ukupnog racija zaduženosti.

GODINE	2008	2009	2010	2011	2012
<i>Rigorozni racio zaduženosti</i>	55,42	44,64	58,88	61,40	64,57

Izvor: Kalkulacija autora

Grafikon 8. Kretanje koeficijenta ukupnog racia zaduženosti po godinama.

Izvor: Kalkulacija autora

Tabela 8: Udeo sopstvenog kapitala u finansiranju preduzeća po godinama.

GODINE	2008	2009	2010	2011	2012
<i>Koeficijent udela sopst. kapit.</i>	44,58	55,36	41,12	38,60	35,43

Izvor: Kalkulacija autora

Ovi koeficijenti svim analitičarima daju jasno do znanja u kom momentu koji procenat preduzeća pripada vlasnicima, a koji još moraju da otplate prema dobavljačima i finansijerima. Videli smo da je došlo do rasta ukupne aktive preduzeća sa 247.027.000 RSD u 2008. na 283.804.000 RSD u 2012. godini i to uglavnom promenom strukture i porasta stalnih sredstava sa 95.651.000 RSD u 2008. na 190.686.000 RSD u 2012. godini. Primenom koeficijenata zaduženosti i udela kapitala u finansiranju možemo zaključiti i sledeće:

- U 2008. godini, od navedene aktive, 44,58% je pripadalo vlasniku ili 110.124.000 RSD, a u 2012. godini je pripadalo 31,72 % ili 90.022.000 RSD.
- Stalna imovina u vlasništvu 2008. godine imala vrednost 42.641.000 RSD, a u 2012. godini 60.486.000 RSD.

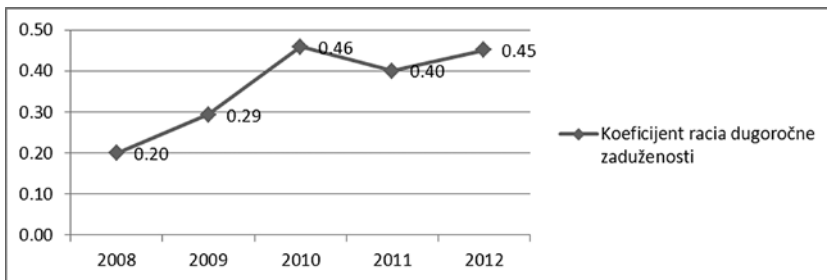
$$\text{ratio dugoročne zaduženosti} = \text{dugoročni dug} / (\text{dugoročni dug} + \text{kapital})$$

Tabela 9: Racio dugoročne zaduženosti.

GODINE	2008	2009	2010	2011	2012
<i>Koeficijent racia dugoročne zaduženosti</i>	0,20	0,29	0,46	0,40	0,45

Izvor: Kalkulacija autora

Grafikon 9. Kretanje koeficijenta ukupnog racia zaduženosti po godinama.



Izvor: Kalkulacija autora

Navedeni podaci govore da je u 2008. godini 20% dugoročnog kapitala bilo u obliku dugoročnog duga. U 2012. godini procenat udela dugoročnog duga je 45% u dugoročnom kapitalu i vrlo je bitno po kojoj ceni je nabavljen taj dug. Racio dugoročne zaduženosti prema kapitalu je takođe pokazatelj finansijskog leveridža, a meri se odnosom dugoročnog duga prema kapitalu.

$$\text{ratio dugoročne zaduženosti prema kapitalu} = \text{dugoročnu dug} / \text{kapital}$$

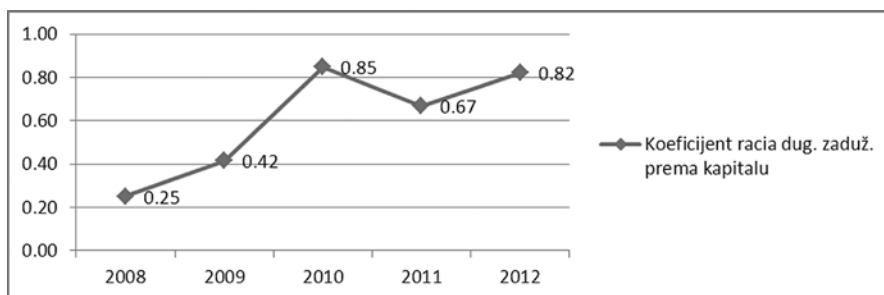
Ovaj odnos nam pokazuje koliko je na svaki dinar sopstvenih sredstava angažovano dugoročnog duga, tj. dugoročnih kredita.

Tabela 10: Racio dugoročne zaduženosti prema kapitalu.

GODINE	2008	2009	2010	2011	2012
<i>Koeficijent racija dugoročne zaduženosti prema kapitalu</i>	0,25	0,42	0,85	0,67	0,82

Izvor: Kalkulacija autora

Grafikon 10. Kretanje koeficijenta racija dugoročne zaduženosti prema kapitalu po godinama.



Izvor: Kalkulacija autora

Preduzeće „Signal” d. o. o. Sombor je sa 21% udela dugoročnog duga u kapitalu u 2008. godini došlo do nezavidnih 82% udela dugoročnog duga u kapitalu u 2012 godini. Da bi mogli efikasno dalje pratiti angažovanje sredstava u ovom preduzeću pozabavićemo se njihovim pokazateljima aktivnosti, koji treba da nam pojasne da li preduzeće ostvaruje i da li će ostvarivati pozitivne efekte od investicije.

Racio zaduženosti

$$\text{koeficijent obrta imovine} = \text{prihodi od prodaje} / \text{prosečna ukupna imovina}$$

Tabela 11: Koeficijent obrta imovine.

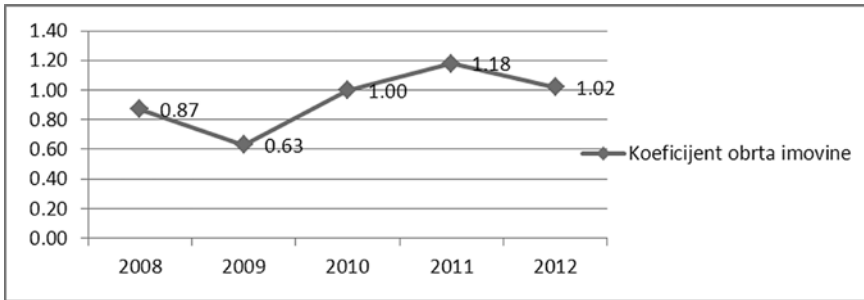
GODINE	2008	2009	2010	2011	2012
<i>Koeficijent obrta imovine</i>	0,87	0,63	1,00	1,18	1,02

Izvor: Kalkulacija autora

- Od 2008. do 2011. godine prihodi od prodaje su beležili veći rast od rasta stalne i obrtne imovine. Porasli su sa 142.001.000 RSD na 314.584.000 RSD, ili za 122%, a imovina je porasla u tom periodu sa 202.986.000 RSD na 297.666.000 RSD, ili za 47%.
- Godine 2012, u odnosu na 2011, zabeležen je pad prihoda od prodaje sa 314.584.000 RSD na 297.075.000RSD, ili za 7%, dok je i imovina smanjena, i to višeobrotna imovina za 13.862.000 RSD, ili za 5%, što je prouzrokovalo i

smanjenje koeficijenta obrta imovine sa 1,18 u 2011. godini na 1,02 u 2012. godini.

Grafikon 11. Koeficijent obrta imovine po godinama.



Izvor: Kalkulacija autora

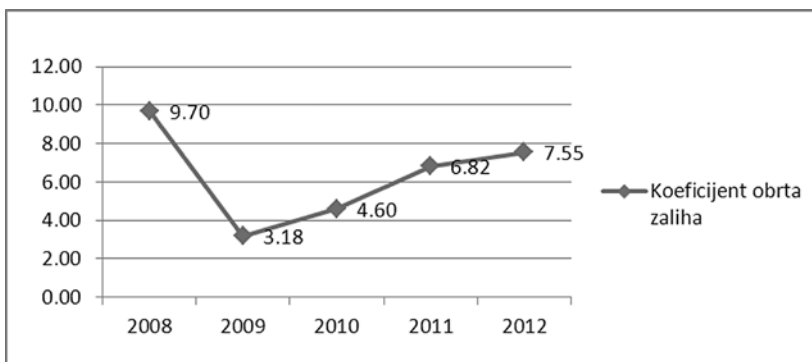
$$\text{koeficijent obrta zaliha} = \text{troškovi prodatih proizvoda} / \text{prosečne zalihe}$$

Tabela 12: Koeficijent obrta zaliha.

GODINE	2008	2009	2010	2011	2012
<i>Koeficijent obrta zaliha</i>	9,70	3,18	4,60	6,82	7,55

Izvor: Kalkulacija autora

Grafikon 12. Kretanje koeficijenta obrta zaliha po godinama.

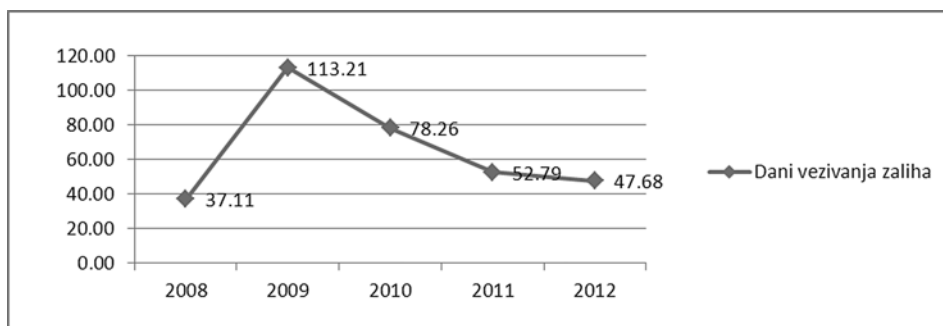


Izvor: Kalkulacija autora

$$\text{prosečno vreme trajanja jednog obrta} = 360 / \text{koeficijent obrta zaliha}$$

Tabela 13: Prosečno trajanje jednog obrta.

GODINE	2008	2009	2010	2011	2012
<i>Dani vezivanja zaliha</i>	37,11	113,21	78,26	52,79	47,68

Izvor: Kalkulacija autora**Grafikon 13.** Kretanje dana vezivanja zaliha po godinama.**Izvor:** Kalkulacija autora

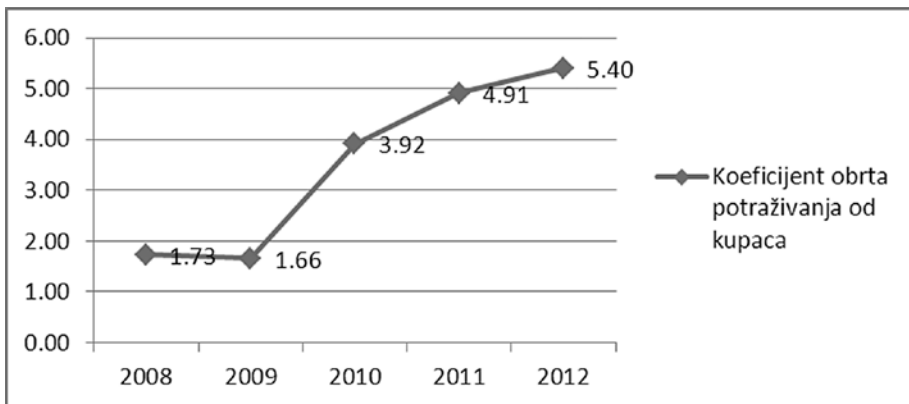
$$\text{koeficijent obrta potraživanja} = \frac{\text{prosečna potraživanja}}{\text{prosečan dnevni prihod od prodaje}}$$

$$\text{koeficijent obrta potraživanja od kupaca} = \frac{\text{neto prihod od prodaje}}{\text{prosečan saldo kupaca}}$$

Tabela 14: Koeficijent obrta potraživanja od kupaca.

GODINE	2008	2009	2010	2011	2012
<i>Koeficijent obrta potraživanja od kupaca</i>	1,73	1,66	3,92	4,91	5,40

Izvor: Kalkulacija autora

Grafikon 14. Kretanje koeficijenta obrta potraživanja od kupaca po godinama.

Izvor: Kalkulacija autora

$$\textit{prosečan period naplate potraživanja od kupaca} = 365 / \textit{koeficijent obrta potraživanja od kupaca}$$

Tabela 15: Trajanje naplate potraživanja.

GODINE	2008	2009	2010	2011	2012
<i>Prosečan broj dana naplate potraživanja</i>	210,98	219,88	93,11	74,34	67,59

Izvor: Kalkulacija autora

$$\textit{koeficijent obrta dobavljača} = \textit{vrednost godišnje nabavke materijala i usluga na kredit} / \textit{prosečan saldo dobavljača u toku godine dana}$$

$$\textit{prosečno vreme plaćanja dobavljača} = 360 / \textit{koeficijent obrta dobavljača}$$

Tabela 16: Koeficijent obrta dobavljača.

GODINE	2008	2009	2010	2011	2012
<i>Koeficijent obrta dobavljača</i>	2,81	1,41	2,88	3,71	3,51

Izvor: Kalkulacija autora

$$\text{cash gap} = \text{dani vezivanja zaliha} + \text{dani vezivanja kupaca} - \text{dani vezivanja dobavljača}$$

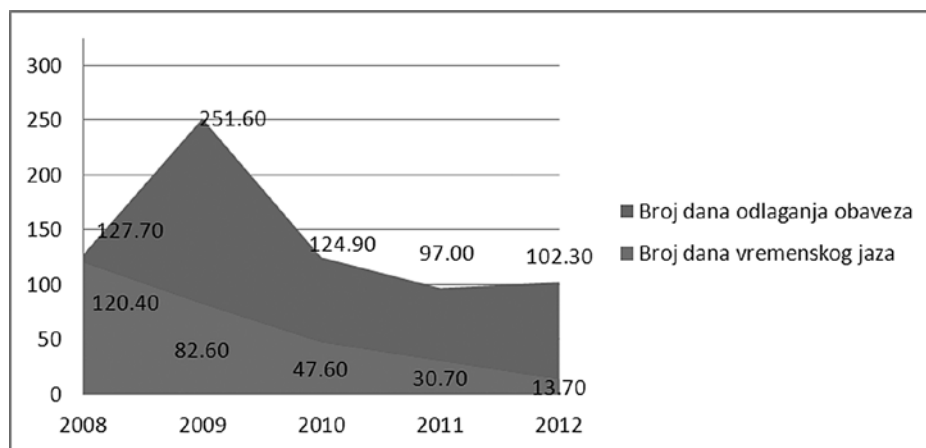
„Poslovni ciklus preduzeća je period od nastanka novčane obaveze za nabavke do naplate potraživanja koja proizilazi iz prodaje dobara i usluga“ (Van Horne i Wachowicz, 2007, str. 143). Poslovni ciklus predstavlja zbir dana vezivanja zaliha i kupaca, a kada se od tog poslovnog ciklusa odbiju dani vezivanja dobavljača dobije se gotovinski jaz, pozitivan ili negativan.

Tabela 17: Cash gap preduzeća „Signal“ d. o. o. Sombor.

GODINE	2008	2009	2010	2011	2012
Broj dana vremenskog jaza	120,40	82,60	47,60	30,70	13,70

Izvor: Kalkulacija autora

Grafikon 15. Cash gap i dani plaćanja dobavljača.



Izvor: Kalkulacija autora

Racio profitabilnosti

Dobitak i gubitak proističu iz angažovanja sredstava i izvora finansiranja. Ako su sredstva i izvori efikasno korišćeni, preduzeće ostvaruje dobitak, a ako nisu, ostvaruje se gubitak u poslovanju.

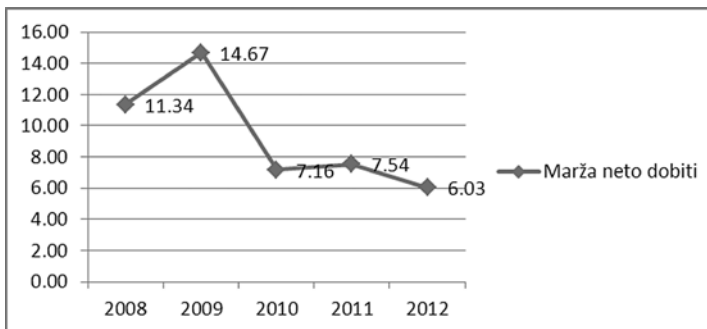
$$\textit{Profitna marža neto dobiti} = \frac{\textit{neto dobitak}}{\textit{ukupni priodi}}$$

Tabela 18: Profitna marža neto dobiti.

GODINE	2008	2009	2010	2011	2012
<i>Marža neto dobiti</i>	11,34	14,67	7,16	7,54	6,03

Izvor: Kalkulacija autora

Grafikon 16. Profitna marža neto dobiti.



Izvor: Kalkulacija autora

$$\textit{stopa prinosa na ukupna poslovna sredstva} = \frac{\textit{neto dobitak}}{\textit{prosečna poslovna aktiva}}$$

Osim ovakvog načina merenja ROA (Return On Assets) možda je bolje meriti ga kao odnos neto dobitka uvećanog za kamate kroz prosečna poslovna aktiva.

$$\textit{stopa prinosa na ukupna poslovna sredstva (ROA)} = \frac{\textit{neto dobitak} + \textit{kamata}}{\textit{prosečna poslovna sredstva}}$$

Tabela 18: Profitna marža neto dobiti.

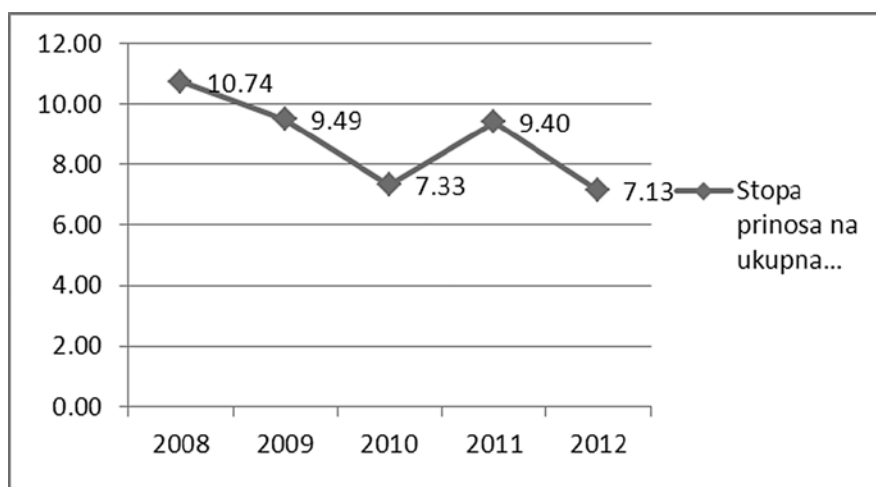
GODINE	2008	2009	2010	2011	2012
<i>Stopa prinosa na ukupna sredstva</i>	10,74	9,49	7,33	9,40	7,13

Izvor: Kalkulacija autora

Jedan od razloga za ovakvu tvrdnju proizilazi iz činjenice da neto dobitak odbacuje profit preduzeća koji je umanjen upravo za plaćene kamate na dug. U slučaju kada se na neto dobit dodaju kamate, tada merimo prinos na ukupnu imovinu preduzeća. Ovom merom se izračunava profitabilnost imovine preduzeća. Prosečna poslovna aktiva se dobija tako što se zbroje prosečna poslovna sredstva na početku i na kraju godine i podele sa 2. Na osnovu ovog pokazatelja tačno se vidi koliki prirast ostvari preduzeće na 100 dinara prosečno uložениh sredstava.

U našem istraživanju korišćena je i stopa prinosa na ukupna poslovna sredstva gde je računat neto dobitak i njegov odnos prema poslovnim sredstvima, i neto dobitak uvećan za kamate jer se na taj način merio prinos na celokupnu imovinu preduzeća.

Grafikon 17. Stopa prinosa na ukupna sredstva.



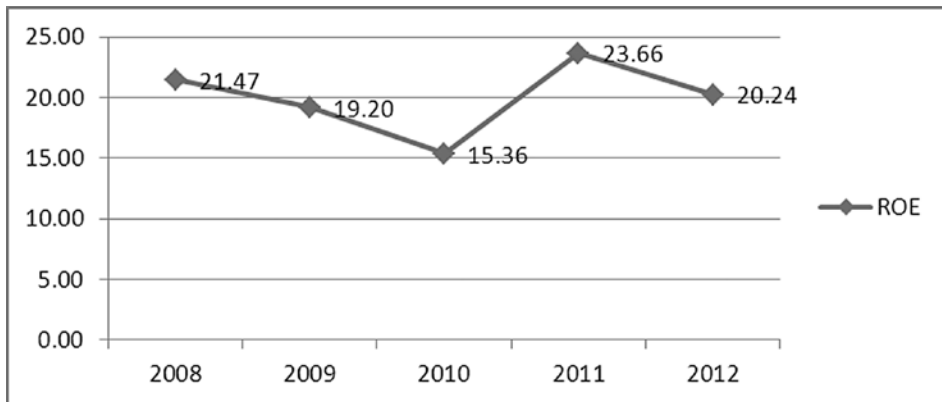
Izvor: Kalkulacija autora

$$\text{stopa prinosa na sopstveni kapital} = \text{neto dobitak} / \text{prosečan sopstveni kapital}$$

Tabela 20: Stopa prinosa na sopstveni kapital (ROE).

GODINE	2008	2009	2010	2011	2012
<i>Stopa prinosa na sopstveni kapital</i>	21,47	19,20	15,36	23,66	20,24

Izvor: Kalkulacija autora

Grafikon 18. Stopa prinosa na sopstveni kapital.

Izvor: Kalkulacija autora

„Ovaj ratio nam govori o sposobnosti ostvarivanja zarade u odnosu na knjigovodstvenu vrednost akcionarske investicije, pa se često koristi u poređenju dva ili više preduzeća jedne delatnosti” (Van Horne i Wachowicz, 2007, str. 146). Za 2012. godinu, pribavili smo podatke nekoliko preduzeća iz ove delatnosti, kao i prosek grane koji iznosi 1,29 što nam je u potpunosti dokazalo da preduzeće „Signal” d. o. o. Sombor ima konstantno dobru stopu prinosa na sopstveni kapital i to daleko iznad proseka granske delatnosti.

ZNAČAJ POJEDINIH INDIKATORA POSLOVANJA ODREĐENIM GRUPAMA ANALITIČARA

Postoje brojne grupe korisnika finansijskih izveštaja, od kojih svaka veruje da ima legitimno pravo da dobija informacije o poslovanju ekonomskih entiteta za svrhe donošenja svojih vitalnih poslovnih odluka. Preciznije, krug tih korisnika je sledeći:

- a) postojeći i potencijalni vlasnici preduzeća;
- b) menadžment preduzeća;
- c) poslovni partneri, kao što su kupci, dobavljači, konkurenti, kao i oni koji su zainteresovani za spajanje, pripajanje ili kupovinu delova preduzeća;
- d) postojeći i potencijalni zajmodavci;
- e) vlada i njeni organi, tj. poreski organi, zakonodavni organi i lokalne vlasti.

Ove grupe analitičara pored toga što su direktno zainteresovane za praćenje finansijskih izveštaja direktno utiču na te izveštaje svojom ulogom u poslovanju preduzeća, putem sistemskih mera. Ostali analitičari nemaju tako direktan uticaj na poslovanje preduzeća i formiranje finansijskih izveštaja:

- a) postojeći, potencijalni i bivši zaposleni,
- b) analitičari/savetnici uključujući finansijske analitičare, novinare, ekonomiste, statističare, istraživače, sindikate, berzanske posrednike, i druge kao što su rejting agencije i sl.,
- c) javnost, tj. poreski obveznici, zajmoprimci, potrošači i razne druge interesne grupe.

Vlasnici preduzeća

Vlasnici preduzeća i akcionari koji su svoja slobodna sredstva uložili u određena preduzeća očekuju da će im taj novac u određenom vremenskom periodu biti i vraćen, uvećan za profit i rast vrednosti preduzeća i akcija ali mnogo više nego da su bezbrižno stavili novac u banke i živeli od kamate.

Stabilnost poslovanja preduzeća na duži rok i profit, tj. neto dobit koju ostvaruje u svom redovnom poslovanju jesu osnovni ciljevi svakog vlasnika i ulagača (investitora). Vlasnici preduzeća i akcionari su prioritetno zainteresovani za budući priliv gotovine i ostvarenje profita. Pokazatelji koji ih interesuju kod horizontalne analize bilansa stanja jesu porast ukupne aktive iz godine u godinu i u pasivi porast udela kapitala (sopstvenog ili akcijskog) u odnosu na dugoročne obaveze i rezervisanja. U našem istraživanju, vlasnici preduzeća „Signal“ d. o. o. Sombor nemaju kontinuitet u rastu aktive. U 2012. godini, ukupna aktiva se smanjila za 13.862.000 RSD, ili za 5% u odnosu na 2011. godinu, što znači da im se ukupna imovina smanjila. To nije dobar znak, i ne može ih zadovoljiti takva situacija. Vlasnici preduzeća konstatuju da im se povećala stalna imovina, nekretnine, postrojenja i oprema, i to je znak da su stvorili dobru bazu za dalji razvoj.

Smanjila su se obrtna sredstva i to u delu najlikvidnijih sredstava – potraživanja od kupaca, plasmani i gotovina, i to otpisom potraživanja od kupaca jer je uočeno da se deo potraživanja ne može naplatiti, što je i prouzrokovalo smanjenje ukupne aktive. Vlasnici su smanjili i kapital kao izvor smanjenjem i trošenjem neraspoređene

dobiti u 2012. u odnosu na 2011. – potrošeno je 24.884.000 RSD, i neraspoređena dobit je smanjena za 31%.

Opšti ratio likvidnosti preduzeća „Signal“ d. o. o. Sombor dospeo je na nivo da se iz ukupnih obrtnih sredstava može namiriti samo 67% kratkoročnih obaveza, što vlasnicima preduzeća direktno ukazuje da će problem kratkoročne likvidnosti morati rešavati sami iz sopstvenih izvora i kratkoročnim pozajmicama osnivača kao trenutno kratkoročno rešenje ili dokapitalizacijom iz sopstvenih novčanih izvora. Ovu činjenicu im dalje rasvetljava ratio zaduženosti koji je dospeo do 64,57% ukupne zaduženosti preduzeća i koji ukazuje da banke i ostali poverioci neće lako dopuštati nova zaduženja preduzeća i da će se to morati rešavati sopstvenim izvorima.

Ratio aktivnosti ukazuje da njihova proizvodnja ima pozitivna kretanja, gde je došlo do povećanja imovine i prihoda od prodaje, a koeficijent obrta imovine je ostao na nivou od jedanput godišnje. Zaposleni su povećali koeficijente obrta obrtnih sredstava, i to: koeficijent obrta zaliha se povećao u protekle četiri godine i dostigao obrt od 7,5 puta godišnje ili 48 potrebnih dana vezivanja zaliha. Takođe, koeficijent obrta potraživanja je dosegao nivo od 5,4 puta godišnje i 68 dana vezivanja potraživanja od kupaca. To je 3,2 puta brže u odnosu na 2009. godinu kada je broj dana vezivanja potraživanja od kupaca iznosio 219 dana. Ovo smanjenje dana vezivanja je znak da je za pokriće obrtnih sredstava potrebno manje kratkoročnih izvora i da iz njih ne treba finansirati stalna sredstva već to treba postići dokapitalizacijom. Deo koji treba da zabrine vlasnike preduzeća je pad profitne marže gde će posebnu pažnju morati obratiti na ostale rashode poslovanja i njihovu realnost. Stopa prinosa na ukupna poslovna sredstva i stopa prinosa na sopstveni kapital beleže stabilnost i dokaz su da ova delatnost ima perspektivu i da se i u budućnosti mogu baviti tom delatnošću.

Tokovi gotovine omogućavaju vlasnicima preduzeća da uspostave politiku održavanja likvidnosti i kvalitetnog protoka gotovine kroz proizvodni ciklus. Preduzeće „Signal“ d. o. o. Sombor je u nekoliko poslednjih godina pozitivnim kretanjem gotovine iz aktivnosti finansiranja i poslovnih aktivnosti održavalo svoju likvidnost i pokrivalo odlive gotovine iz aktivnosti investicija.

Menadžment preduzeća

Preduzeća su danas izložena mnogim rizicima. Preduzeće se stalno suočava sa rizikom tržišnih promena i neizvesnosti. Procena i predviđanje budućih ishoda

na tržištu su nezaobilazan element strategije svakog preduzeća. Osnovno pitanje koje preduzeće mora da razrešava je kako da zaštiti svoje poslovanje, ako se tržišna predviđanja ne ostvare? Koji su instrumenti zaštite za slučaj ostvarenja neizvesnih ishoda? Predviđanje na jednoj strani i hedžing na drugoj strani, postali su imperativ poslovanja savremenog preduzeća. Menadžment preduzeća kreira njegovu budućnost, rast i razvoj. Ukoliko preduzeće kontinuirano stvara veće prinose u svojim bilansima, ono ima dobar menadžment. Dobar menadžment ima proaktivan pristup u poslovanju preduzeća. Dobar menadžment anticipira buduće probleme. Dobar menadžment unapred se priprema za rešavanje problema u poslovanju.

Pošto kod nas u većem delu malih i srednjih preduzeća osnovni menadžment preduzeća predstavljaju vlasnici privrednog društva, u jednoj osobi se pobuđuju interesi vlasnika i menadžera, tj. njihovi interesi se u potpunosti poklapaju.

Menadžeri koriste nekoliko važnih racija kako bi prikazali zaduženost, likvidnost, efikasnost i profitabilnost kompanije. Racio zaduženosti meri zaduženost kompanije. Racio likvidnosti meri koliko lako kompanija može da dođe do gotovine. Racio aktivnosti (efikasnosti) meri koliko se intenzivno kompanija koristi svojom imovinom. Racio profitabilnosti meri prinos na ulaganja kompanije. U našem slučaju, većinski vlasnik preduzeća je i direktor, i on preuzima sve rizike donošenja odluke na sebe. Vrlo mu je važno da pored rasta i dobiti preduzeće posluje likvidno, tj. da sve svoje dospele obaveze može izmiriti na vreme. Pokazatelji likvidnosti preduzeća mu ukazuju da će se javiti problem izmirenja obaveza prema dobavljačima, bankama, kao i prema zaposlenima. U tom slučaju mora obratiti posebnu pažnju na pribavljanje dugoročnijih izvora sredstava, kako bi se poboljšala tekuća likvidnost preduzeća – tj. pretvaranje kratkoročnih izvora finansiranja u dugoročne da bi se obezbedila dugoročna finansijska stabilnost preduzeća.

Poslovni partneri

Dobavljači su prioritetno zainteresovani za likvidnost i solventnost. Poverioci, dobavljači roba zainteresovani su za informacije koje im omogućavaju da procene da li će iznosi koji im se duguju biti blagovremeno plaćeni. Poverioci su obično zainteresovani za poslovanje preduzeća u kraćem vremenskom periodu nego što su to zajmodavci, osim ukoliko mnogo ne zavise od nastavka poslovanja preduzeća (u slučaju kada je ono njihov glavni kupac).

Horizontalna i vertikalna analiza bilansa je dobar osnov da se uoče istorijska kretanja elemenata bilansa tokom posmatranih godina. Iz horizontalne analize bilansa,

dobavljači i ostali poverioci kao poslovni partneri treba da sagledaju šta je preduzeće u bilansu stanja postiglo u poslednjih nekoliko godina. U našem primeru, postiglo je povećanje stalnih sredstava, a to znači da su se vlasnici opredelili za investiciju i povećanje stalnih vrednosti preduzeća što govori o njihovoj ozbiljnosti i predanosti poslu, i daje sigurnost u dugoročno poslovanje sa preduzećem. Vidi se da je ovaj razvoj većim delom praćen zaduživanjem, ali da je počeo iz sopstvenih sredstava i da preduzeće planira da duži vremenski period otplaćuje zaduženja.

Kupce proizvoda prvenstveno zanimaju informacije o verovatnoći nastavka poslovanja preduzeća, posebno u slučaju kada sa njim imaju dugoročne poslovne odnose ili umnogome zavise od tog preduzeća. Kupcima su posebno bitne informacije o sadašnjoj i budućoj ponudi roba, cenama tih roba, kao i detalji o karakteristikama proizvoda i o uslovima prodaje.

Poslovne banke

Poslovne banke pri analizi svojih klijenata koriste pokazatelje poslovanja za koje smo se i mi opredelili u našoj analizi. Analitičari kreću od podataka u bilansu stanja, i osnovna činjenica koje se drže je to da je bilans stanja presek određenih finansijskih podataka na dan posmatranja ili preseka i da je podložan svakodnevnim promenama.

Pre horizontalne, vertikalne i racio analize bilansa stanja i bilansa uspeha, sagledava se njihova unutrašnja struktura bilansa za tekuću godinu. Nakon toga banke vrše sagledavanje odnosa unutar bilansa. Određeni postulati bankarskih odnosa prema klijentima baziraju se na sledećim činjenicama. Preduzeće mora da isplati kratkoročne poverioce pretvaranjem zaliha i potraživanja u novac, i zbog toga bankari naročito posmatraju bilans stanja i pokazatelje tekuće likvidnosti.

Dugoročne poverioce preduzeće mora isplaćivati iz gotovinskog profita, a ne iz obračunskog profita jer se profit definiše kao prodaja minus troškovi i može se ostvariti kao zadržana zarada ili neraspoređeni dobitak. U praksi je veoma važno razumeti zašto dobit i novčani tokovi nisu jednaki. Pri sastavljanju bilansa uspeha polazi se od plaćanja tekućih rashoda (plate, porezi, obaveze prema dobavljačima i dr.) i plaćanja kapitalnih rashoda kada je u pitanju nabavka novih osnovnih sredstava koja se plaćaju odmah.

Izveštajo tokovima gotovine je vrlo značajan finansijski izveštaj, posebno sa stanovišta banaka. Banke svoja potraživanja mogu naplatiti samo u novcu i aktiviranjem obezbeđenja, koleterala. Rezultati novčanih tokova proizašli od novčanih priliva i

odliva nisu direktno povezani sa rezultatom poslovanja iskazanim u bilanu uspeha, tj. računovodstvenom dobiti. Banka želi da se uveri da njeni klijenti vrše finansijsku kontrolu i da upravljaju tokovima gotovine kako bi bila sigurna da će joj isplatiti finansijske obaveze o roku dospeća. Polaznu osnovu ove kontrole predstavljaju izveštaji o tokovima gotovine koji treba da pokažu bankama mogućnost preduzeća da pored normalne reprodukcije utrošenih novčanih sredstava, obezbedi i sredstva za servisiranje svojih novčanih obaveza o roku.

Po ovom istraživanju, preduzeće „Signal“ d. o. o. Sombor je u prethodnom petogodišnjem periodu za banke bilo vrlo atraktivno po pitanju ponude kredita. Bilo je u investiciji koju je započelo iz sopstvenih sredstava sa profitabilnim proizvodnim programom i odličnim biznis planom. Preduzeće je ispunjavalo sve bankarske kriterijume za kratkoročne pozajmice jer su neto obrtna sredstva bila izrazito pozitivna sve do 2011. godine, kada je to svedeno na 3.785.000 RSD, dok su u 2010. godini obrtna sredstva bila veća od kratkoročnih obaveza za 40.763.000 RSD, a 2009. za 53.456.000 RSD. Pozitivna neto obrtna sredstva su bila osnovni pokazatelj bankama da preduzeću „Signal“ d. o. o. Sombor daju kratkoročne kredite sve do 2012. godine.

Država i poreska uprava

Finansijsko izveštavanje ima interni i eksterni značaj. Ono je oduvek bilo uslov dobrog funkcionisanja tržišne ekonomije. U svim državama, pa i u Srbiji, opšte je prihvaćeno pravilo da kvalitetno finansijsko izveštavanje doprinosi:

- jačanju domaćeg finansijskog sistema i smanjenju rizika od finansijskih kriza i njihovog negativnog uticaja na ekonomiju,
- povećanju direktnih i indirektnih stranih ulaganja,
- olakšanju pristupa bankarskim kreditima za mala preduzeća smanjenjem visokih troškova pribavljanja informacija i kreditiranja,
- boljoj proceni budućih performansi preduzeća i donošenju dobrih investicionih odluka,
- unapređenju ekonomskih integracija, ne samo na regionalnom, već i na globalnom nivou.

Poreska uprava treba da ima izuzetno značajnu ulogu u kontroli privrednih društava radi provere obavljanja računovodstvene profesije u skladu sa zakonom i drugim propisima kojima se uređuje poslovanje privrednih društava, a koji sadrže odredbe u vezi sa obavljanjem računovodstvenih poslova.

Poreska uprava mora da obavlja inspekcijsku kontrolu privrednih društava u delu obavljanja računovodstvenih poslova proverom knjigovodstvenih isprava, poslovnih knjiga i finansijskih izveštaja, kao i sistema koje privredna društva primenjuju za obradu podataka u vezi sa obavljanjem računovodstvenih poslova.

ZAKLJUČAK

Analizom finansijskih pokazatelja preduzeća „Signal“ d. o. o. Sombor u vremenskom periodu od 2008. do 2012. godine konstatovano je da su finansijski pokazatelji dali realnu sliku stanja u preduzeću i da su interni i eksterni analitičari na osnovu tih pokazatelja mogli izvući tačne i nedvosmislene zaključke u vezi sa poslovanjem preduzeća, njegovom aktivnošću, likvidnošću, ekonomičnošću finansijske strukture i tržišne vrednosti, kao i u vezi sa budućim planovima poslovanja.

Menadžment preduzeća se mora angažovati na povećanju ukupnih prihoda, a time i na povećanju nivoa potraživanja i ukupnih obrtnih sredstava da bi sa postojećom bruto maržom mogao otplaćivati obaveze.

Interni i eksterni analitičari mogu koristiti veliki broj pokazatelja, ali je ovim dokazano da se sa određenom grupom pokazatelja, likvidnosti, zaduženosti, aktivnosti i profitabilnosti mogu uočiti i predvideti svi poslovni problemi preduzeća i preduzeti određeni zahvati koji će preduzeće dovesti u pozitivne tokove.

Posmatrajući slučaj preduzeća „Signal“ d. o. o. Sombor kroz posmatrani petogodišnji period, na bazi finansijskih pokazatelja dati su jasni odgovori šta koji od internih i eksternih analitičara vidi u kojem finansijskom pokazatelju u određenom posmatranom periodu. Ujedno su date i preporuke na koji način je potrebno otkloniti uočene nedostatke kod analiziranog preduzeća da bi njegovi finansijski pokazatelji bili u skladu sa teorijski postavljenim normama, bolji u odnosu na slična preduzeća iz iste grane delatnosti, i da bi imali trend poboljšanja u daljem poslovanju preduzeća.

THE IMPORTANCE OF SOME PERFORMANCE INDICATORS FOR CERTAIN GROUPS OF ANALYSTS

Vuckovic Branko

Abstract: *Financial statement represents a set of information about the financial position of companies and business performance, as well as information on cash flows and changes in capital. All of these statements are defined in the form of a self-contained unit in a given period of time and in our country they are regulated by law for a period of one year. The focus of research in this paper is to determine the importance of certain performance indicators, based on detailed business analysis, so that these indicators may be useful to specific groups of business analysts, interested in business operations of enterprises from various different perspectives. The financial analysis was performed on a case study of „Signal“ LLC Sombor, for the period 2008 - 2012. Based on the performed financial analysis of this company, we have determined a number of important business indicators relevant for certain groups of analysts such as: business owners, company managers, business partners, commercial banks, the state and primarily- the tax administration. During the course of study, the following research methods were used: analysis, synthesis and case studies.*

Key words: *financial analysis / financial statements / ratio analysis / business indicators / cash flows*

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PREGLEDNI RADOVI

MAKROEKONOMSKI ASPEKTI MEĐUNARODNE TRGOVINE

Balšić Smiljana¹

Sažetak: *U radu se ukazuje na to kako se spoljnotrgovinski tokovi neke ekonomije, preko uvoza i izvoza roba i usluga, odražavaju na makroekonomske varijable određene ekonomije, kao što i ove varijable mogu imati uticaja na određivanje odgovarajućih spoljnotrgovinskih tokova. Postoje dve strane makroekonomije, proizvodnja i novac. Interakcijom proizvodnih i novčanih tržišta utiče se na proizvodnju, investicije i kamatne stope, a indirektno i na nezaposlenost, inflaciju i ekonomski rast.*

Ključne reči: *međunarodna trgovina / novac / proizvodnja / investicije / kamatne stope / uvoz / izvoz / monetarna politika*

UVOD

Međunarodni trgovinski tokovi imaju veliki značaj sa stanovišta razvoja privrede i regiona. Na neki način, oni se mogu smatrati ključnim faktorom ekonomskog rasta određene ekonomije. Nijedna ekonomija svoj rast ne može zasnivati na samodovoljnosti realnih i finansijskih resursa, pa je stoga i upućena na međunarodnu trgovinu, čiji se konačni saldo odražava na stepen rasta i makroekonomske varijable određene ekonomije. Tako uvoz određenih proizvoda i usluga u zemlju utiče negativno na saldo spoljne trgovine koji potom zahteva angažovanje finansijskih sredstava za njegovo pokriće, izaziva rast duga, utiče na kretanje deviznog kursa, a preko cena uvezenih proizvoda i na inflaciju u zemlji. Obrnuto, izvoz proizvoda i usluga podiže nivo uposlenosti resursa u zemlji, obezbeđuju se finansijska sredstva bez rasta zaduženosti uz niz drugih benefita koji posledično nastaju u okviru domicilne ekonomije. Ovo su samo neke od implikacija koje međunarodni trgovinski tokovi mogu imati na određenu ekonomiju. Značaj koji oni imaju na stanje ekonomije upućuje na značaj koji mogu imati odgovarajuća

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kvantitativna merenja međunarodnih trgovinskih tokova, čiji rezultati mogu predstavljati korisnu informaciju donosiocima ekonomskih odluka. Mogućnosti za izvođenje kvantitativnih merenja trgovinskih tokova i njihovih implikacija na druge ekonomske varijable mogu se naći u okviru određenih multivarijacionih statističkih alata.

Međunarodna trgovina robom predstavlja najznačajniji segment međunarodne trgovine na koji otpada preko 80% ukupne svetske trgovine. Učešće usluga u svetskoj trgovini nije prešao nivo od 20% (Stojadinović Jovanović, 2012, str. 61–62).

TEORIJSKI OSVRT NA PROBLEMATIKU MEĐUNARODNE TRGOVINE

Teorije međunarodne trgovine su se pojavile kako bi se dao odgovor na pitanje zašto zemlje međusobno trguju, kao i na druga pitanja u vezi sa time šta zemlje proizvode, šta će izvoziti i po kojoj ceni, koji dobiti se ostvaruju međunarodnom trgovinom i kako se oni raspoređuju između zemalja. Prvo kompleksno objašnjenje međunarodne trgovine dale su klasične teorije, a kako se međunarodna trgovina dalje razvijala bile su potrebne nove teorije koje se nazivaju modernim teorijama međunarodne trgovine. Od klasičnih teorija međunarodne trgovine izdvajaju se (Bjelić, 2008, str. 129–146):

1. Teorija apsolutnih prednosti – ovo je prva kompleksna teorija međunarodne trgovine koju je formulisao Adam Smit, koji je smatrao da ekonomski razvoj počiva na proizvodnoj specijalizaciji i podeli rada. Smatrao je da se razlog zašto neka zemlja izvozi određeni proizvod nalazi u činjenici da ona poseduje apsolutnu prednost u proizvodnji tog proizvoda u odnosu na druge zemlje. Zalaže se za slobodnu trgovinu i smatra da ograničenja spoljne trgovine koče privredni razvoj, naročito razvijenih država. Kao opšti zaključak se nameće konstatacija da zemlja treba da se specijalizuje u proizvodnji onih proizvoda koje može da proizvede efikasnije od drugih zemalja i da izvozi te proizvode u zamenu za uvoz proizvoda koje proizvodi manje efikasno.
2. Teorija komparativnih prednosti – teorija apsolutnih prednosti je smatrala da se trgovina ne može obaviti ukoliko neka zemlja poseduje apsolutnu prednost u proizvodnji svih proizvoda. David Rikardo je ovaj problem prevazišao na taj način što je posmatrao relativne razlike u produktivnosti rada. Pošto je

pokazatelj relativne prednosti oportunitetni trošak, onda to znači da zemlja koja ima niže oportunitetne troškove u proizvodnji nekog proizvoda ima relativnu prednost u njegovoj proizvodnji. Kao opšti zaključak se nameće konstatacija da zemlja treba da se specijalizuje u proizvodnji onih proizvoda kod čije proizvodnje je relativno produktivnija od drugih zemalja, a da uvozi one proizvode u čijoj su proizvodnji druge zemlje produktivnije.

3. Teorija faktorske raspoloživosti – ova teorija nadopunjuje teoriju komparativnih prednosti, koja posmatra samo rad kao faktor proizvodnje i izvoza, dok teorija faktorske raspoloživosti uzima u obzir sve faktore proizvodnje, a to su rad, kapital i prirodni faktori, na osnovu kojih teži da otkrije osnove iz kojih se crpi komparativna prednost. Ova teorija se naziva i neoklasična teorija međunarodne trgovine. U središtu ove teorije se nalazi Hekšer–Olina teorema kojom se tvrdi da neka zemlja ima komparativne prednosti u proizvodnji onog proizvoda u čijoj se proizvodnji intenzivno koristi određeni faktor proizvodnje kojim ta zemlja raspolaže i da će iz tog razloga taj proizvod izvoziti.
4. Standardna teorija međunarodne trgovine – ova teorija nastoji da objedini nalaze klasičnih i neoklasičnih teorija međunarodne trgovine, sa težnjom da se objasni većina tokova u savremenoj međunarodnoj trgovini.

Klasične teorije međunarodne trgovine za centar posmatranja imaju državu kao osnovnog aktera međunarodne trgovine, dok moderne teorije međunarodne trgovine, koje nazivamo i mikroekonomske teorije, za centar posmatranja uzimaju preduzeća kao glavne aktere međunarodne trgovine. U skup ovih teorija spadaju (Bjelić, 2008, str. 147–162):

1. Teorija tehnološkog gepa – ovu teoriju je lansirao Pozner i po njoj je za zemlju izuzetno važan proces inovacije na osnovu koga se stvaraju novi tehnološki postupci i novi proizvodi (engl. imitation lag hypothesis).
2. Teorija životnog ciklusa proizvoda – uvedena je od strane Vernona i predstavlja nadogradnju teorije tehnološkog gepa, na taj način da je međunarodna trgovina uslovljena postojanjem životnog ciklusa proizvoda.
3. Teorija sličnosti zemalja – tvorac ove teorije, švedski ekonomista Linder, smatra da su ukusi potrošača snažno determinisani njihovim standardom koji merimo per capita dohotkom. On smatra da standard određuje ukuse potrošača koji potom determinišu odgovarajuću proizvodnju u nekoj zemlji.

4. Teorija međunarodne trgovine zasnovana na ekonomiji obima – u osnovi ove teorije leži činjenica da masovna proizvodnja određenog proizvoda omogućava niže cene za taj proizvod i da će ti proizvodi biti konkurentni u izvozu na strano tržište.
5. Teorija trgovine u uslovima oligopola – za razliku od tržišne situacije kada postoji perfektna konkurencija i kada veliki broj preduzeća u grani proizvodi homogen proizvod, u uslovima monopolističke konkurencije malobrojne firme su izvršile proizvodnu diferencijaciju, pa svaka od njih ima određen segment lojalnih potrošača.
6. Teorija intrasektorske trgovine – u osnovi ove teorije nalazi se otkrivena tendencija da neke zemlje izvoze i uvoze istovrsne proizvode, pa je ta trgovina proizvodima iz istog sektora privrede nazvana intrasektorska trgovina.
7. Teorija konkurentske prednosti zemalja – ova teorija je razvijena od strane Majkla Portera koji smatra da konkurentnost države leži u konkurentnosti preduzeća koja u toj privredi posluju kao u njihovom poslovnom okruženju.
8. Teorija globalnog strateškog rivalstva – na osnovu analize međunarodne trgovine tokom osamdesetih godina 20. veka od strane Kelvina Lankastera, Pola Krugmana i Elhana Helpmana, dolazi do formiranja teorije globalnog strateškog rivalstva koja proučava konkurenciju između transnacionalnih kompanija i velikih preduzeća koja globalno posluju.
9. Geografska ekonomija – ova teorijska koncepcija pokušava da objasni raspored ekonomske aktivnosti u pojedinim privredama u svetu jer jednu od važnih karakteristika svetske privrede predstavlja nejednak raspored stanovništva i ekonomske aktivnosti u svetu.
10. Teorija kontrole intelektualne svojine – ovaj teorijski koncept polazi od toga da firme koje poseduju značajnu intelektualnu svojinu koja je zaštićena patentom, copyright-om ili kao trgovački naziv, imaju značajne konkurentske prednosti nad firmama koje nemaju ovakvu intelektualnu svojinu.

Brojne instrumente međunarodne trgovinske politike možemo svrstati u tri osnovne grupe: instrumenti spoljnotrgovinske politike sa primarnim dejstvom kroz cene, instrumenti spoljnotrgovinske politike sa primarnim dejstvom kroz količinu i instrumente spoljnotrgovinske politike distorzivnog dejstva. Instrumenti sa primarnim dejstvom na cene su carine, subvencije, uvozne takse i depoziti, kao i politika deviznog kursa. Instrumenti sa primarnim dejstvom kroz količinu su kvote i do-

zvole, dok u instrumente distorzivnog dejstva spadaju necarinske barijere, administrativne mere protekcionizma i damping. Protekcionizam je tokom najnovije krize verovatno učinio da najsiromašnije zemlje sveta stvore trgovinski deficit, istovremeno stvarajući suficite onim zemljama koje su ionako u boljoj poziciji da amortizuju negativne efekte svetske krize (Evenett, 2010, str. 37).

FAKTORI KOJI DOPRINOSE RASTU SVETSKE TRGOVINE

Kada se govori o faktorima koji najviše doprinose rastu svetske trgovine, jedan od značajnijih jeste tehničko-tehnološki progres, koji je u drugoj polovini XX veka dao najveći doprinos rastu svetskog društvenog proizvoda, svetske proizvodnje, a posebno svetske trgovine. Dalje bi usledio proces liberalizacije međunarodne trgovine i direktnih stranih investicija, jer je svetska trgovina bila u velikoj meri ograničavana, kako visokim carinama, tako i masom vancarinskih barijera. Ovome procesu je najviše doprineo Opšti sporazum o carinama i trgovini (*GATT*) koji je 1995. godine zamenjen svetskom trgovinskom organizacijom (*WTO*). Enorman rast broja i veličine transnacionalnih kompanija i njihovih direktnih stranih investicija, po nizu osnova su doprinosili veoma izraženom rastu svetske trgovine u poslednjem kvartalu XX veka. Direktne strane investicije pre svega generišu spoljnotrgovinsku razmenu između zemalja odakle potiču investicije i zemalja domaćina tih investicija. U prvoj fazi sa odlivom direktnih investicija ide i izvoz opreme, tehničkih i inženjering usluga, i drugih roba i usluga potrebnih za formiranje i rad filijale. To znači da raste uvoz u zemlju gde je došlo do priliva direktnih stranih investicija. Po formiranju filijale u inostranstvu dolazi do uvoza sirovina, reprodukcioni materijala i sl., ali i do rasta izvoza proizvoda i usluga iz te filijale. Veliki doprinos rastu svetske trgovine dao je i razvoj međunarodne standardizacije, koji se u poslednjoj četvrtini XX veka sve više afirmiše u sferi procesa proizvodnje, projektovanja, građevinarstva, saobraćaja, turizma, bankarstva, računarstva, spoljnotrgovinskih dokumenata i sl. U nizu faktora rasta svetske trgovine treba pomenuti i unifikaciju međunarodnog trgovinskog prava. Postoji niz međunarodnih institucija koje donose međunarodne standarde i pravila, koji sami po sebi predstavljaju neku vrstu unifikacije međunarodnog trgovinskog prava jer one donose zakone, konvencije, direktive i sl. koje potpuno ili delimično obavezuju učesnike u međunarodnoj trgovini, pogotovu iz zemalja koje su članice tih institucija. Ovde je najznačajnija Svetska trgovinska organizacija, zatim Komisija Organizacije ujedinjenih nacija za međunarodno trgovinsko pravo (*UNCITRAL*), Konferencija Ujedinjenih nacija za trgovinu i razvoj (*UNCTAD*)

i mnoge druge. Od ostalih faktora rasta svetske trgovine, pomenućemo i razvoj međunarodnog faktoringa i forfetinga, gigantizaciju proizvodnih preduzeća, konvertibilnost i stabilnost sve većeg broja valuta, privatizaciju državnih preduzeća, napuštanje državnog monopola spoljne trgovine, razvoj i pojavu sve većeg broja međunarodnih berzi, međunarodnih aukcija, i sajмова i svetskih trgovinskih centara, razvoj međunarodnog marketinga, uz brojne druge faktore (Kovačević, 2002, str. 40–57).

Ekonomisti su skoro jednoglasni da je održavanje i dalje unapređenje otvorenog multilateralnog sistema neophodan uslov za postizanje dugoročno održivog rasta svetske trgovine. Iako *GATT* i *WTO* podupiru sistem međunarodne trgovine poslednjih šezdeset godina, tek je ova aktuelna ekonomska kriza jasno pokazala kolika je njihova važnost (Krueger, 2009, str. 23).

DETERMINANTE UVOZA I IZVOZA

Obim trgovine, meren preko prosečnog učešća uvoza i izvoza u BDP-u, jedan je od pokazatelja otvorenosti određene privrede, mada on nije nužno uvek i dobar pokazatelj otvorenosti. Mnoge firme su izložene stranoj konkurenciji, ali time što su konkurentne i što drže svoje cene dovoljno niskim, ove firme su u mogućnosti da zadrže svoje tržišno učešće i ograniče uvoz. Ovo sugeriše da bolji indeks otvorenosti predstavlja proporcija agregatnog proizvoda koji čine razmenjiva dobra, tj. ona dobra koja konkurišu stranim dobrima bilo na domaćem ili stranom tržištu. Primera radi, procene su da u SAD razmenjiva dobra predstavljaju oko 60% agregatnog proizvoda (Blanchard, 2005, str. 377).

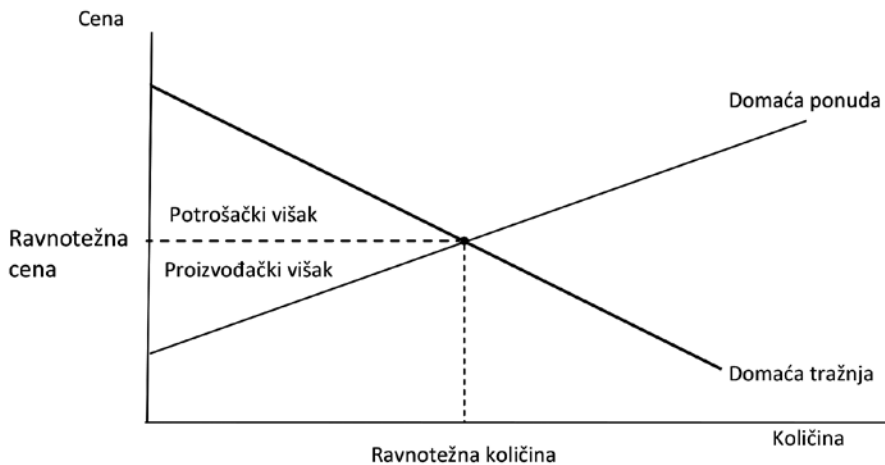
Veoma je značajno sagledati koje su to determinante uvoza, odnosno izvoza. Uvoz je deo domaće tražnje koja se odnosi na inostrana dobra. Stoga je jasno da uvoz zavisi od domaćeg dohotka, pa viši domaći dohodak vodi do veće domaće tražnje za ukupnim dobrima, a time i onim iz uvoza. Uvoz zavisi još i od realnog deviznog kursa, koji predstavlja cenu domaćih dobara u jedinicama inostranih dobara. Što su domaća dobra skuplja u odnosu na inostrana dobra, veća je i domaća tražnja za inostranim dobrima, pa stoga viši realni devizni kurs dovodi do višeg uvoza. Uvoz je, dakle, determinisan i pozitivno korelisan sa domaćim dohotkom i realnim deviznim kursom. Suprotno uvozu, izvoz je deo inostrane tražnje koja se odnosi na

domaća dobra. Viši inostrani dohodak znači veću tražnju za ukupnim dobrima, a time i za onim koja se izvoze iz konkretne zemlje. Izvoz zavisi i od realnog deviznog kursa, jer što je viša cena domaćih dobara u jedinicama inostranih dobara, niža je inostrana tražnja za domaćim dobrima. Drugim rečima, viši realni devizni kurs znači niži izvoz. Izvoz je, dakle, determinisan i pozitivno korelisan sa domaćim dohotkom i negativno korelisan sa realnim deviznim kursom (Blanchard, 2005, str. 397).

EFEKTI MEĐUNARODNE TRGOVINE NA DOMAĆU EKONOMIJU

Kakve konkretne efekte na domaću ekonomiju ima međunarodna trgovina, sagledaćemo analizirajući tri slučaja: situacija bez međunarodne trgovine, uticaj međunarodne trgovine u zemlji izvoznici i uticaj međunarodne trgovine u zemlji uvoznici.

Grafik 1. Grafički prikaz situacije gde se ravnoteža između ponude i tražnje dobara u zemlji ostvaruje bez međunarodne trgovine.

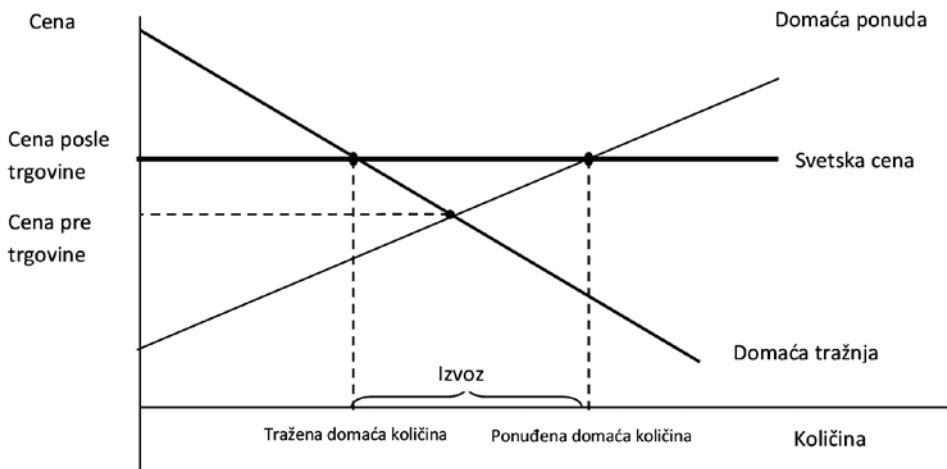


Izvor: Mankiw, 1998, str. 174.

Gornji grafički prikaz ilustruje situaciju u zemlji gde se ravnoteža između ponude i tražnje dobara ostvaruje bez međunarodne trgovine. Kada ekonomija ne trguje na svetskom tržištu, cena prilagođava ravnotežu između domaće ponude i tražnje.

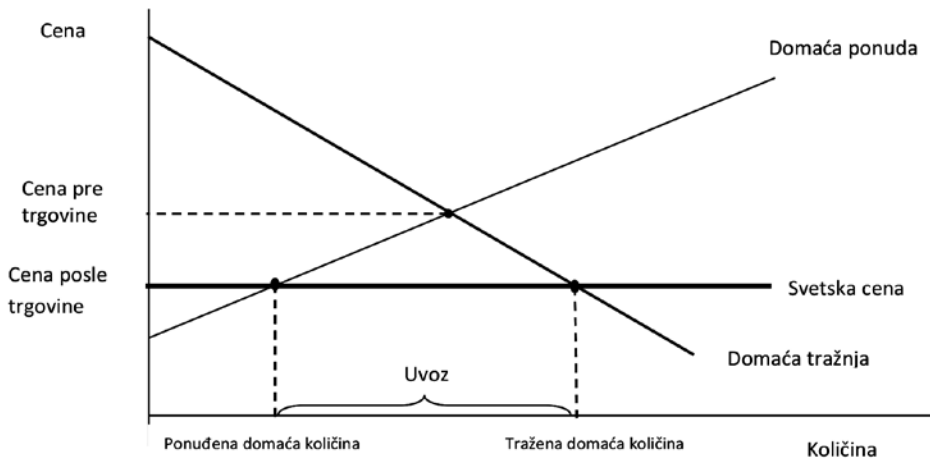
U situaciji kada postoji međunarodna trgovina, domaća cena raste do nivoa cene na svetskom tržištu (Mankiw, 1998, str. 177). Sada se ponuđena domaća količina dobara razlikuje od tražene količine dobara koju smo imali u ravnotežnoj situaciji bez međunarodne trgovine. Viša svetska cena dovela je do manje tražnje za robom u zemlji, a sa druge strane uslovlila je da domaća ponuda značajnije raste, jer se onaj deo proizvodnje koji se ne realizuje u zemlji – izvozi. Na ovaj način ostvaruju se značajne makroekonomske prednosti u vidu veće proizvodnje i iskorišćenosti kapaciteta u zemlji, bolje situacije po pitanju platnog bilansa, dok negativnu stranu predstavlja nešto viša inflacija zbog viših uvoznih cena.

Grafik 2. Grafički prikaz uticaja međunarodne trgovine u zemlji izvoznici



Izvor: Mankiw, 1998, str. 177.

Obrnuta je situacija kada je svetska cena niža od one u zemlji (Mankiw, 1998, str. 179) jer se tada manje isplati proizvoditi u zemlji u odnosu na uvoz, pa iz tog razloga imamo i znatno veći uvoz. Uvoz u ovom slučaju predstavlja razliku između domaće tražnje po svetskoj ceni i količine koju su domaći proizvođači spremni po toj ceni da proizvedu.

Grafik 3. Grafički prikaz uticaja međunarodne trgovine u zemlji uvoznici.

Izvor: Mankiw, 1998, str. 179.

Višak ponude i tražnje predviđa kako će se međunarodna tržišta prilagođavati jer se prilagođavanja dešavaju kontinuirano, kako na izvoznim, tako i na uvoznim tržištima. Kao i na svim tržištima, tražena količina pada pri višim cenama, kao što i povećava domaću proizvodnju doprinoseći padu uvoza. Izvozna potrošnja, cena pomnožena sa količinom, može da pada ili da raste, što zavisi od uvoznih cena i količina. Više izvozne cene uticaće na povećanje izvoznog prihoda osim ukoliko količine izvoza padnu u većem procentu nego što je procenat rasta cena. Za ekonomije koje su visoko zavisne od uvoza, promene u međunarodnim cenama mogu biti kritične. Ukoliko posmatramo hiljade međunarodnih tržišta i kontinuirana prilagođavanja na njima, nijedna zemlja ne troši na uvoz tačno onoliko koliko zaradi od izvoza, pa pošto tekući račun nije nula, mora postojati međunarodno pozajmljivanje ili kreditiranje radi njegovog finansiranja. Tekući i kapitalni račun platnog bilansa odražavaju proces međunarodnog prilagođavanja. Vladine ekonomske politike mogu uticati na platni bilans preko fiskalne politike, koja odražava državnu potrošnju i poreze, i monetarne politike koja odražava kontrolu ponude novca.

Brojna spoljnotrgovinska preduzeća samostalno donose odluke o svom uvozu ili izvozu, ali država ipak daje okvirne granice sistema poslovanja i to putem raznih instrumenata kojima štiti privrednu ravnotežu svoje zemlje. Država ne utiče direktno na odlučivanje spoljnotrgovinskih firmi o tome šta i koliko uvoziti, ali

može indirektno, kroz određene instrumente podrške obezbediti povoljnije uslove za izvoz ili uvoz proizvoda određenog sektora, koji predstavlja njen strateški interes (Kozomara, 2005, str. 132).

Prisutan je trend povećane apsorpcije strane robe i kapitala od strane velikih zemalja sa ubrzanim razvojem. Očekuje se da će ove zemlje progresivno privlačiti globalne investicije nudeći više prinose na njih te povećavati uvoz sirovina i opreme potrebne za njihov budući rast (Freund, 2010, str. 15).

Promenjive cene razmenjivih dobara utiču na izvozne prihode i izvoznju potrošnju, a potom i na trgovinski bilans, koji predstavlja razliku između izvoznih prihoda i uvoznih rashoda. Bilans roba i usluga uključuje u sebi kako robu, tako i usluge i jednak je razlici između njihovog izvoza i uvoza. Dve glavne komponente platnog bilansa su tekući račun i kapitalni račun, i preko njih se stiče uvid u međunarodnu poziciju neke ekonomije, a oni su, takođe, osnova preduzimanja mera vladine ekonomske politike. Tekući račun platnog bilansa se sastoji od bilansa roba i usluga i neto investicionog dohotka, koji sadrži naplate i plaćanja na sredstva kao što su akcije i obveznice, kao i plaćanja kamata na međunarodne zajmove. Pozitivan račun neto investicionog dohotka pokazuje da zemlja više naplaćuje na sredstva plasirana u inostranstvu nego što plaća po istom osnovu. Obrnuto, negativan račun neto investicionog dohotka pokazuje da je zemlja međunarodni neto zajmotražilac. Kapitalni račun je suma direktnih investicija i portfolio investicija. Direktno investicije su međunarodna investiciona potrošnja od strane firmi na nove fabrike i opremu. Međunarodne portfolio investicije su ulaganja koja ne podrazumevaju kontrolu poslovnih operacija od strane ulagača, što predstavlja konceptualnu razliku u odnosu na direktno investicije.

Kreditna tržišta omogućavaju pozajmljivanje i davanje zajmova, i zemlja u celini može da bude zajmodavac ili zajmotražilac na međunarodnom kreditnom tržištu, što nosi odgovarajuće ekonomske implikacije. Deficiti i suficiti tekućeg računa platnog bilansa su očekivana pojava i ne postoji razlog da zemlja treba da ima saldo tekućeg računa nula. Ukoliko zemlja troši više na uvozna dobra i usluge nego što dobija od izvoza, onda ona mora da pozajmljuje ili da troši imovinu. Pozajmljivanje je tipično za zemlje u razvoju koje radi razvijanja razvojnih potencijala moraju da pozajmljuju radi investiranja u kapitalna dobra i u razvoj veština da bi mogle da povećaju produktivnost. Međunarodno pozajmljivanje i kreditiranje olakšavaju

processe globalnog rasta i stabilnosti. Suficit u tekućem računu nije nužno dobra, kao što ni deficit nije nužno loša pojava, jer ne postoje prosta pravila koja treba slediti, pošto sve zavisi od toga šta se želi napraviti od budućnosti. Uvoz kapitalnih dobara i dugovi u platnom bilansu, stoga, nisu razlog za uzburku, jer je za zemlje koje žele da rastu očekivano da pozajmljuju. Zemlja sa deficitom u tekućem računu pozajmljuje ili prodaje imovinu kojom se kreira dug preko emisije obveznica ili imovina emisijom akcija. Prodajom postojeće imovine, kao što su akcije, obveznice, zlato ili nekretnine – mogu se obezbediti novčana sredstva za finansiranje deficita tekućeg računa. Svaka vlada odlučuje o uslugama koje treba da obezbedi društvu i nameće poreze da bi mogla da ih isfinansira. Negativan saldo državnih prihoda i rashoda ukazuje na postojanje deficita budžeta, koji da bi se isfinansirao mora se pristupiti štampanju novca ili prodaji obveznica i sl.

Ekonomska politika podrazumeva akcije vlade kojima se utiče na ekonomiju, a međunarodna trgovina i finansije su pod uticajem ove politike. Dva pojavna oblika ekonomske politike su fiskalna politika koja podrazumeva državnu potrošnju i oporezivanje, i monetarna politika koja podrazumeva državnu kontrolu ponude novca. Može postojati potreba da fiskalna i monetarna politika utiču na tekući i kapitalni račun, mada postoje različita stručna mišljenja oko uloge i efektivnosti ovih politika. Neki se nalaze na strani aktivnih političkih intervencija da bi se uticalo na nezaposlenost i recesiju, dok se drugi nalaze na strani pasivnih političkih akcija i tržišnog prilagođavanja uz ostvarivanje uravnoteženih budžeta i nulte inflacije. Kada država troši više nego što prihoduje nastaje deficit preko koga se kreira nacionalni dug, u situaciji kada država emituje obveznice radi njegovog pokrića. Obveznice kupuju pojedinci, firme, centralna banka, strani investitori i strane centralne banke. Ukoliko obveznicu kupi centralna banka, onda je ona plaćena sa novom emisijom novca, pa se na ovaj način povećava ponuda novca, što se svodi na uticaj monetarne politike. Kada privatni sektor kupuje obveznice, sredstva se redistribuiraju od privatnog ka javnom sektoru. Državna potrošnja raste na račun potrošnje i investicija, jer potrošači i firme troše na obveznice umesto na potrošna i investiciona dobra. Potreba za pozajmljivanjem raste usled državne odluke pa kamatne stope ili cene kredita rastu, dok sa povećanom ponudom cene obveznica padaju. Na ovaj nači možemo izvesti i budžetsko ograničenje. Ako sa G označimo državne rashode, sa B stok duga preko emitovanih obveznica, sa r kamatnu stopu na dug, sa T poreske prihode i sa M novčanu masu, onda dobijamo sledeću jednačinu:

$$G + rB - T = \Delta B + \Delta M$$

To znači da se budžetski deficit (leva strana jednačine) mora pokriti dodatnom emisijom obveznica ili monetizacijom od strane centralne monetarne institucije (desna strana jednačine). Tržište obveznica ima implikacije za ekonomiju otvorenu ka inostranom finansiranju. Više kamatne stope i jeftinije obveznice privlače strane investitore koji žele da kupe jeftinije obveznice. Tražnja za domaćom valutom na deviznom tržištu raste izazivajući apresijaciju valute, koja potom utiče da uvoz bude jeftiniji, a izvoz skuplji, što onda gura platni bilans u deficit. Brojne empirijske studije pokazuju da fiskalna politika predstavlja slab alat kojim treba da se utiče na platni bilans, jer su za ovu svrhu daleko efikasnije primena instrumeneta i mera trgovinske politike, kao što su carine, kvote, necarinske barijere, izvozne subvencije i sl. Trgovinska politika je u ovom smislu daleko efikasnija u odnosu na fiskalnu i monetarnu politiku, kada se radi o bavljenju pitanjima iz domena spoljne trgovine. Državni dug kreiran ekspanzivnom fiskalnom politikom, a finansiran emisijom državnih obveznica ima različite implikacije po ekonomiju, u zavisnosti od toga ko se javlja kao kupac tih obveznica. Kupovina obveznica od strane stranih lica dovodi do apresijacije valute, inflacija rezultira usled ekspanzivne monetarne politike, kojom se takođe umanjuje vrednost domaće valute, odnosno dolazi do njene depresijacije, dok kupovina državnih obveznica od strane domaćih lica dovodi do istiskivanja privatnih investicija, tzv. *crowding out*.

Monetarna politika, takođe, utiče na spoljnu trgovinu i finansije. Inflacija nastaje kada ponuda novca raste brže od ponude roba i usluga. Inflacija i očekivana inflacija mogu imati realne efekte na ekonomiju preko kreditnog tržišta i deviznog tržišta. Stabilan rast ponude novca vodi do niske i potencijalno nulte inflacije. Centralne banke upravljaju ponudom novca i na taj način utiču na privredni ciklus. Ideja je u tome da povećana ponuda novca smanjuje kamatne stope i ohrabruje investicije, a to se operacionalizuje na način da centralna banka smanji svoju diskontnu stopu po kojoj se zadužuju komercijalne banke. Stabilan rast ponude novca vodi stabilnim kamatnim stopama i pouzdanom kursu, pa su preduzetnici, trgovci i investitori u mogućnosti da naprave bolje planove u uslovima stabilnog novčanog rasta i stabilnih cena. Stoga, ni fiskalna ni monetarna politika ne treba da se koriste kako bi se uticalo na međunarodnu trgovinu i investicije. Vlade imaju na raspolaganju čitav opseg opcija kojima se utiče na međunarodnu trgovinu: carine, kvote, necarinske barijere, dobrovoljna uzdržavanja od izvoza, izvozne subvencije, slobodne trgovinske zone, kontrolisani devizni kurs, fiksni devizni kurs, devizna ograničenja i kontrolu stranih investicija.

Svi akteri u međunarodnoj trgovini upućeni su na međunarodno devizno tržište na kome se kupuju međunarodna sredstva plaćanja. Tražnja za devizama potiče od domaćih kupaca inostranih roba i usluga, poluproizvoda, kapitalnih dobara i imovine, dok ponuda deviza potiče od inostranih kupaca. Ponuda i tražnja se kontinuirano sučeljavaju na deviznom tržištu određujući tako devizni kurs, kao relativnu cenu valuta u trgovini. Platformu za trgovinu valutama predstavlja globalna mreža koja povezuje privatne banke, devizne brokere, trgovce i centralne banke. Centralne banke često kupuju i prodaju valute u pokušaju da utiču i upravljaju deviznim kursovima. Mnoge centralne banke imaju fiksne devizne kurseve dogovorno podešene radi ostvarivanja određenih političkih ciljeva. Depresirana ili devalvirana valuta znači skuplji uvoz i jeftiniji izvoz. Država može da devalvira fiksni devizni kurs kako bi obeshrabrila uvoz i ublažila trgovinski deficit. Potcenjena valuta predstavlja porez na potrošače koji moraju da plate višu cenu za uvozna dobra. Država takođe može da preceni valutu ukoliko želi da ohrabri strane investicije. Devizno tržište je povezano sa međunarodnim tržištem dobara i sredstava, na kome neka valuta može da depresira ili da apresira. U slučaju depresijacije valute, vrednost domaćeg novca pada u odnosu na strani novac i tada dolazi do pada kupovne moći stranih roba i usluga, a izvoz postaje jeftiniji kada se izrazi u stranoj valuti. Obrnuto, apresijacija znači jačanje domaće valute što povećava kupovnu moć stranih dobara, ali i poskupljuje domaći izvoz. Za izvoz nije potrebno da bude elastičan da bi depresijacija valute pomerila tekući račun ka suficitu. Ukoliko je suma elasticiteta uvoza i izvoza veća od jedinice, tada depresijacija dovodi do trgovinskog suficita i ova zakonitost se naziva Maršal–Lernerov uslov.

Jedan od načina da bi se održala vrednost domaće valute a da se ne troše devizne rezerve je da se ograniči uvoz do nivoa na kome bi se veštački održao devizni kurs, tako što bi se izdavale uvozne dozvole. Crno tržište devizama može nastati kada je fiksni devizni kurs daleko od onog koji bi se formirao na slobodnom tržištu. Sistem fluktuirajućih deviznih kuseva je prihvatljiviji iz razloga što se stope inflacije razlikuju od zemlje do zemlje, a u takvim situacijama devizni kurs mora da se prilagođava. Zemlje zajmoprimci ostvaruju priliv novčanih sredstava i suficite kapitalnih računa, ali i obavezu budućih deficita u okviru neto investiconog dohotka. Kreditori imaju odliv novčanih sredstava i deficite kapitalnih računa, ali i ostvarivanje budućih suficita u okviru neto investicionog dohotka. Međunarodni zajmovi se koriste za kupovinu kapitalnih i potrošačkih dobara i povezani su sa trgovinskim deficitima. Iako se često interpretiraju kao loša vest, deficit tekućeg računa i spoljni dug su signali da država očekuje buduću rast. Takođe, devizni

kursevi utiču na pravac i nivo međunarodnog finansiranja jer ukoliko domaća valuta depresira strani investitori će želeti da kupe više akcija i obveznica koje onda postaju jeftinije. Depresijacija umanjuje relativnu cenu domaćih finansijskih instrumenata i ohrabruje zemlju da postane zajmodavac. Glavna uloga koju države treba da igraju na međunarodnom finansijskom tržištu je da kontrolišu ponudu novca, što je zapravo zadatak centralnih banaka. Zemlja čija ponuda novca raste u odnosu na ostatak sveta iskusiće depresijaciju valute jer su strano devizno i kreditno tržište pod uticajem monetarne politike. Postoje i pozivi za međunarodnu integraciju monetarnih politika kako bi se stabilizovali devizni kursevi. Takođe, poznato je da kreditni tokovi idu od zemalja sa viškom ponude i niskom kamatnom stopom ka zemljama sa viškom tražnje i visokim kamatnim stopama. Države ne bi trebalo da kontrolišu ili da pokušavaju da utiču na međunarodne finansijske tokove. Uspešno rukovođenje međunarodnim finansijskim tržištima je izvan domašaja država, ali je ipak teško da se one uzdrže od pokušaja. Mnoge zemlje postavljaju direktnu kontrolu međunarodnih investicija, kako njihovog odliva, tako i priliva. U prvom slučaju, rastući procenat BDP-a se plaća u inostranstvo preko kamata, a takođe i ukoliko se na taj način finansira potrošnja, gubi se moć otplate dugova i gubi se mogućnost ponovnog zaduživanja. U drugom slučaju, postoji strah od kontrole od strane inostranih interesa. Postoje razumni razlozi da slobodna međunarodna finansijska tržišta povećaju produktivnost i rastu na zdravim osnovama. Takođe, i međunarodna finansijska konkurencija povećava globalne koristi.

Aktuelna globalna ekonomska kriza počela je kao finansijska kriza u prezaduženim najrazvijenim zemljama, posebno u SAD i Velikoj Britaniji. Za najveći deo ostatka sveta ovo nije bila finansijska, već trgovinska kriza (Baldwin, 2009, str. 12).

ZAKLJUČAK

Države mogu da koriste različite metode da utiču na međunarodnu trgovinu i investicije. Rukovođeni devizni kursevi nude se kao jednostavan način za državu da utiče na cene razmenjivih dobara, usluga i investicija. Države se mogu truditi da drže cenu svojih valuta visokom da bi pojeftinile uvoz ili da bi privukle strane investitore. Apresirana valuta drži niskom cenu poluproizvoda ili kapitalnih dobara za domaću industriju. Stabilna ili apresirana valuta može da privuče strane investitore koji žele da izbegnu devizni rizik ili depresirane valute. Apresirana valuta, takođe, olakšava zemlji da otplaćuje strani dug.

Za zemlje u razvoju je za očekivati da stvaraju dugove da bi nabavile kapitalna dobra, a kako proizvodnja bude rasla zemlja će biti u mogućnosti da otplaćuje svoj dug. Ukoliko se njime ne upravlja na adekvatan način dug može da bude štetan, jer zaduživanje može da uspori rast ukoliko se njime finansira tekuća potrošnja na uštrb investicija.

Glavne makroekonomske varijable su nacionalni proizvod, nezaposlenost, kamatne stope, inflacija, platni bilans i devizni kurs. Makroekonomija se fokusira na ulogu državne politike u uticanju na ove varijable jer teži da upravlja agregatnom proizvodnjom, zaposlenošću i distribucijom dohotka. Država koristi monetarnu i fiskalnu politiku, a u otvorenim ekonomijama koristi i međunarodnu investicionu i politiku deviznog kursa da bi uticala na to šta se proizvodi, kako se proizvodi i kako se dohodak raspodeljuje.

MACROECONOMIC ASPECTS OF INTERNATIONAL TRADE

Balsic Smiljana

Summary: *This paper deals with the way in which foreign trade flows of a country's economy, through import and export of goods and services, affect the macroeconomic variables of that specific economy, just as these variables can affect foreign trade flows.*

There are two sides of macroeconomics – production and money. The interaction between production and financial markets affects production, investment and interest rates, while indirectly also affecting unemployment, inflation and economic growth.

Key words: *international trade / money / production / investment / interest rates / import / export / monetary policy*

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ORGANIZATIONAL CULTURE AND CONCEPT OF KNOWLEDGE MANAGEMENT IN MODERN COMPANIES

Nikcevic Gordana¹

Abstract: *Modern development of economy and society, characterized by the development of technology and techniques, is based on knowledge management. Modern companies consider defining, promotion, evaluation, and knowledge management as their key challenges. Organizational culture is a key component which should ensure the effective creation and use of knowledge within the company. In this context, creation of organizational culture which will recognize the importance of collective knowledge represents one of prerequisites for the effective knowledge management.*

Key words: *organizational culture / knowledge / knowledge management / company*

INTRODUCTORY CONSIDERATIONS

In modern society characterized by uncertainty and changes, knowledge is the only true source of competitive advantage. In conditions when telecommunication systems and the Internet are developing and competition is growing, the rules of modern companies' operations are significantly changing. Only companies that continuously monitor new trends, invest in their own development and acquire new knowledge achieve competitive advantage.

In market game a large number of companies do not achieve expected results, i.e. they do not use their competitive advantages. One possible reason for this situation is inadequate use of existing knowledge in the company. Therefore, the company has a task to attract, use, renew and increase knowledge within the company. Namely, knowledge management enables managers at various levels of management to solve problems successfully using their own knowledge and all other knowledge within the company. However, it is not enough to determine the concept of knowledge

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management, but it is necessary to create conditions for its implementation. Having in mind that employees are the main source of knowledge in the company, the essential problem is how to motivate employees to share their knowledge with others and use it. Since most of the knowledge lies in the heads of people who work in the company, and organizational culture affects ways of thinking and behavior of employees, it is necessary to consider the importance of organizational culture in relation to the effectiveness of knowledge management in companies.

The aim of this paper is to show the connection between organizational culture and the concept of knowledge in the company. Through presentation of impact of different elements of organizational culture and their effects on implementation of knowledge, relevant factors necessary for the success of this process will be identified. This way, the most important problems that may arise during implementation of knowledge will also be identified.

CONCEPTUAL DEFINITION OF ORGANIZATIONAL CULTURE

A single definition of organizational culture does not exist. Most definitions emphasize values and norms, that is, its cognitive component. Organizational culture is “a set of assumptions, values, norms and attitudes that members of a company have developed and adopted through shared experience, which are manifested through symbols that guide their thinking and behavior“ (Janićijević, 2013:35). From the above definitions three important components that are needed for better understanding of organizational culture arise. First, organizational culture consists of collective cognitive structures such as assumptions, values, norms and attitudes, but also of symbols that materialize and manifest its cognitive content. Second, organizational culture is the result of shared experiences of organization members in solving problems they are faced with when solving problems of external adaptation to the environment and internal integration of a collective. Third, collective cognitive structures that comprise organizational culture content provide a framework and guidelines for members of the company in interpreting reality and the world around them. Culture helps members of the company to determine the meaning of concepts, things and events both within the company and outside of it and act accordingly.

As a result of previous research in this area, it is important to emphasize that organizational culture has got its legality both in organizational theory and organizational research. Moreover, the culture has become an accepted way of interpreting and monitoring the life of every company. Organizational culture affects all aspects of business. However, so far, far more attention has been paid to

positive rather than negative impacts, better to say negative impacts on the company have been generally ignored. The reason is to represent organizational culture in a positive light which can also be counterproductive. Namely, it is necessary to master organizational culture in order to achieve through it positive and avoid negative impacts on company's operations.

Culture is a very important part of success of the concept of knowledge management in the company. Change of culture includes initiative, recognition and advancement, but the most important is the existence of a climate of trust in which knowledge sharing is encouraged. Determining organizational culture as an important factor that determines effectiveness of knowledge management in the company, the author will emphasize the fact that only the culture whose content comprise orientation towards people, openness, learning, knowledge sharing, teamwork, willingness to take risks, willingness to change, may have a positive impact on knowledge management.

KNOWLEDGE, TYPES OF KNOWLEDGE AND KNOWLEDGE MANAGEMENT

There is no universal definition of knowledge that would encompass all aspects of it. Knowledge represents our evaluation and evaluation that is based on meaningfully organized set of information which we experience, obtain through communication and reasoning (Zack, 1999a: 45-58).

In the attempt to systematize knowledge different classifications of knowledge arose. From the perspective of operations and functioning of the company the most important are those classifications that contribute to effective knowledge management. One of those classifications encompasses five types of knowledge:

- declarative – knowledge about,
- procedural – know-how,
- causal – know - why,
- conditional – know - when, and
- relational – know – with (Zack, 1999b).

Knowledge can be divided into individual and organizational knowledge. Individual knowledge includes knowledge of an individual, i.e. human capital that enters in and out of the company on a daily basis. It includes: experience, knowledge, ideas, creativity, readiness for changes, etc. Organizational knowledge is knowledge that is owned by certain organizational unit. Organizational knowledge encompasses: patents, processes, projects, information, technology, licenses and the like. If the company is seen as a set of individuals we come to the conclusion that organizational knowledge represents the sum of all individuals' knowledge. However, organizational knowledge is more than that. It also includes a synergic component which implies that if individuals cooperate, in addition to their own knowledge, they also create additional knowledge that is the result of cognitive process and refers to improvement of knowledge. Specifically, individuals bring certain knowledge with them; knowledge acquired in educational process, and gives it, through organizational knowledge, to "organizational knowledge". Thus the organizational knowledge increases. Likewise, individuals, using knowledge and expertise from other sources, also increase their own knowledge, thereby increasing, through organizational knowledge "knowledge of organization" even more. Thus we get a Snowball effect - as it rolls it gets bigger. So, each individual is a key factor in spreading and increasing of knowledge, so that all activities in the company should be focused on continuous improvement of company's employees. Accordingly, employees are not regarded as labor or expense, but as producers of income for the company. Bearing in mind that new knowledge represents a base for other new skills, modern companies have a task to constantly innovate programs of employees training, discover hidden knowledge of its employees, accept new knowledge deepening analysis of work processes in the company, motivate workers to adopt new knowledge, etc. (Orlić, 2008: 12).

From the perspective of knowledge management strategies, knowledge may be divided into explicit and implicit knowledge. Explicit knowledge is objective, open, and palpable. It is expressed in formal language in the form of data, specifications, formulas, manuals, etc. It does not depend on the context in which it was created and can hardly be transformed and transmitted. Implicit knowledge is subjective, hidden and impalpable. It is knowledge that is deeply personalized and can hardly be formalized. It depends on the context in which it was created and can hardly be transformed and transmitted. That is because implicit knowledge contains intuition, ideas and knowledge that we cannot express, but we can apply it. Implicit knowledge is made of technical and cognitive elements. Technical elements of implicit knowledge include informal trade skills and know-how. Cognitive elements are individual for each person. With their help, individuals understand the world.

A skill that makes a technical part of implicit knowledge also arises from them. Articulation of implicit knowledge is an essential way of creating new knowledge in the company (Janićijević, 2008:386).

In order to manage knowledge efficiently it is necessary to identify all sources of knowledge available to a company. In general, two sources of knowledge can be identified, such as: internal and external sources. Internal sources of knowledge are in people's "minds" and express themselves through behavior of employees, procedures, software and equipment. They are found in different documents and databases of companies. External sources of knowledge of general interest include publications, universities, government agencies, etc. (Zack, 1999a). Regarding a company's orientation with respect to sources of knowledge there are three possible options. The first option refers to companies that only use knowledge from their own sources. However, the orientation of the company mainly to internal sources can adversely affect the competitive position of the company. The second option that relates to those companies which are oriented only on external sources of knowledge causes instability in company's operations because external sources of knowledge are relatively inexpensive and widely available. The third option occurs by using knowledge from internal and external sources. This option is considered to be the best because it represents a combination which eliminates orientation shortcomings only to internal or only to external sources of knowledge.

Stemming from information as a primary factor in the constitution of knowledge, knowledge management can be defined as the systematic and organizationally specified process of acquiring, organizing and communicating knowledge of employees so that other employees may make use of it to be more effective and productive in their work (Alavi, Kayworthand and Leidner, 2005) Knowledge management encompasses three main activities of knowledge:

- Knowledge generation - includes all activities, which bring to light knowledge that is "new" to the individual, to the group, and to the organization;
- Knowledge transfer – movement of knowledge from one location to another and its absorption;
- Knowledge retention – all activities taken for the retention of acquired knowledge within the company.

One of the prerequisites for efficient knowledge management is to create organizational culture that will help the process of knowledge implementation and which will activate that knowledge so that it creates additional values for the company.

INTERDEPENDENCE BETWEEN ORGANIZATIONAL CULTURE AND KNOWLEDGE MANAGEMENT

The essence of the concept of organizational culture within the company lies in the fact that every company shapes its value systems, beliefs and norms, which will be sufficiently attractive and acceptable to all the people in the company. By accepting a certain value system employees strongly link themselves with the company and integrate themselves into an entity. In fact, the presence of mental models that are specific creates a space for the existence of such an environment that will favor the development of knowledge in the company, i.e. creating a kind of organizational model in which knowledge will have a primary role (Pržulj, 2000:14).

The concept of knowledge management assumes that knowledge is the only reliable source of permanent competitive advantage. However, in order to create and maintain a competitive advantage, a company must be able to generate and apply new knowledge. To be able to spread knowledge, share it and let it flow freely within the company- it is essential that employees feel uninhibited, without fear that their division of knowledge would lead them to a worse business position. Employees need to understand exchange of knowledge as a possibility for their personal development and progress, as well as progress of the entire company. In this sense, it is necessary to create such an organizational culture that is characterized by: a high level of autonomy for individuals' respect for skills, knowledge and talents, low-level office policy of minimal but effective administration, encouraging, encouraging a shared stake in the outcomes, giving recognition and making employees feel valued, high levels of involvement if employees in decision-making, building variety into jobs, cooperation rather than competition, etc. In such an environment, employees will feel free to express their ideas, feelings and learning together and organizational culture will support the implementation of knowledge and enable development of knowledge sharing culture. Organizational culture positively affects and encourages knowledge management to the extent that the assumptions, values, norms and attitudes shared by employees are such as to support and encourage knowledge management. However, if the assumptions, values, norms and attitudes shared by the employees are such that they do not support and encourage knowledge management, these processes will encounter cultural barriers and will hardly be implemented as less efficient (Harman, Brelade, 2000).

Creation, sharing and implementation of knowledge in the company requires changes. One of the main obstacles to the adoption of new knowledge may be the existing knowledge. In order for employees to accept new knowledge in a company they have to leave their existing knowledge. Employees often resist changes. In

addition to the fact that it is in nature of human character, they perceive changes as imposition, rather than enhancing their role in business. Organizational culture determines the willingness of employees to reconsider and leave the existing knowledge. In some cultures, assumptions and values are such that they encourage reexamination of existing knowledge and beliefs. In such cultures it is simple to leave the “old” knowledge and adopt a new one. However, there are cultures in which re-examination of the existing and adoption of new knowledge is “forbidden”. Then it is very difficult for employees to change anything, even in case when they have an incentive to change and adopt new knowledge (Janićijević, 2013:335).

In addition to the above, it is very important that openness exists in internal communication which means that information in the company is shared with everyone. Therefore, everything within the company should be resolved in an honest and open discussion, avoiding conflict situations. It is also important that there is a systemic perspective, which means that every individual in the company, regardless of their position, analyses issues in the company from the aspect of the company as a whole, not its parts. Some authors think that a place for sharing knowledge must exist within a company, which is the key for successful implementation. There must be a place to acquire, organize and disseminate knowledge. It has to be well structured and appropriate for all employees (Greengard, 1998).

Unsuccessful managers’ initiatives related to knowledge are in most cases the result of a culture that does not support the concept of knowledge. In that sense, awareness of the importance of knowledge and willingness to support its implementation is needed. Prerequisites for the creation of an atmosphere of knowledge sharing in the company are: determination of direction and exchange of opinion about the goals set, proper relationship towards employees as professionals and transparent structure that is based on development and teamwork. Employees should understand that sharing knowledge increases the quality of knowledge and, as such, represents a much greater benefit to the company than the possession of knowledge. Therefore, it is necessary to remove cultural barriers in order to establish the exchange of knowledge in the company (Vemić, 2007).

Based on the above, it can be concluded that there is a mutual dependence of organizational culture and knowledge management. In order for companies to adjust timely and adequately prepare themselves for successful performance in an unpredictable and dynamic business environment, they are turning more and more to knowledge as the only form that they can create them the ability to create and maintain competitive advantage.

ELEMENTS OF ORGANIZATIONAL CULTURE IMPORTANT FOR KNOWLEDGE MANAGEMENT

Many studies have shown that of all the factors that affect knowledge management (strategy, structural factors, information technology, staff qualifications, clearly defined goals, reward system, etc.) organizational culture has the largest impact on knowledge management. It is very important for a company to recognize the importance of impact of certain elements of organizational culture that are important for knowledge management. In this way, a company will find the most optimal relationship between current organization and knowledge and conceive the right strategy for organizational culture transformation. The influence of the most important organizational culture elements on knowledge management is described below (Mertins, Heising and Vorbeck, 2001:1-57).

1. Organizational culture shapes assumptions about what knowledge is. In that context:

- Culture includes assumptions about what kind of knowledge is important. In this sense, the authors distinguish individual knowledge that can be a skill or an expertise, social knowledge that represents the knowledge of a group of people and structure knowledge that is represented in the company through policies and procedures;
- Culture, through its assumptions and values, defines what is important to know, i.e. which part of a company needs to be known (technical, economic, or social knowledge);
- Culture defines the boundary between the individual, group and organizational knowledge. Which kind of knowledge the individual will keep for himself /herself and which one he/she will share with others depends on the company's organizational culture, i.e. cultural assumptions and norms. People do not often want to share individual knowledge considering it a source of power within a company (Janicijevic, 2013:333).

Subcultures have a vital role in shaping organizational behavior. Subcultures contain specific types of beliefs, norms and practices presented through specific groups within a company. They differ from the overall organizational culture, as well as from other subcultures. The company, in addition to the dominant culture, may have several subcultures. However, the impact of organizational culture, meaning of subcultures and their conflicts differ in companies (Schein, 1996).

Certain cultures will only value the “objective” knowledge that can be integrated into processes and systems, while others will favor the knowledge resulting from social interactions. This can create a conflict between sectors of the company because there are different systems of knowledge evaluation in different sectors of a company (marketing, financial, human resources). (De Long, 1997:113)

2. If culture is an intermediary between the individual and organizational level of knowledge, norms of possession of knowledge gain more importance. In this sense, culture should facilitate a process of knowledge sharing. Words of the CEO at Buckman Laboratories show how to transform the company norms which regulate relationships between individual levels of knowledge and a company.

“Those of you who have something intelligent to say now have a platform or forum in which to say it. If you are not willing to contribute or participate, then you should understand that many opportunities offered to you in the past will no longer be available” (De Long, 1997:115).

Organizational culture by its assumptions, values and norms determines what is individual and what organizational knowledge is. In this sense, it defines knowledge and competencies that are valuable to the company, shapes interactions and communication through which organizational knowledge is being created, shared and used. Organizational knowledge becomes relevant and makes sense only if it can be managed, i.e. if it is used in the company. Knowledge management has as a result changes in cognitive structures of employees and changes in their behavior. In order for knowledge to have positive consequences for the company it is needed that the change in employees’ awareness leads to changes in their behavior. In this sense, organizational culture should create an environment in which individual knowledge is to be converted into organizational knowledge. Socialization is the first form of creation of organizational knowledge. Through a process of social interaction, implicit knowledge (which was previously discussed) is transmitted from one individual to another. (An example of this is transfer of knowledge from craftsman to apprentice, during their mutual work, where a craftsman does not explicitly transfer his knowledge to the apprentice, but the apprentice “absorbs” knowledge from the craftsman through social interaction process). Conversion of implicit into explicit knowledge is done through articulation process. In this way, individual knowledge, i.e. knowledge that it was only in the possession of individuals, turns into common good of the organization. It is not simple, because it is needed that

one who possesses implicit knowledge has the ability and willingness to articulate it into explicit knowledge. Combination is a form of conversion of individual knowledge and creation of organizational knowledge in which elements of explicit knowledge are integrated into wholes that are more complex than their parts. After this process, knowledge is spread in the company; it is available to employees and may be used as such. However, the process of knowledge conversion has not been finished yet. Internalization is a form of knowledge conversion in which explicit knowledge through everyday use becomes an integral part of mental schemes of employees and managers, i.e. it is converted into implicit knowledge. It is important to emphasize that the process of knowledge internalization is not only done in the workplace, but through education and staff training. Through education and training, employees enrich their explicit knowledge, which as such articulate into implicit ones. Surely, new and enriched implicit knowledge is converted again into the explicit one by which the circle of knowledge conversion is closed. Using organizational knowledge is manifested in changed and improved behavior of employees in the company, i.e. their decisions and actions. As a result of these changes, companies will be able to respond to demands of the environment and improve their competitive advantages (Janićijević, 2008:386).

3. Through context of social interaction, organizational culture determines how knowledge will be used in certain situations. Companies that are not characterized by knowledge sharing behavior cannot provide for behavior where the experience of a group will be transferred to another one even if they have technological requirements created for doing so.

The impact of culture on interaction context can be seen through:

- Vertical interactions that are reflected in the eligibility of employees to freely express their opinions and discuss all issues. Culture which implies openness and freedom in communication on different levels positively affects knowledge management and vice versa.
- Horizontal interactions that are manifested through communication between individuals and groups. Through norms and practices, a culture determines cooperation level (a culture that supports collective responsibility is positive for knowledge management), and the extent to which employees will be free to seek solutions to problems in new knowledge, out of the existing one.

- There are also specific kinds of behavior that a culture supports or does not support. If culture encourages employees to teach others and share knowledge it means that such a culture is good for knowledge management. Similarly, a culture that tolerates mistakes positively affects knowledge management (Janicijevic, 2013:334).

Namely, by establishing the context for interaction, organizational culture determines how knowledge will be used in a particular. Governing social interactions between individuals and groups comes down to shaping individuals' perceptions of their range of options acceptable to the firm. If, for example, a firm has no behavioral routines or expectations for capturing critical feedback from customers and converting it into product or service improvements, then no context exists to support the interactions needed to develop and apply new knowledge about the market. And, if in an organization where interdependent functions exist there is no expectation to share knowledge and collaborate, and where no routine practices exist to do so, then there's no context for interaction to support this sharing. In that case, a new electronic knowledge base or reengineered work process will improve the environment for knowledge sharing, but unless senior management addresses long-standing interaction patterns and beliefs shaped by different subcultures, the benefits of the knowledge strategy will be limited situation (De Long, 1997:20).

4. Organizational culture determines how the new organizational knowledge will be adopted and communicated. The dynamics of this process is quite complex and may represent an issue for the company.

In fact, if they want to survive competition with others, companies need to be able to adopt, validate and transfer new knowledge. Therefore, the question which often arises is: what are the characteristics that a culture should have for the effective integration of new knowledge. Some of them are the following ones:

- Knowledge from the external environment is expected to be the starting point, not the end, of innovation. External knowledge is regarded as the starting point, not as the end of the acquisition of problem-solving knowledge. Instead of simple, external absorption of knowledge, also the exploitation of external knowledge is carried out in an organization.
- An intense debate on key strategic issues with the use of external ii internal information has been encouraged. This norm stems from the values of openness, co-operation and autonomy.
- A high level of participation of employees is expected in adoption and discussion about knowledge related to importance of business outcomes.

- Induction of assumptions underlying the previous success of a company has been supported. This norm stems from the valuation of openness to new experiences (Kolarić, 2009:9).

PREJUDICES AND PRINCIPLES IN THE COURSE OF INTRODUCTION OF KNOWLEDGE CONCEPT IN ORGANIZATIONAL CULTURE

Certain problems may often arise in the course of knowledge concept implementation, which makes its application difficult. Therefore, certain principles were established that facilitate implementation of knowledge within companies. Aggravated circumstances in application of knowledge in organizational culture are: (Wheatley, 2004)

- Organizations and people are treated like machines. This understanding particularly comes to the fore if companies are treated as separate parts. Companies are expected to achieve their goals automatically. People are also expected to do whatever they are told.
- Only material things are real. Errors usually occur due to attempt to attribute unobservable forms of knowledge to material forms.
- Only numbers are real. Only when something is quantified, i.e. expressed in figures, it is possible to describe it adequately.
- Only what you can express in measure or in figures can be managed with. If this is impossible, one should not pay attention to it.
- Observation of technology as a solution to all problems. In fact, insisting on technology creates additional problems, because it cannot be noticed that information expressed in figures are not able to describe the essence of the problem.

However, there are also principles whose application considerably facilitates implementation of knowledge concept.

- It is believed that man creates knowledge. In this sense, a human being cannot be regarded as a machine, but it is necessary to focus attention on him and his needs, i.e. organizational culture that supports people and their mutual relationships.
- Creating and sharing knowledge is in the nature of human activity. Organizational culture needs to motivate people to learn, create and share knowledge, to participate in decision-making, etc.

- Each individual is a knowledge worker. If we assume that each individual creates knowledge, then the company should support each employee individually, because you never know who will find a solution to a problem needed for the company itself.
- Employees decide to share their knowledge. Problems within the company may occur because employees do not share their knowledge. Employees will share their knowledge when they have sense that they belong to the company, feel respect and trust, understand and evaluate goals of the company, believe in their leaders, etc.
- Problems that may arise when creating and implementing knowledge management cannot be solved solely by technology. None of technology solutions is a solution if it does not respect the human dimension.
- Creation of knowledge is a process that takes certain time. Namely, indication of knowledge, innovation or idea never arises in predetermined sequence, but suddenly in an unplanned process that requires time.

POSSIBLE PROBLEMS IN IMPLEMENTING KNOWLEDGE

During implementation of knowledge various problems may occur in the company such as:

- Problem of knowledge sharing. There are many reasons that prevent people to share their knowledge with employees in the company,
- Lack of adequate rewards for knowledge sharing,
- It is in human nature to believe that the knowledge people own increases their strength,
- Lack of adequate methods and means of collecting and classifying knowledge,
- Individuals do not share their knowledge, because they are not aware of what they actually know (Drummond, Saidel, 2004:291-299).

Some people believe that employees do not like to share knowledge for the following reasons:

- "People do not like to share their best ideas". They believe doing so dilutes their standing in the organization, and can impede their ability to get ahead.

-“People don’t like to use other people’s ideas for fear it makes them look less knowledgeable, and that they’re suddenly dependent on others to do their job”.

-“People like to consider themselves experts and prefer not to collaborate with others” (Greengard, 1998).

For effective management it is necessary to develop organizational culture that will initiate and promote team work, trust and knowledge sharing among employees through its content (Davenport, Prusak, 2000:25). Also very important is daily encouragement and improvement of a large number of interactions among employees at all levels. Factors that through its impact on organizational culture hinder or impede the transfer of knowledge are: lack of confidence, a different cultures, lack of time and place for meetings, lack of absorptive capacity of a knowledge recipient, the belief that knowledge is the benefit of certain groups, etc.

One of the problems in the process of knowledge management is the issue of employees’ motivation. The question is how to motivate employees to share their knowledge with others. In order for organizational culture to support and motivate employees in that sense, it should enable them the following: personal development, work environment where they can carry out their tasks, a possibility to get the job done so as to meet all standards, an adequate material rewards etc.

It is important for companies to find long-term ways to motivate their employees, in order to create, share and use knowledge. The company will not be able to support for a long-term employees’ incentive and process of knowledge implementation, if it only offers motivation in the form of additional money. Therefore, it is necessary to combine the reward system, i.e. salaries, with non-financial rewards (development, responsibility, recognition). In this case, they will be motivated: to strengthen their moral commitment for the survival in the company; to increase their efforts; to exceed their goals.

The goal of knowledge management is to improve the process of knowledge documentation, collect and retain knowledge and enable access to existing knowledge. Also, if it is necessary, organizational culture should be changed, communication and co-operation among employees improved and individual development of each individual strengthened. In that sense, the aim is to convert implicit into explicit knowledge and to improve its exchange. To sum up, the purpose of knowledge management is to maximize the effectiveness of all organizational activities related to knowledge (Tisen, Andriesen and Lekan Depre, 2006:206-212).

CONCLUSION

Knowledge represents the most important capital of a company. In that sense, it is necessary to develop an efficient system of such capital, as it leads to significant savings, increased productivity, better quality of business performance and creating competitive advantage. If there is only knowledge in a company, but not an established knowledge management system, it will not be used effectively. Knowledge management enables companies to maximize long-term competitive advantages.

Organizational culture is an effective mechanism for coordination and control of knowledge. For efficient knowledge management it is required to have such an organizational culture that promotes knowledge as the most important source of competitive advantage and power. There is a need for knowledge not just because of knowledge, but knowledge that can be applied, that can create innovation and competitive advantage. Knowledge that has strategic importance for a company and that will increase its value is the important one.

In the context of knowledge management only the organizational culture that promotes a high level of autonomy for individuals, respect and reward knowledge, knowledge sharing, participation of employees in decision-making, co-operation and flexibility, may be of a great importance. At the same time, the mentioned positive characteristics of organizational culture represent guidelines for possible redefinition of the content of organizational culture in the context of achieving the effectiveness of knowledge management within a company.

ORGANIZACIONA KULTURA I KONCEPT UPRAVLJANJA ZNANJEM U SAVREMENIM PREDUZEĆIMA

Nikčević Gordana

Sažetak: *Savremeni razvoj privrede i društva, koji karakteriše razvoj tehnike i tehnologije, zasniva se na upravljanju znanjem. Ključni izazov savremenih preduzeća jeste definisanje, unapređivanje, vrednovanje i upravljanje znanjem. Organizaciona kultura je ključna komponenta koja treba da osigura efikasno stvaranje i korišćenje znanja u preduzeću. U tom smislu, stvaranje organizacione kulture koja će prepoznati značaj kolektivnog znanja predstavlja jedan od preduslova za efikasno upravljanje znanjem.*

Ključne reči: *organizaciona kultura / znanje / upravljanje znanjem / preduzeće*

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INFLATION TARGETING AS A MONETARY POLICY STRATEGY (APPLICABLE IN NON-EU TRANSITION ECONOMIES)

Stojnic Milica¹

Abstract: *Since the 1990s a large number of industrial countries and a growing number of emerging market and transition economies have adopted inflation targeting. During the process of implementation, emerging markets and especially transition economies face many challenges. Nevertheless, the list of inflation targeting countries is really never final. On the other hand, there are not too many transition economies that have adopted this monetary policy strategy. Such examples in the SEE region are Serbia and Albania. However, there is no fixed pattern and thus countries must learn along the way from one another, and more importantly, from their own experience.*

This paper provides an overview on inflation targeting as a monetary policy strategy, the necessary preconditions for its successful implementation, its advantages and disadvantages, issues and challenges that emerging markets and transition economies face, while defining, and during the implementation of this monetary policy strategy.

Key words: *inflation targeting / monetary policy / price stability / Central Bank / financial stability*

INFLATION TARGETING AS A MONETARY POLICY STRATEGY

Macroeconomic policy of any country has several goals that are based on increase in employment, economic stability, economic development and production growth. Those goals are achieved by appropriate fiscal and monetary policy led by “most important players in financial markets” (Mishkin, 2009, p. 315), Central Banks. Healthy macroeconomic policy means healthy economy which can be achieved through one of three monetary strategies: monetary targeting, inflation targeting

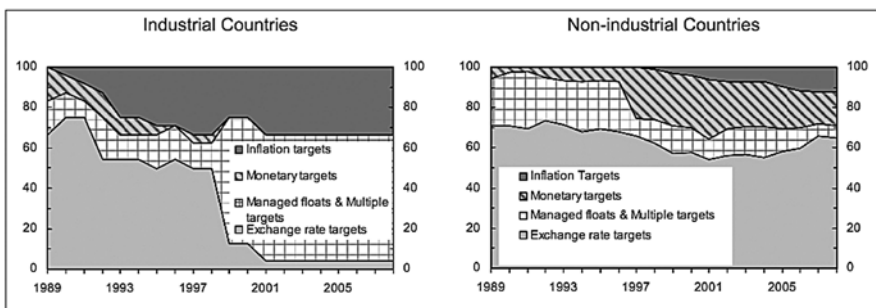
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and implicit nominal anchor (Mishkin, 2009, p. 395). Central banks are held highly accountable for the conduct of monetary policy and hitting the targets. In other words, those regimes appear to be highly transparent. Furthermore, what is common for these three strategies is that all three focus on price stability, which is, for most Central Banks of the world, the main monetary policy goal. Not so long ago policy makers reintroduced the idea of targeting. Monetary targeting was introduced for the first time during the 1970s and 1980s, followed by introduction of inflation targeting in 1989 in New Zealand (Cukierman, 1996, p. 27).

As defined by Mishkin (2009, p.395), monetary targeting delineates that “the central bank announces that it will achieve a certain value (the target) of the annual growth rate of a monetary aggregate”, but not at a constant rate. According to Amato and Gerlach (2001), different studies suggest five criteria that describe and closely determine the spirit of inflation targeting: “1. Public announcement of a numerical target for inflation, 2. a commitment to price stability as the overriding goal of policy, 3. the use of an information-inclusive strategy, 4. Adoption of high levels of transparency, 5. Accountability.” (Amato and Gerlach, 2001, p. 781).

Even though inflation targeting was introduced in developed market economies, this monetary policy framework has been adopted by a growing number of emerging market and transition economies. In 2009, IMF classified twenty six countries as inflation targeting (Scott, 2009, p. 3). However, numerous empirical studies and, more importantly, experience has showed that the success of inflation targeting and its adoption varies across emerging markets and transition economies since it depends on diverse factors such as economic structure and level of income for example. In other words, the exchange rate and financial crises in the 1990s made inflation targeting an “increasingly attractive alternative” (Mishkin, 2000, p. 1) for many emerging markets and transition economies.

Figure 1: Evolution of Monetary Policy Regimes, 1989-2008 (Scott, 2009, p. 5)



Source: IMF.

Nevertheless, certain common features of emerging markets and transition economies, “given the underdevelopment of their financial systems” (Mukherjee and Battacharya, 2011, p. 6) affect the effectiveness of monetary policy. Those features are mainly institutional, which besides the lack and underdevelopment of financial systems “dominated by banks” (Mukherjee and Battacharya, 2011, p. 6) are also affected by the underdevelopment and instability in EMEs judicial systems, interbank markets, etc. (Mukherjee and Battacharya, 2011).

PRECONDITIONS FOR INFLATION TARGETING

According to literature, in order to adopt inflation targeting, central bank needs to satisfy certain preconditions. Adoption of inflation targeting relies on: 1. Central bank independence, 2. Healthy and sound fiscal policy, 3. Elasticity of economy towards changes in interest and exchange rates (Amato and Gerlach, 2001, p. 782). Jeffery D. Amato (2001) in his paper stated that those preconditions are necessary for adoption and success of any monetary policy strategy, not just inflation targeting. However, experience in practice has shown that preconditions play an unusually small part before adopting inflation targeting and quite a larger one after the adoption of this monetary policy strategy.

These so-called preconditions are particularly important for emerging markets and transition economies, as they affect inflation expectation, effectiveness of monetary policy and stability of financial sector. Movements in governmental spending tend to create large movements in inflation expectation and inflation itself (Amato and Gerlach, 2001). Furthermore, high exchange rates may result from adoption of inflation targeting which in emerging market economies, because of the lack of domestic capital, force borrowings in foreign currency. Besides, by targeting inflation central bank usually directs restrictive policy. More specifically, central bank raises interest rates as a response to depreciation of a national currency (Amato and Gerlach, 2001). For these reasons, it can be implied that “the central bank cannot pursue and achieve multiple goals with only one basic instrument” (Scott, 2009, p. 7).

Worth mentioning is a phase of disinflation, that most of the countries that have adopted inflation targeting, went through (Scott, 2009). Firstly, the inflation was reduced by “setting year by year targets” (Scott, 2009, p. 5), and then the process was followed by the adoption of stable inflation targets (Scott, 2009). This will be discussed more thoroughly further on.

ADVANTAGES OF INFLATION TARGETING

Monetary policy performance has been quite successful in inflation targeting economies. Inflation rates and inflation expectations are significantly reduced (Mishkin, 2009). For these reasons, it can be said that inflation targeting, as a monetary policy strategy, has several advantages.

First of all, unlike monetary targeting, inflation targeting uses all available information in order to achieve optimal monetary policy outcome (Mishkin, 2000).

Secondly, it is highly transparent and very easy to understand. In other words, it is highly accessible to the public. For example, inflation targeting central banks publish Inflation Report in which they state explicit numerical inflation target. For this reason, central banks are held highly accountable for their actions and there is less probability that they “will fall into time-inconsistency trap” (Mishkin, 2000, p. 2), because they focus on meeting the targets.

Furthermore, central banks in inflation targeting countries have consistent communication with the government as well. This is why central bank independence, implying instrument and goal independence, is important since the time-inconsistency problem usually takes a form of political pressures on central bank to lead a rather “overly expansionary monetary policy” (Mishkin, 2000, p. 2). This is particularly important in emerging market and transition economies due to their volatile history of poor monetary policy management (Mishkin, 2000).

Probably the most salient feature of inflation targeting central banks, as already mentioned, is transparency. By being transparent, central banks, at the same time, are accountable for the conduct of monetary policy. Moreover, accountability helps in building public support for central bank independence.

DISADVANTAGES OF INFLATION TARGETING

According to Frederic S. Mishkin (2009) there are four main criticisms of inflation targeting. The first criticism refers to the later signals of inflation targeting to public and policy makers due to the fact that inflation is not easily controllable. In more precise terms, “because of the long lags in the effects of monetary policy, inflation outcomes are revealed only after a substantial lag” (Mishkin, 2009, p. 403). As a consequence, central bank’s accountability is going to be seriously affected.

Secondly, inflation targeting is usually seen as rigid rule that distracts and limits policy makers to respond to sudden changes (Mishkin, 2009). However, in practice, inflation targeting is very flexible. In fact, it uses all available information in order to achieve the pre-announced inflation targets. Therefore, it can be concluded that this is not so serious criticism if inflation targeting strategy is well defined (Mishkin, 2000).

Another criticism of inflation targeting refers to output fluctuations as a consequence of “a sole focus on inflation” (Mishkin, 2009, p. 404). In other words, critics fear that inflation targeting will increase output volatility and hence jeopardize growth (Mishkin, 2000). There is also a concern that central banks might ignore other stabilization goals such as output and employment which will most probably affect growth (Mishkin, 2009).

ISSUES AND CHALLENGES OF INFLATION TARGETING IN EMERGING MARKET AND TRANSITION ECONOMIES

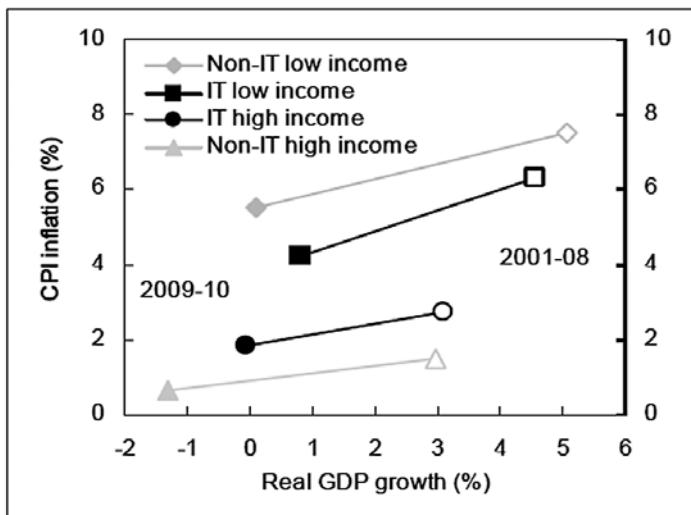
As previously stated, before adopting steady inflation targets many countries went through disinflation process. Many studies have failed in proving the superiority of inflation targeting over other monetary policy frameworks and importance of inflation targeting role in monetary policy over the time. Consequently, this led to the questioning of disinflationary process and importance of inflation targeting (Cabral, 2006).

Different authors argue about the possibility that samples in the studies questioning the impact of inflation targeting on disinflation might be biased. This is due to the fact that non-targeting economies, as control countries, also put a stress on transparency and accountability as prominent features of monetary policy framework, as targeting countries do. However, these studies include only the developed countries.

In his empirical assessment, Rene Cabral examined a sample of emerging market economies employing both groups, non-targeting economies as a control group and inflation targeting countries. He used the same model that Ball and Sheridan used to assess inflation targeting in developed economies. The sample includes twenty three emerging market economies and eleven of those are inflation targeting economies (Cabral, 2006). The author's results contrast results from Ball and Sheridan's paper. Both cross-sectional and panel analyses proved that inflation targeting mattered for disinflation in emerging market economies. However, this

paper was written in 2006 before financial crisis and macroeconomic instability could cause different results because emerging market economies are usually the ones that are highly affected (Cabral, 2006). For these reasons, it is particularly interesting to see whether countries that have adopted inflation targeting had a smaller impact on growth after the financial crisis in 2008, compared to non-inflation targeting countries. Indeed, IMF paper argues that inflation targeting countries were better at coping with financial shocks from 2007 to 2009 than non-inflation targeting countries (IMF, 2009, Abstract). After the financial crisis, in 2009 and 2010 the average growth rate was expected to be lower. Non inflation targeting countries had bigger declines in growth, where in lower-income countries that decline was estimated to be 5% whereas in inflation targeting it was 3,8%. In higher-income countries, non inflation targeters had forecasted 4.3% of decline in growth and inflation targeting countries 3.1% (Scott, 2009, p. 23).

Figure 2: Growth and Inflation: 2009-2010 forecasts VS. 2001-2008 performance (Scott, 2009, p. 23)



Source: Author's calculations.

However, the main challenge for emerging market and developing economies that have not adopted inflation targeting is to adapt and harmonize inflation targeting framework with the conditions in the country which greatly differ from those in the developed economies (Scott, 2009).

Furthermore, IMF states that emerging market and transition economies, beside various conditions, face many challenges like: "1. Weak public sector financial

management, 2. Weak financial sector institutions and markets, 3. Low monetary policy credibility, 4. Extensive dollarization of financial liabilities, 5. Vulnerability to sharp changes in capital flows and international investor sentiment” (Scott, 2009, p. 24).

The main challenge in emerging market economies and especially in transition economies is fiscal predominance. Inordinate governmental spending might jeopardize the entire financial stability. Weak fiscal situation in a country might lead to slowing down “the fall in inflation expectation and keeping real interest rates high” (Freedman and Otker-Robe, 2009, p. 13). Furthermore, if fiscal policy is inconsistent with monetary policy, and especially with inflation targeting framework, it might contribute to the damaging credibility of inflation targeting and thus “leading to the collapse of an exchange rate peg” (Scott, 2009, p. 24) and also losing the credibility of central bank. In other words, it should be avoided that future effectiveness of monetary policy be destabilized and jeopardized (Freedman and Otker-Robe, 2009). As stated above, absence of fiscal dominance is a fundamental precondition in “making inflation targeting framework more feasible and less challenging” (Freedman and Otker-Robe, 2009, p. 19).

As discussed in the IMF paper when adopting and implementing inflation targeting, especially in transition economies, environment needs to be taken into account (Scott, 2009). In more precise terms, this refers to the credibility of institutional and market environment. In fact, this is very important from the aspect of financial development, as well. Transition economies generally have very weak institutions and markets which slow down and affect effectiveness of “monetary policy transmission” (Scott, 2009, p. 24). In other words, some countries experiences showed that if basic principles of monetary transmission mechanism are understood- inflation targeting framework is less challenging and more workable (Freedman and Otker-Robe, 2009). Weakness in the financial system (financial institutions and financial markets) affects the performance of inflation targeting as a monetary policy framework, so certain measures and reforms need to be taken in order to make those financial systems stronger and more credible, and thus contribute to financial development (Scott, 2009).

Also, in the creation of an enabling environment for adopting the inflation targeting framework,” a more flexible exchange rate regime” (Freedman and Otker-Robe, 2009, p. 20) is necessary to be established. In transition economies the role of exchange rate became even more valuable due to dollarized, or more recently, euroized countries like Central and Eastern European economies. Furthermore, access to international financial markets also plays a significant role for transition

economies (Scott, 2009). As previously stated weak institutions and markets lead to ineffectiveness of monetary policy transmission, but dollarization and euroization also lead to its modification by emphasizing “exchange rate movements compared to interest rate movements in monetary policy transmission” (Scott, 2009, p. 25).

Furthermore, political support is one of the core elements for successful adoption and implementation targeting as a monetary policy framework. For many transition economies it is going to be a challenge to achieve agreement between the central bank and government during the disinflation process, as was the case in the Czech Republic, Turkey and Poland (Freedman and Otker-Robe, 2009, p. 13). “Maintaining internal consensus and getting broad support” (Freedman and Otker-Robe, 2009, p. 13) are extremely difficult and tremendously challenging.

Institutional independence, which means the central bank’s independence, is crucial for the successful adoption and implementation of a stable inflation targeting framework. Different studies on central bank’s independence have showed that there is a negative correlation between central bank’s independence and inflation. In other words, high independence of central bank lowers the level and variance of inflation (Krause and Mendez, 2008). When we talk about central bank’s independence, that primarily refers to goal independence and then instrument independence. Moreover, Krause and Mendez in their empirical study found that a “high level of preference for inflation stability is significantly correlated with CBI measures, membership to the European Economic and Monetary Union” (Krause and Mendez, 2008, p. 285). This is applicable to CEE and SEE countries, particularly in terms of clarity and implementation of inflation targeting as a monetary policy strategy in those countries.

CONCLUSION

Roger (2009, p. 20) compared similar countries over the same period of time, and concluded that countries which adopted inflation targeting were superior in reducing inflationary impacts, compared to other non-inflation targeting countries. In my opinion, it is still too early to say whether inflation targeters are coping better with inflationary impact, especially after the global financial crisis, because the newly created environment is more unstable and unpredictable and requires even more forward looking central banks (Freedman and Otker-Robe, 2009). Moreover, the key step in the successful adopting of any monetary policy strategy, including inflation targeting, is to adjust the created framework to the conditions and circumstances of a particular country. In other words, transition economies need to understand that the so-far experience has showed that “there is no single

and most effective path toward the adoption of inflation targeting” (Freedman and Otker-Robe, 2009, p. 19).

For example, Serbia is facing numerous obstacles and challenges during the implementation of inflation targeting regime. One of the challenges is certainly an increase in credibility and efficiency of monetary policy instruments through the development of “currency and capital market” (Fabris, 2006, p. 403). More specifically, more efficient monetary policy instruments will have a better effect on the wide-spread euroisation. However, one of the principal obstacles is insufficient independence of the National Bank of Serbia and monetary policy transparency. Furthermore, monetary policy has experienced not only many positive changes, but also illnesses that the transition process brings along (Momirovic, 2008, p. 72). In my opinion, inflation targeting in Serbia is a reasonable policy despite many challenges. Currently it cannot be concluded “whether the action of NBS was good or premature” (Fabris, 2006, p. 403), but it can be concluded that the entire action was in compliance with “theory literature based on the best practice” (Fabris, 2006, p. 403). However, in my opinion the success of the transition process does not depend on inflation targeting strategy or the selection of a monetary policy strategy. Success is solely based on the quality of institutions in transition countries, as was the case with Poland and Estonia. Countries that became members of the EU showed that inflation targeting strategy gives results, but stable and independent institutions are the ones that create a stable and healthy economic system.

All in all, there is no strictly defined pattern. In adoption and implementation of inflation targeting, transition period might be uncommonly long or quick depending on the starting conditions, but also on “the speed of progress in putting in place the remaining elements” (Freedman and Otker-Robe, 2009, p. 7).

INFLATORNO TARGETIRANJE KAO STRATEGIJA MONETARNE POLITIKE (PRIMENLJIVOST U NE-EU TRANZICIONIM EKONOMIJAMA)

Stojnić Milica

***Sažetak:** Još tokom 90-ih godina prošlog veka, veliki broj industrijskih zemalja, kao i rastući broj tržišnih ekonomija u nastajanju i tranzicionih ekonomija, usvojile su inflatorno targetiranje. Tokom implementacije, tržišne ekonomije u nastajanju i*

tranzicione ekonomije suočavaju se sa mnogim izazovima. Lista zemalja nikada nije konačna. Sa druge strane, mali broj tranzicionih ekonomija je usvojio ovu strategiju monetarne politike. Takvi primeri u regionu jugoistočne Evrope jesu Srbija i Albanija. Ipak, ne postoji uniforman obrazac, stoga, zemlje moraju učiti na osnovu sopstvenih iskustava i iskustava drugih zemalja koje su prošle celokupan proces.

Ovaj rad se bavi prikazom inflatornog targetiranja kao strategije monetarne politike, neophodnim uslovima za uspešnu implementaciju, prednostima i nedostacima, kao i ishodima i izazovima sa kojima se suočavaju tržišne ekonomije u nastajanju i tranzicione ekonomije u toku procesa definisanja, kao i tokom procesa same implementacije ove strategije monetarne politike.

Ključne reči: *inflatorno targetiranje / monetarna politika / stabilnost cena / centralna banka / finansijska stabilnost*

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STRUČNI RADOVI

THE ROLE OF BUSINESS IN BUILDING A SUSTAINABLE ECONOMY

Current status and future directions

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Abstract: *There is a rapidly expanding body of work that describes what needs to be done by business to help build a sustainable economy. A review of the literature from academia, the public sector and business itself provides key principles of “sustainable businesses”. Yet, movement toward a sustainable economy is currently fragmented and with limited large-scale direction. This paper aims to explore the relationship between business and a sustainable economy, and what it takes to connect the two. Initially a survey of literary consensus that evidences an unsustainable current economic model is presented in the paper. Then a review of the current understanding of the role of business in making the transition to a sustainable economy is offered. Followed by an analysis of primary and secondary research exploring the perception of leading enterprises of their own role, and compare this with evidence-based reality. As a research will show the companies surveyed consider sustainability as crucial to their*

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future business success (93%) and governments as their most important influence in supporting sustainability decisions (80%). Also research shows that 75% of companies recognize that it is important to merge sustainability and financial metrics in reporting. Finally, recommendations to support realistic models and pathways for change to a 'good economy'-an effective one which cares for human and other natural resources (CPSL, 2007) are provided. To ensure that 'leading' companies are leading others, actionable key points for companies that are not yet leaders of the future, but may become so, are identified.

Key words: *Sustainable development / corporate governance / green economy / social responsibility*

INTRODUCTION

If businesses do not have complete control of markets, products and consumers, in preserving or destroying today and tomorrow's human and natural resources, then they do have a great influence on them. Business therefore has a burgeoning role in creating a sustainable economy. A common definition of 'the economy' is, seemingly, straightforward: 'a system of production, distribution and consumption' (Wordnet, 2010) yet business' impacts on and the motivations within it are most certainly not.

The concept of 'sustainability' is enjoying a prominent position within the game-plans of an increasing number of business leaders, as was illustrated in this year's United Nations Global Compact survey (UNGC, 2010). Sustainability has come a fair distance from the seminal call by E.F. Schumacher to 'temper the economy as the helpmeet of humankind and nature, not vice-versa' (Schumacher, 1993). Currently, sustainability pioneers such as the UNGC respondents believe that the issues inherent in this concept are absolutely critical, not only to our planet, but to the current and future success of their businesses. Yet in practice this journey is not plain sailing. Implementing a truly effective and lasting sustainability strategy and delivery plan across all business functions is a highly complex task. We ask how today's pro-sustainability business leaders see their task and act on it, and how this matches up to what is really needed.

A great transition is required from 'business as usual' complacency to creating a world economy that works towards rather than against a long-term sustainable future. It requires radical mindset developments and practical changes within a business. For this reason, this paper homes in on the following:

- What a sustainable economy should look like;
- What the current economic model promotes and how this compares to this sustainable economy ideal;
- The gaps between the ideal and the reality.

In exploring these leads, we will focus particularly on answering the following questions:

- What is the perceived role of business in creating a sustainable economy from the point of view of current sustainability leaders in business?
- How, in practice, do they measure up to their own ideals and objectives?
- How does this compare to what is needed to create a sustainable economy in practice?

In rising to the challenges that are presented, we aim to review the achievements and the shortfalls of those at the forefront of pro-sustainability business thinking. Our goal is to steer their course a little nearer towards a sustainable economy in the present, for the future and in the future.

METHODOLOGY

This section outlines how we have approached the research required to answer the question posed in this paper. An initial review of literature, including business reporting and academic and practitioner research, was carried out to provide the hermeneutical frameworks to support our research and its subsequent analysis. In particular, this review helped us to envision a sustainable economy and so judge the distance between it and the prevalent global economic model of today.

The 'sustainability economy' is a hot topic. Material published that specifically addresses the role of business in a sustainable future is growing rapidly. If we had been undertaking this research last year at least three of the central documents which have helped to shed light on the topic would not have been available.

From the springboard of much recent research by other authors, our research has been designed on a 'mixed method' basis, using quantitative methods to give precise and testable expressions to qualitative ideas. In order to gather the sample set for primary research about businesses' understanding of their role in building a

sustainable economy, our research group compiled a list of 31 companies identified as leaders in sustainable practice. Three approaches were employed to do this:

First, the initial selection of leading businesses took place. A survey was sent out to 312 alumni of the Cambridge Postgraduate Certificate in Sustainable Business, wherein they were asked to identify companies they perceived to be leaders in sustainable business practice. Questions were posed using the CPSL (CPSL, 2007) 'sustainable economy' definition, to which representatives from 14 businesses responded recommending 71 companies as leaders in this field. To ensure an adequate sample to provide the depth of findings needed, further supplementation was made from the literature and from suggestions taken from the group members' own experience. This provided a further source of leading companies.

Second, company specific research was undertaken. In total, thirty-one leading companies were identified and approached (Fig 1). Before approaching them directly to gain primary information, secondary research was undertaken to identify companies' stance on values, business priorities, strategies and stakeholder relationships. This was done through desktop research via the internet and access to public domain company reports. Primary research followed in the form of interviews, which were conducted with 22 of these companies (77% of those approached).

<i>Companies Researched and Interviewed:</i>	
	16. Starbucks
	17. Unilever
1. Banco Real / Santander	18. Vale
2. BASF	19. Vodafone
3. Ben & Jerry's	20. Wal-Mart
4. Co-operative Group	21. Westpac
5. EDF	22. Pret
6. GE	23. People Tree
7. Google	24. Timberland
8. Interface	25. Body Shop
9. John Lewis Partnership	26. Royal Mail
11. Microsoft	27. BT
12. Natura	28. Cisco
13. Novo Nordisk	29. Arup
14. Otto Group	30. Diageo
15. Patagonia	31. Boots

Figure 1: Companies Researched and Interviewed.

During these interviews further information was gathered specifically about the companies' visions, strategies and actions to promote and embed sustainability for the present and the future. Both primary and secondary investigations were designed using, primarily, the following sources: the 2010 UN Global Compact Survey by Accenture (UNGC, 2010), the Prince of Wales's Business and Environment Programme study (CPSL, 2006), and surveys by The Economist (Economist Intelligence Unit, 2007), Mc Kinsey and Company (Oppenheim et al. 2007) and - for qualitative data - CPSL's Sustainable Economy Dialogue (CPSL, 2007) and CPSL Next Economy Initiative (unpublished). These were selected as they provided the breadth of material to cover economic, social and environmental sustainability, whilst providing a depth of insight into business strategy and operations. From these we were able to take our cue and mine down further into our chosen topic.

Third, triangulation took place to validate our findings. We recognised that our research gives a depth of information. Yet, because of the small number of companies researched, we lacked initially the numerical validity to determine business trends amongst our leaders. Our findings were therefore triangulated against other research, predominantly the studies noted in the previous paragraph.

From the primary and secondary data gathered, descriptive statistics were analysed to form a picture of the value-based, strategic and operational priorities for sustainability leaders in business. And upon this picture the yardstick between their work and objective requirements for a sustainable economy was applied. The results of this 'measuring-up' form for the final conclusions of our paper.

IS THE CURRENT ECONOMIC MODEL SUSTAINABLE?

Today's predominant economic model is still heavily focussed on gross domestic product. Within this paradigm, 'success' and 'prosperity' are all about profit and growth, achieved by using human and natural resources. Little regard is given to their sustainability. Looking to the future, if global financial prosperity is to grow exponentially between 2014 and 2050, we would require an economy 15 times the size of our current economy. This is a demand that goes well beyond the constraints of nature. Humankind is running out of resources on which to live. As Jackson observes (Jackson, 2009), we need somehow to "decouple" notions of success and prosperity from escalating growth and greed.

There is a distance between a sustainable economy and where the market sits currently. How do we bridge the gap? Governments have influence, but this is largely limited to their own nation states. If society wishes to make changes for the better it can lobby, opt out and so on. Yet mobilisations are heavily dependent on cultural and economic mores of any one generation and may not carry forward in the long term. Scale-wise, only businesses have global power through their buying and selling muscle. Time-wise, the market will exist longer than any single generation - money, for the foreseeable future, will remain humankind's currency. In addition, the business animal can mobilise, innovate and provide goods and services quicker and more efficiently than any state or individual. Leadership must be the obligation of businesses for these reasons.

What is the role of business in developing a sustainable economy?

Through our literature - based research it has become clear that there should be nuanced practical definitions of sustainability for business to follow. Helpfully, the table below indicates themes (and corresponding actions) suggested in the Sustainable Economy Dialogue research (CPSL, 2007):

Ten Business Actions for a Sustainable Economy

<i>Theme</i>	<i>Action</i>
1. Education	Promote sustainability literacy and awareness among company's stakeholders
2. Governance	Hold governments to account on sustainability through lobbying and partnerships
3. Long Termism	Educate politicians and financiers on the long-term nature of sustainability risks and returns
4. Equity	Promote diversity and equity at the corporate, community, national and international levels
5. Responsibility	Commit to an agenda of accountability, transparency and social and environmental responsibility
6. Incentives	Pressure governments to create a level playing field for fair and sustainable international trade
7. Externalities	Incorporate full cost accounting into long-term investment decisions and begin to report on externalities
8. Purpose	Engage in dialogue and partnership processes to create a shared vision for a sustainable economy
9. Values	Embed values consistent with a sustainability approach into the company's culture and operations
10. Measures	Measure and report on the indicators of governance, social, ethical and environmental performance

Figure 2: Source: CPSL (2007).

The views of the authors we examined matched CPSL (2007) on most points. However, we discovered a small number of differences and additions. These can be summarised as follows:

In our research businesses have been viewed predominantly as bodies to be lobbied and held to account, rather than as a lobby group for government (e.g. Jackson (2009) and Porritt, (2009)). On 'responsibility', our literature emphasised that the criteria had to be negotiated with external stakeholders in particular, so as to make accountability meaningful (e.g. Hart et al (2009) and UNGC (2010)).

Lastly, although sustainability measures were discussed widely, there was a noticeable lack of explicit suggestions for how social sustainability - as distinct from economic and environmental sustainability - could be included in proposed accounting methodologies and valuation systems (only Pearce et al (1989) and Stiglitz et al, (2009) mention this).

Our literature review reveals that pro-sustainability businesses sign up to the changes required socially, financially, politically and culturally. Their language is enthusiastic and heavily pro-active. However, to quote Jeffrey Sachs, a Millennium Development Goals adviser to the UN, this is sometimes the case: *'One could say there was a certain lack of seriousness in this process from the start'* (Sachs. 2010). The perception of the role of business is embodied in their CSR reports, Codes of Conduct and willingness to participate in studies such as this. Yet most of businesses' innovation remains grounded primarily in government rules. The majority of pro-sustainability businesses do not challenge them, explore issues differently or move the debate forward. They are reactive rather than proactive. We have therefore asked our selected companies how they would go one or more steps further in challenging, exploring and progressing the current approaches, and thus be not just sustainability *supporters*, but sustainability *leaders*.

We may summarise the urgent issues as:

- *Long-termism* - Businesses cannot just rely on pressure from governments and society, because neither have the power nor longevity to make long-term changes to the economy.
- *Combining and integrating capital values* - From the Triple Bottom Line and the Five Capitals we learn that financial capital should be linked to at least one other capital, otherwise we do not pursue truly sustainable goals. The present economic situation is a painful reminder of what can go wrong if this is not heeded.

- *Decoupling* - Definitions of success and prosperity must be decoupled from growth and consumption. We live with finite resources that may not be available to future generations.

RESEARCH

Having defined the essential objectives of a sustainable economy for the future and identified the current economy gaps in arriving there, we assessed the fundamental actions that could contribute to a good economy. In our research we concentrated on benchmarking selected companies' current activities with key actions suggested in the Sustainable Economy Dialogue research (CPSL, 2010). All data presented has been triangulated with other researches⁶ to support findings and to augment the confidence level of data that our research produced. Details of our primary research data findings and selection of key results from our company interviews will be articulated throughout the section.

⁶ 2010 UN Global Compact Survey by Accenture (UNGC, 2010), the Prince of Wales's Business and Environment Programme study (CPSL, 2006), and surveys by The Economist (Economist Intelligence Unit, 2007), Mc Kinsey and Company (Oppenheim et al. 2007) and - for qualitative data - CPSL's Sustainable Economy Dialogue (CPSL, 2007) and CPSL Next Economy Initiative (unpublished)

1) *Education*

Promote sustainability literacy and awareness among companies' stakeholders.

What is needed?

The Sustainable Economy Dialogue research shows that there is a lack of education and awareness around the links between the economy and sustainability. The UNGC survey found that 72% of CEOs see education as the global development issue that must be addressed urgently to ensure a sustainable future (UNGC, 2010).

What is actually being done?

Table 1:

<i>Which of the following sustainable development issues are the most critical to address for the future success of your business?</i>	
<i>Education</i>	<i>21 %</i>
<i>Climate change</i>	<i>31 %</i>
<i>Poverty</i>	<i>10 %</i>
<i>Diversity and gender equity</i>	<i>10 %</i>
<i>Health</i>	<i>14 %</i>
<i>Social cohesion</i>	<i>14 %</i>
<i>Other</i>	<i>0 %</i>

Source: Questionnaire

Our research shows that concerns over education are, after climate change, the biggest single sustainability issue of our age. All interviewed companies believe that education should change in order to create sustainability leaders. Companies that we researched are taking positive steps to educate their staff and they also encourage customers to buy less and only buy what is needed. Businesses should take a cue from these corporations in designing specific educational initiatives rather than simply articulating the need for education.

CONCLUSIONS:

Education is a global issue perceived as a key element for the development of a sustainable economy. Companies may recognise the importance of the theme, but often invest their resources in educational or training programmes to enhance

internal professional capabilities only. They all agree about the need for better sustainability literacy among stakeholders, but they still need more prominent and consistent initiatives within society in order to create awareness.

2) *Governance*

Hold government to account on sustainability through lobbying and partnership.

What is needed?

CPSL's Sustainable Economy Dialogue research shows that governments and related public institutions are ineffective in providing good governance and policies to embed sustainability. The UNGC survey of CEOs found that for 39% of companies, government is one of the main stakeholders influencing society expectations of business being sustainable. 24% of companies consider government regulations as a main motivational factor towards sustainability (UNGC).

What is actually being done?

Table 2:

<i>To what extent do you agree or disagree with each of the following statements about the role of government and civil society over then next five years?</i>				
	Strongly -	Disagree	Agree	Strongly +
<i>Governments and policy makers will increase their interventions in driving sustainability</i>	5 %		95 %	
<i>My company would welcome increased government support to drive sustainability</i>	15 %		85 %	
<i>My company will influence government to promote a sustainable future</i>	20 %		80 %	
<i>My company will influence civil society to promote a sustainable future</i>	10 %		90 %	

Source: Questionnaire

Our research shows a significant variation. Government may be considered 'ineffective', but 80 % of the companies surveyed consider governments as their most important influence in supporting sustainability decisions made in their

businesses. In businesses, governments thus have willing partners in improving responses towards sustainability issues. If they work in synergy they can shape market forces in a different direction towards sustainable outcomes. For example, one business may influence several governments if its supply and demand chains are international.

CONCLUSIONS

The role of governments in creating the right framework and policies is paramount for the development of a sustainable economy. Business can support and incentivise government to increase sustainable practices. One of the biggest challenges is to integrate long-term business planning into the short-term nature of political lifecycles.

3) *Long Term Strategic Planning*

Educate politicians and financiers on the long term of sustainability risks and returns.

What is needed?

The Sustainable Economy Dialogue shows that political processes and economic pressures are against long-term thinking regarding sustainability. The UNGC survey found that although some CEOs believe that the downturn has reduced the speed at which their sustainability strategies and action plans could be integrated, the vast majority agree that the downturn has not derailed their long-term plans on these fronts (UNGC). The Economist's Intelligence Unit (2007) found that companies believe that sustainability will give them a distinct and long-term competitive advantage.

What is actually being done?

Table 3:

<i>Which of these factors are the most important in driving your company to take action on sustainability issues?</i>	
<i>Brand, trust and reputation</i>	20 %
<i>Revenue growth</i>	18 %
<i>Cost reduction</i>	16 %
<i>Personal motivation</i>	7 %
<i>Employee engagement and recruitment</i>	11 %
<i>Impact of development gaps on business</i>	7 %
<i>Governmental/regulatory environment</i>	16 %
<i>Pressure from investors/shareholders</i>	5 %

Source: Questionnaire

Our research shows that accurate valuation by investors and governments of sustainability in a long-term investments is needed. All companies surveyed understand the value that sustainable practices can bring to their business, shaping reputation and brand perception. Of our companies, independent owner-run firms had the advantage of being able to make long-term decisions with no short-term gains, whilst publicly listed ones did not. Unfortunately, for a majority of companies, decisions are largely driven by requirements of regular growth, short-term profits and the need to maintain their place in the financial market. Government has not challenged this.

CONCLUSIONS:

All companies surveyed agree that sustainability is about long-term planning; they believe it can shape their reputation and brand perception, and generate increased wealth for these reasons. Yet they must still operate in an economic model that demands short-term reporting and thus rewards the short-term result. So they should push further for longer-term reporting and incentivisation, which can be legislated for by governments.

4) Equity

Promote diversity and equity at corporate, community, national and international levels.

What is needed?

Sustainable Economy Dialogue research clearly shows that there is an imbalance of opportunity, power, wealth and wellbeing in the current economy, and that changes in this regard are needed to build a fairer society.

What is actually being done?

Our companies understand the need for more equal and sustainable economic models where all stakeholders can benefit. Our research shows that a majority of the companies are supporting UN Universal Declaration of Human Rights, ILO International Labour Standards, OECD Guidelines for Multinational Enterprises, and the human rights principles of the UN Global Compact. These provide a common communication framework on which mission statements and performance can be built.

CONCLUSIONS:

For our companies, international declarations provide a foundation for signing up to equity in each of the 'five Capitals. However they cannot detach themselves completely from the current economic model. New values, new thinking and different ways to measure economic growth are necessary, and declarations on international scales have provided a useful means of beginning this. But even sustainability leaders are at the beginning of this journey.

5) *Responsibility*

Commit to an agenda of accountability, transparency and social and environmental responsibility.

What is needed?

The Sustainable Economy Dialogue research suggests that businesses need to participate in certain actions to foster an agenda of responsibility - for example, socially responsible activities, anti-prejudice whistle-blowing and anti-corruption corporate alliances. The UNGC survey of CEOs found that 93 percent of companies see sustainability as crucial to their future success. This requiring decoupling prosperity from growth and mitigating its negative impacts on society and the

environment (UNGC). Businesses see this as their partial responsibility, but they also acknowledge that business with a conscience can pay financial dividends.

What is actually being done?

Table 4:

<i>What does the Code of Conduct covers?</i>	
<i>Relations to employees</i>	<i>16 %</i>
<i>Relations to customers</i>	<i>26 %</i>
<i>Relations to suppliers</i>	<i>26 %</i>
<i>Relations to environment</i>	<i>19 %</i>
<i>Business transparency</i>	<i>13 %</i>

Source: Questionnaire

The majority of our companies give almost equal importance to all three pillars of sustainability. Their codes of conduct prioritize economic and environmental issues with emphases on supply chain relations. The current economic crisis has however spotlighted businesses' greed and selfishness, indicating a wide gap between what is said and what is being done, particularly in relation to social equity. This has created widespread mistrust of businesses. Accountability and transparency within the supply chain - as well as the demand chain - create trust. For most companies the code of conduct is in place, but only the few have tested their statements through practical initiatives of this kind.

CONCLUSIONS:

People, planet and profits have to be in balance. Companies understand the urgent need for an effective approach towards the Triple Bottom Line concept. Yet when measuring growth the current economic model does not consider responsibilities to people and the environment in the equation. Businesses need to advocate sustainability responsibilities beyond their 'end product' considerations and between all those involved in the supply and demand network. This is currently a rare practice, but it is possible.

6) *Incentives*

Pressure is on governments to create a level playing field for fair and international trade.

What is needed?

The Sustainable Economy Dialogue research shows that market failure and protectionist government incentives continue to foster an unjust and unsustainable economy. One of the five principal enabling conditions that executives believe need to be put in place is a regulatory environment that provides clear direction and incentives for embedding sustainability into strategy and operations (UNGC, 2010.)

What is actually being done?

Our research shows that 80% of companies believe that government should provide clearer support and direction for sustainability. They agree that more regulation and drivers to move towards an increasingly equitable and sustainable financial environment are required. The companies we approached articulated various levels of desire for partnership with governments to address these points, some pushing for higher standards, others preferring to comply with existing standards and to seek a competitive market niche from within them.

CONCLUSIONS:

Companies value the existence of clear regulations and incentives to embed sustainability within their operations. However, incentives are still heavily geared towards financial capital-focussed competition and monopolies. Initiatives from business tend to be muted unless governments allow these businesses levels of autonomy to change the marketplace. We have found this to be true in some parts of the world (notably South America) but not in others.

7) *Externalities*

Incorporate full cost accounting into long-term investment decisions and begin to report on externalities.

What is needed?

Financial reforms, and new levels of dialogue between CEOs and investors and financial analysts, need further support (Sustainable Economy Dialogue). In the UNGC survey the analyst-and-investor community is critical, according to CEOs. However it is difficult for companies to make significant progress toward sustainability as an integrated way of doing business if valuations take no accounting of such efforts (UNGC, 2010).

What is actually being done?

Table 5:

<i>How important will the following changes be in order to reach a “tipping point” where sustainability is embedded within the core business strategies of the majority of companies?</i>				
	<i>Not totally important</i> -	<i>Less important</i>	<i>More important</i>	<i>Very important</i> +
<i>Majority of consumers demand products and services that address sustainability challenges</i>	30 %		70 %	
<i>Educational systems and business schools develop mindsets and skills needed for future leaders to address sustainability</i>	20 %		80 %	
<i>Accurate valuation by investors of sustainability in long-term investments</i>	10 %		90 %	
<i>Greater value placed on a company’s sustainability activity by shareholders and investors</i>	0 %		100 %	
<i>Boards of Directors hold management accountable for sustainability objectives</i>	10 %		90 %	
<i>Governments provide clearer direction and support for sustainability</i>	20 %		80 %	
<i>Merging of sustainability and financial metrics in reporting</i>	25 %		75 %	
<i>Performance on sustainability issues becomes a critical differentiator in recruiting talent</i>	25 %		75 %	

Source: Questionnaire

Our research shows that 75% of companies stated that it is important to merge sustainability and financial metrics in reporting. Only two suggested how this could be achieved. There is work to be done on where sustainability factors sit in relation to the investment decisions of the analyst and the shareholder, and how these bear upon future sustainability-related behaviour affecting future generations.

CONCLUSIONS:

New forms of accounting are vital in creating a new economic model that comprises all possible impacts generated by the companies' operations. These will also change the way investors and financial analysts calculate their return on investment. Most companies are still working to deliver positive results to shareholders rather than benefits to society and the environment. We must work on new ways of incorporating and tracking sustainability-related values into decision-making on the part of shareholders and general consumers. The examples given illustrate two possible ways in which this can be done.

8) Purpose

Engage in dialogue and partnership processes to create a shared vision for a sustainable economy.

What is needed?

Broadly speaking, business can influence governments and partner with civil society to deliver policies and programmes that promote sustainability outcomes (Sustainable Economy Dialogue, 2009). The UNGC survey of CEOs found that 78% of CEOs believe that companies should engage in industry collaborations and multi-stakeholder partnerships to address development goals (UNGC).

What is actually being done?

Table 6:

<i>Please select from the list below any particular Millennium Development Goal</i>	
<i>MDG 1 Eradicate extreme hunger and poverty</i>	<i>0 %</i>
<i>MDG 2 Achieve universal primary education</i>	<i>0 %</i>
<i>MDG 3 Promote gender equality and empower women</i>	<i>15 %</i>
<i>MDG 4 Reduce child mortality</i>	<i>8 %</i>
<i>MDG 5 Improve maternal health</i>	<i>0 %</i>
<i>MDG 6 Combat HIV/AIDS, malaria and other diseases</i>	<i>8 %</i>
<i>MDG 7 Ensure environmental sustainability</i>	<i>31 %</i>
<i>MDG 8 Develop a global partnership for development</i>	<i>38 %</i>

Source: Questionnaire

Regarding developmental goals, the leading issue for the companies surveyed is their contribution to global development partnerships. For them, most of the world's sustainability challenges need to be solved through multi-stakeholder participation. Within our research, business-to-business sustainability partnerships were hardly mentioned (UNGC however holds some excellent examples); there were some government partnerships, but it was partnerships between business and civil society that were most discussed. On one hand, our business leaders appear to be doing well in forming partnerships, as all of them revealed collaborations with other organisations as part of their Corporate Responsibility small-scale philanthropic activities. Yet on the other hand there are gaps to be filled in the scale and thus the impact of partnership activity.

CONCLUSIONS:

Sustainability will be only achieved through the shared vision of all of society's stakeholders. Companies are aware of the importance of partnerships in order to tackle the challenges of producing a more sustainable economic model. But more needs to be done to identify larger-scale and longer-term impacts resulting from shared visions. Small steps can be made fairly easily, but developments in up-scaling need to take place for such visions to have lasting and large scale impact.

9) Values

Embed values consistent with a sustainability approach into the company's culture and operations

What is needed?

Sustainable Economy Dialogue research shows that the values underlying the current economic system may be incompatible with sustainability. However the UNGC survey of CEOs found that 81 percent of CEOs - compared to just 50 percent in 2007 - believe that sustainability issues are fully embedded into the strategy and operations of their company

What is actually being done?

The majority of our companies stated that corporate social responsibility (CSR) is embedded in their business activities and community relations as an important factor for the business. CSR reports are published by each of the companies that we researched. However there were varying degrees of success in the embedding process. In some companies sustainability values are limited to specific product/service lines, while in others they are more deeply embedded.

CONCLUSIONS:

Sustainability cannot be only a mission statement on the wall. Companies maintain that principles of sustainability have to be embedded into their strategy and operations in order to instigate a sustainable economic model. The main challenge ahead is to find new ways of doing business that can preserve sustainability values whilst transform the economic model to a sustainable one. An important key is to consider the financial element of the 'five Capitals' – as being a means to an end, and not an end in itself.

10) *Measures*

Measure and report on the indicators of governance, social, ethical and environmental performance.

What is needed?

Sustainable Economy Dialogue research shows that current economic measures are poor indicators of quality of life, social wellbeing and environmental integrity. The UNGC study of CEOs shows that although businesses are making some

progress, it is clear that executives are struggling to structure effective performance management across the business on tangible measures such as carbon, water and waste emissions management - as well as on intangible assets, such as the value of trust, reputation and effective stakeholder management.

What is actually being done?

Table 7:

<i>To what extent do you agree with each of the following statements about environmental, social and corporate governance issues?</i>				
	Strongly -	Disagree	Agree	Strongly +
<i>These issues should be fully embedded into the strategy and operations of a company and subsidiaries</i>	0 %		100 %	
<i>Boards should discuss and act on these issues</i>	0 %		100 %	
<i>Companies should embed these issues through their supply chain</i>	0 %		100 %	
<i>Companies should engage in industry collaborations and multi-stakeholder partnerships to address sustainability goals</i>	0 %		100 %	
<i>Companies should incorporate these as important issues into discussions with financial analysts</i>	0 %		100 %	

Source: Questionnaire

The companies surveyed mainly agreed that the Triple Bottom Line (TBL) of economic, environmental and social business issues should be fully introduced in strategy, operations and performance management, and that their boards should act on them. Of the TBL triangle, environment tends to be the most prominent sustainability watchword. All surveyed companies affirmed that they take particular care over environmental issues in current business practice and performance improvement strategies. Environmental matters in response to legislation ensure survival, but environmental innovations present a competitive advantage. These points are applied to social issues, but figured less prominently in responses unless social issues were prominent in the company's branding.

CONCLUSIONS:

Sustainability indicators are essential to validate business performance and create a credible and auditable sustainability index. By having an official form to measure corporate sustainable practices, this will reflect the company's contribution and commitment towards the sustainable economy; and it will influence the way it is perceived by all stakeholders. Companies need to lead the way towards new economic measures that value Capitals in addition to financial ones. Complete decoupling on a global scale may be impossible, but it can be done on a company scale.

OVERALL CONCLUSIONS

The future economy and our future depend largely on what we are going to do in the present. We have experienced the results of an unsustainable economic model, and have a very good understanding of the negative effects of this model on humankind in the long term.

All data used to produce this paper were triangulated to give a clear picture of what the role of business is in shaping a sustainable economy; what organisations perceive as necessary for such an economy; and what is needed in reality for both business and the economy.

The conclusions of our research are clear. The majority of our leading global companies understand and value sustainability as the key driver for the future economy and for their future survival. They are largely in agreement as to what actions are required to achieve sustainability; but there is still a huge gap between this consensus and the implementation of those actions.

There are strategic sustainability plans, and the desire to put them into practice is clear. This shows a great level of commitment and willingness to invest time and resources in a new sustainable economy that can benefit all stakeholders and expand the success and longevity of a business. However a great number of measures are still required for companies to walk the talk.

It is time for companies all over the world to go beyond their current business operations. They ought to have a holistic understanding of these operations, embracing and not just compensating for their social and environmental impacts. They have to aim towards ZERO impact and if 'being sustainable' is the new world order, a 'global sustainability label' should be created to rank all products and services. Governments, industry associations, third and private sectors should come together to define the criteria in order to standardise and set criteria for the label. This label can be related to credit and risk analysis, and thus influence prices, taxes and financing rates. The same interrelation among different sectors should be used to create a single and global code of conduct embedding transparency, ethics and an honest approach in all communication with stakeholders. By doing this effectively, the educational issue would also be enhanced. Sustainability leadership would then become a differentiating factor to create trust and a vision for a sustainable future.

Climate change is a broad and complex subject that needs to be translated into effective actions; otherwise it is no more than a corporate statement. Considering the enormous diversity of business, companies need to dedicate time and resources together and within their industry to find how they can contribute to a low carbon economy aiming for the ZERO impact in their operations. Education is indicated as a key issue to create awareness among stakeholders, therefore it will be essential to ensure and promote environmental sustainability. A mandatory accounting system with tax benefits and public brand recognition can definitely contribute to a ZERO impact programme. For that, employees should be trained and incentivised to be one of the main stakeholders, capable of influencing companies' decisions about sustainability. 'Earth Funds' should be created to deal with social and environmental impacts created by the industries based on a percentage of all companies' revenues. A consortium involving civil society would administrate where and how the funds would be invested.

The sustainable economy demands a new business model as well as a new organisational model where remuneration and incentives need to stimulate the 'sustainable attitude', as distinct from the pure production reward model which has been in place since the industrial revolution. Sustainability has to become part of HR strategy where the valuation and recognition of the professional performance is related to a holistic approach centred around sustainability issues.

Companies should organise a ‘pro sustainability network’ among all companies from the same sector/industry to share and create knowledge of sustainability issues. This collective database would help to co-create solutions and innovations that can maximise investments and minimise impacts/risks. In this way companies will create a standard positioning, strengthen their results and preserve their business model as a new paradigm for a sustainable economy.

The concept of ‘the whole is greater than sum of its parts’ is one that companies will have to embrace in order to maximise their actions. There is no competition when it comes to sustainability; it is one for all and all for one. What today is perceived as a strategic positioning to build reputation, among stakeholders it will evolve. It will become a matter of existence where we understand that we are all connected and dependable of each other.

An important and final recommendation from this paper is that we all need to understand our responsibilities as citizens of the planet and be aware that this responsibility is multiplied when wearing the corporate hat. There is no competitive advantage in creating strategic plans towards sustainability without effective implementation and constant revision and updates.

The risks of not connecting our personal and moral values with our professional responsibilities are the same as compromising the results of our business and failing with our family. The role of business in building a sustainable economy is related to our role model as individuals. Business can and will influence the future of humankind. It will depend on each one of us to create and implement the necessary changes toward a sustainable future.

“You have to be the change that you want to see in the world.”

M. Gandhi

ULOGA BIZNISA U IZGRADNJI ODRŽIVE EKONOMIJE – TRENUTNI STATUS I BUDUĆI PRAVCI

Glomazić Rade

Goh Susannah

O'Brien Aoife

Conner Deb

Bin Julio

Sažetak: *Postoji sve veći broj tekstova koji opisuju šta bi to trebalo poslovni svet da uradi kako bi pomogao izgradnji održive ekonomije. Samim pregledom akademske literature, istraživanjem javnog i poslovnog sektora možemo uočiti ključne principe „održivog biznisa”. Ipak, kretanje ka održivoj ekonomiji je trenutno fragmentirano i sa ograničenim pravcem kretanja. Ovaj rad upravo ima za cilj da istraži odnos između biznisa i održive ekonomije i da ukaže na to šta je potrebno da bi se oni povezali. Rad u prvom delu prikazuje istraživanje literature kako bi uočili dokaze o neodrživosti trenutnog ekonomskog modela. Takođe, rad prikazuje primere naprednih kompanija koje reaguju na tražene promene. To su još uvek pojedinačni slučajevi koji ne predstavljaju pokret koji je potreban za stvaranje nove paradigme. U tekstu se dalje istražuju aktuelna razumevanja uloge biznisa u tranziciji ka održivoj ekonomiji. Nakon toga, predstavljena je analiza primarnog i sekundarnog istraživanja kroz percepciju vodećih preduzeća o njihovoj ulozi u izgradnji održive ekonomije, upoređene sa realnim stanjem. Kao što ćemo videti iz istraživanja koje sledi, kompanije smatraju da je održivost od suštinske važnosti za njihov budući poslovni uspeh (93%) i da vlade imaju najznačajniji uticaj koji podržava donošenje odluka o održivosti u njihovom poslovanju (80%). Takođe ćemo videti da je 75% kompanija izjavilo da je važno združiti podatke o održivosti i finansijama u poslovnom izveštavanju. Ovi rezultati dovode nas, na kraju, do preporuka za podršku ostvarivih modela i smernica za kretanje ka „dobroj ekonomiji” – delotvornoj, onoj koja vodi brigu o ljudima i prirodnim i drugim resursima (CPSL, 2007). Da bi se obezbedilo da „vodeće” kompanije budu vodilja i drugim kompanijama, identifikovane su i konkretne ključne preporuke za preduzeća koja još nisu lideri budućnosti, ali koja to mogu i žele postati.*

Ključne reči: *održivi razvoj / korporativno upravljanje / zelena ekonomija / društvena odgovornost*

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Elastičnost finansijskog menadžmenta se ispoljava u sposobnosti pribavljanja jeftinijeg dopunskog kapitala (Vunjak, 2008, str. 32)

Jedan autor

Babović (2009) upoređuje strukturu pristupa ...

Dva autora

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U jednom drugom istraživanju (Babović i Lazić, 2008) zaključuju da se ...

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(Babović, Veselinović, Carić, Đorđević i Ćirić, 2011)

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Bandin, T. (1995).

Bandin, T. (1998).

Bandin, T. (2000).

Books, brochures, book chapters, encyclopedia entries, reviews

The main format for books

Author, S. I. (year of publishing). *Title*, Place of publishing, Publisher

One author

Čarić, S. (2007). *Bankarski poslovi i hartije od vrednosti*, Novi Sad, Privredna akademija

One author, new edition

Vunjak, M. N. (2008). *Finansijski menadžment: Poslovne finansije* (7th edition). Subotica, Proleter A.D. Bečej, Ekonomski fakultet

Two authors

Van Horn, J. C., Wachowicz, J. M. JR. (2007). *Osnovi finansijskog menadžmenta* (12th edition). Beograd, DATA STATUS

Three to six authors

Ljubojević, K., Dimitrijević, M., Mirković, D., Tanasijević, V. i Perić, O. (2006). *Importance of software testing*, Subotica, Ekonomski fakultet

Without author

Publication Manual of the American Psychological Association (Fourth Edition). (1994). Washington, D.C., American Psychological Association

Without author, has only editor, ed.

Cattell, R.B. (Ed.). (1966). *Handbook of Multivariate Experimental Psychology*, Chicago, Rand McNally & Company.

Citing unpublished papers (doctoral dissertations, master's theses and other unpublished works)

Jovanović, M. (2009). *Investicioni instrumenti u bankarskom poslovanju*. Master's Thesis, Novi Sad, Fakultet za ekonomiju i inženjerski menadžment.

Ignjatijević, S. (2011). *Komparativne prednosti agrara Srbije u spoljnoj trgovini*, Doctoral dissertation, Novi Sad, Fakultet za ekonomiju i inženjerski menadžment.

Book chapter

Last name, First name initial. (Year). Title of the chapter. In: Initial of the first name of editor.

Last name of editor (Ed.), *Title of the book* (p. first page of the chapter- last page of the chapter). Place of publishing, Publisher.

Momirović, K., Bala, G. i Hošek, A. (2002). Taksonomska struktura nekih simptoma aberantnog ponašanja dece od 4 do 7 godina. In: K. Momirović i D. Popović (Ed.), *Psihopatija i kriminal* (p. 125-142). Leposavić, Univerzitet u Prištini, Centar za multidisciplinarna istraživanja Fakulteta za fizičku kulturu.

Journals and other periodicals:

Article from a journal, single author

Last name, first name initial. (Year). Title. *Name of the journal*, volume, (number), first page of the article- last page of the article.

Schneider, F. (2005). Shadow Economies Around the World: What do we really know?. *European Journal of Political Economy*, 21(3), 598-642

Article from a journal, two authors

Hill, M., & Hupe, P. (2007). Street-level bureaucracy and public accountability. *Public Administration*, 85 (2), 279-299.

Article from a journal, three to six authors

Vunjak, N., Ćurčić, U., Simetić, R. i Davidović, M. (2008). Korporativne performanse banke. *Analiz*, 19, 175-182.

Article from a journal, more than six authors

Ljubojević, K., Dimitrijević, M., Mirković, D., Tanasijević, V., Perić, O., Jovanov, N. et al. (2005). Putting the user at the center of software testing activity. *Management Information Systems*, 3 (1), 99-106.

Proceedings of conferences, symposiums or congresses or excerpts from encyclopedias

Author's last name initial, year, title of the paper, name of symposium, page numbers, place of publishing, publisher.

Veselinović, B., Ševarlić, M., Nikolić M.(2007). Long term-trends in Serbian Agriculture. *Trends in the Development of European Agriculture* (617-622), Temisoara, The Faculty of Agriculture of the Agricultural and Veterinary University of the Banat

If you use an Internet source (Title/Heading of the web-page, date of using the source, web-site)

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2. Ekonomija u Wikipediji (2010, February 02), Taken from: <http://bs.wikipedia.org/wiki/Ekonomija>

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According to Mirković (2001), "primena skladišta..." (p. 201) or Mirković (2001) believes that "primena skladišta..." (p. 201).

If the introducing phrase does not mention the author's name, the author's last name should be put at the end of the quotation, followed by the year of publishing and page number in brackets.

Summary or paraphrase

According to Vunjak (2008), the elasticity of financial management ischeaper additional capital, (p. 32).

The elasticity of financial management ischeaper additional capital (Vunjak, 2008, p. 32)

One author

Babović (2009) compares the structures of approaches...

Two authors

Both last names have to be supplied

In another research (Babović and Lazić, 2008) it is concluded that...

In the English text (conjunction *and*) is marked as "&"

Three to five authors

When mentioned for the first time, all the authors' names need to be supplied. In repeated quoting, the last name of the first author is supplied, followed by "et al."

(Babović, Veselinović, Carić, Đorđević i Ćirić, 2011)

Six or more authors

In the introductory phrase, there has to be the last name of the first author, or in brackets

Carić et al. (2010) claim that...
...is not relevant (Carić et al., 2011)

When more than one work by the same author are mentioned:
(Bandin, 2005, 2007)

When more than one work by the same author were published the same year, they are marked with letters a, b, c etc.
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If you haven't read the original work, you should give the name of the author which referred you to the mentioned source:
Bergson's research (mentioned by Mirković and Boškov, 2006).

Pages are always supplied in quotations:
(Mirković, 2006, p. 12)

When quoting parts
(Carić, 2008, ch. 3)
(Carić, 2008, p. 231–258)

Unnamed author

If a work has not been authorized, that source is mentioned by the introducing phrase, or with the first one or two words put in brackets.

Titles of books and reports are given in italic, while titles of articles and chapters are given under quotation marks.

A similar poll has been conducted in a number of organizations with database managers employed full-time ("Limiting database access". 2005).

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