Univerza v Mariboru
Ekonomsko-poslovna fakulteta

Letnik: 63 | Številka: 1 | 2017
Volume: | Number:

NG
OE

NAŠE GOSPODARSTVO
Revija za aktualna ekonomska in poslovna vprašanja

OUR ECONOMY
Journal of Contemporary Issues in Economics and Business

NAŠE GOSPODARSTVO

Revija za aktualna ekonomska in poslovna vprašanja

Letnik 63, št. 1, 2017

Izdajatelj:
Ekonomsko-poslovna fakulteta Maribor (EPF)

Naslov uredništva:
Maribor, Razlagova 14, Slovenija,
telefon: +386 2 22 90 112

Elektronska pošta:
nase.gospodarstvo@um.si

Spletna stran:
http://www.ng-epf.si

Revija je indeksirana v ABI/INFORM Global, EconLit in ProQuest ter vključena v EBSCO in Ulrich's Periodicals bazo.

OUR ECONOMY

Journal of Contemporary Issues in Economics and Business

Vol. 63, No. 1, 2017

Published by:
Faculty of Economics and Business, Maribor (FEB)

Editorial and administrative office address:
Maribor, Razlagova 14, Slovenia,
phone: +386 2 22 90 112

E-mail:
our.economy@um.si

WWW homepage:
http://www.ng-epf.si

The review is indexed in ABI/INFORM Global, EconLit and ProQuest. It is included in EBSCO and Ulrich's Periodicals Directories.

Lektorji: mag. Darja Gabrovšek Homšak in ServiceScape Incorporated

Dtp: NEBIA, d. o. o.

Letno izidejo 4 (štiri) številke. Letna naročnina: za pravne in fizične osebe 46 €, za tujino 57,5 €.

ISSN 0547-3101

Revijo sofinancira Javna agencija za raziskovalno dejavnost Republike Slovenije.

Vsebina / Contents

ARTICLES

Impact of Terms-of-Trade on Slovakia, the Czech Republic, and Croatia in the Short Run[1]

Karol Szomolányi
Department of Operations Research and Econometrics, University of Economics Bratislava, Slovakia
szomolan@euba.sk

Martin Lukáčik
Department of Operations Research and Econometrics, University of Economics Bratislava, Slovakia
lukacik@euba.sk

Adriana Lukáčiková
Department of Operations Research and Econometrics, University of Economics Bratislava, Slovakia
adriana.lukacikova@euba.sk

ORIGINAL SCIENTIFIC PAPER

RECEIVED: OCTOBER 2016

REVISED: DECEMBER 2016

ACCEPTED: JANUARY 2017

DOI: 10.1515/ngoe-2017-0001

UDK: 339.5: 330.33.01

JEL: C32, E32, F14

Citation: Szomolányi, K., Lukáčik, M., & Lukáčiková, A. (2017). Impact of Terms-of-Trade on Slovakia, the Czech Republic, and Croatia in the Short Run. *Naše gospodarstvo/Our Economy, 63*(1), 3–13. DOI: 10.1515/ngoe-2017-0001

Abstract

The terms-of-trade shocks are not main source of business cycles in three post-communist countries (i.e., Slovakia, the Czech Republic, and Croatia). The zero or negative reactions of the trade balance in terms-of-trade positive shocks in the countries exhibit the Obstfeld-Svensson-Razin effect, according to which the Harberger-Laursen-Metzler positive effect on terms-of-trade indicates that the smaller the trade balance, the more persistent the terms-of-trade shock is. The conclusions come from the structural vector autoregressive analysis of the cyclical components of terms-of-trade, trade balance, output, consumption, and investment in three post-communist countries.

Key words: innovation, terms-of-trade, business cycle, Slovak economy, Czech economy, Croatian economy, trade balance

Introduction

This empirical study focuses on the effect of the terms-of-trade shocks in Slovakia, the Czech Republic, and Croatia. We are interested in two effects: the effect of the terms-of-trade shock on the business cycle measured by output, consumption, and investment cyclical components and the effect of the terms-of-trade shock on the trade balance measured by its cyclical component.

Theoretical studies (both traditional and contemporary) have asserted that terms-of-trade is a significant source of the business cycle, especially in small open

[1] This research was supported by the Grant Agency of Slovak Republic - VEGA, grant no. 1/0444/15 "Econometric Analysis of Production Possibilities of the Economy and the Labour Market in Slovakia."

NG
OE

NAŠE GOSPODARSTVO
OUR ECONOMY

Vol. 63 No. 1 2017

pp. 3–13

countries like Slovakia, the Czech Republic, and Croatia. However, empirical studies do not support this theoretical supposition. Aguirre (2011), Broda (2004), and Uribe and Schmitt-Grohé (2016) did not find a statistically significant impact of the terms-of-trade on the output in poor and emerging countries. In this paper, we will confirm the weak effect of the terms-of-trade shock on the business cycles in the three studied countries.

Two theoretical approaches deal with the impact of the terms-of-trade on the trade balance. The first one is the Harberger-Laursen-Metzler effect, which is based on the traditional Keynesian model. Harberger (1950) and Laursen and Metzler (1950) concluded that the effect of the terms-of-trade on the trade balance is positive. The second one is the Obstfeld-Svensson-Razin effect, based on dynamic optimizing models. Obstfeld (1982) and Svensson and Razin (1983) stated that the smaller the positive Harberger-Laursen-Metzler effect is, the more persistent the terms-of-trade shock is. Uribe and Schmitt-Grohé (2016) even considered the negative effect of the terms-of-trade on the trade balance under capital adjustment costs. Therefore, we suppose the arbitrary effect of the terms-of-trade shock on the trade balance.

Slovakia, the Czech Republic, and Croatia are small open transition economies. The openness of these economies is relatively high: The international-trade-output ratio is higher than 100% in Slovakia and the Czech Republic and close to 100% in Croatia. According to Uribe and Schmitt-Grohé's (2016) definition, these countries are emerging countries. Their average purchasing power parity converted to GDP per capita over the last two decades is within the range of 3,000 to 25,000. The countries are similarly rich as the economies analyzed by Aguirre (2011), Broda (2004), and Uribe and Schmitt-Grohé (2016).

The goal of this paper is to verify the impact of the terms-of-trade on the Slovak, Czech, and Croatian business cycles and on the trade balance. A brief economic review is presented in the introduction. We provide an empirical measure based on the structural vector auto-regression (SVAR) econometric specification similar to one presented by Uribe and Schmitt-Grohé (2016). This methodology is described in the following section. We use Slovak and Czech quarterly data from 1997 to 2014 and Croatian quarterly data from 2000 to 2014. Data are gathered from the Eurostat portal. We compute the responses on terms-of-trade impulse and variance decompositions of terms-of-trade shocks displayed in the results section. We show that a terms-of-trade shock leads to the immediate decrease in trade balance and has no impact on aggregate output in the analyzed countries. Corresponding interpretations are discussed in the last section.

Theoretical Background

Uribe and Schmitt-Grohé (2016) described two theoretical effects of the terms-of-trade impact on the trade balance: the Harberger-Laursen-Metzler effect and the Obsfeld-Svensson-Razin effect. The Harberger-Laursen-Metzler effect comes from a traditional Keynesian theory. The national accounting identity is in the form:

$$y_t = c_t + g_t + i_t + x_t - m_t;\ \forall t \in T \tag{1}$$

where y_t denotes output, c_t denotes private consumption, g_t denotes public consumption, i_t denotes private investment, x_t denotes exports, and m_t denotes imports in the period t from the given time set T. Using a simple Keynesian concept, we assume that private investment and public consumption are both exogenous (autonomous) constants:

$$i_t = \overline{i};\ \forall t \in T \tag{2}$$

and

$$g_t = \overline{g};\ \forall t \in T \tag{3}$$

where $\overline{i}$ and $\overline{g}$ are the parameters. Consumption and imports are increasing functions of output:

$$c_t = c(y_t) \tag{4}$$

and

$$m_t = m(y_t);\ \forall t \in T \tag{5}$$

where marginal propensity to consume and marginal propensity to import are positive and less than 1:

$$0 < c_{yt} = \frac{\partial c(y_t)}{\partial y_t} < 1;\ \forall t \in T \tag{6}$$

and

$$0 < m_{yt} = \frac{\partial m(y_t)}{\partial y_t} < 1;\ \forall t \in T \tag{7}$$

The output and all consumption of the aggregate demand ($c_t + g_t + i_t$) are expressed in terms of import goods. The quantity of goods exported in period t is denoted by q_t. Thus, the value of exports in terms of importables, x_t, is given by:

$$x_t = tot_t q_t;\ \forall t \in T \tag{8}$$

where tot_t denotes the exogenous terms-of-trade. Quantity of goods exported, q_t, is assumed to be an autonomous constant given by:

$$q_t = \overline{q};\ \forall t \in T \tag{9}$$

A solution of the model may be expressed by multipliers. The expenditure multiplier is in the well-known Keynesian form:

$$\frac{\partial y_t}{\partial \overline{i}} = \frac{1}{1 + m_{yt} - c_{yt}} > 0;\ \forall t \in T \tag{10}$$

The Harberger-Laursen-Metzler effect is described by:

$$\frac{\partial tb_t}{\partial tot_t} = \frac{1 - c_{yt}}{1 + m_{yt} - c_{yt}} \overline{q} > 0;\ \forall t \in T \tag{11}$$

where $tb_t \equiv x_t - m_t$ denotes the trade balance.

This effect becomes stronger with a larger volume of exports, $\overline{q}$, a smaller marginal propensity to import, m_{yt}, and a smaller marginal propensity to consume c_{yt}. Intuitively, a higher value of the marginal propensity to import, m_{yt}, weakens the endogenous expansion in aggregate demand to an exogenous increase in exports, as a larger fraction of income is used to buy foreign goods. Similarly, a higher value of the marginal propensity to consume, c_{yt}, reduces the Harberger-Laursen-Metzler effect, because it exacerbates the endogenous response of the aggregate demand to a terms-of-trade shock through private consumption.

A disadvantage of the traditional Keynesian model is given by Lucas (1976). The marginal propensity to consume is exogenous. However, according to Friedman's permanent income hypothesis, this propensity depends on endowment shock persistence. In the result, the traditional Keynesian model is independent of whether terms-of-trade shocks are permanent or temporary in nature. However, as the Harberger-Laursen-Metzler effect depends on the marginal propensity to consume, we suppose that the persistence of terms-of-trade shocks is important.

Uribe and Schmitt-Grohé (2016) performed a possible modification of the model. Assume that marginal propensity to consume is an increasing function of the persistence of terms-of-trade shock:

$$c_{yt} = \alpha(\rho);\ \forall t \in T \tag{12}$$

where ρ denotes the (constant) persistence of terms-of-trade shock and

$$\frac{\partial \alpha(\rho)}{\partial \rho} > 0 \tag{13}$$

After substituting (12) for the marginal propensity to consume, we can rewrite the Harberger-Laursen-Metzler effect (11) in the form:

$$\frac{\partial tb_t}{\partial tot_t} = \frac{1 - \alpha(\rho)}{1 + m_{yt} - \alpha(\rho)} \overline{q} > 0;\ \forall t \in T \tag{14}$$

The Harberger-Laursen-Metzler effect is smaller the more permanent the terms-of-trade shock is.

The Obsfeld-Razin-Svensson effect is cast within a dynamic optimizing theoretical framework that differs fundamentally from the reduced-form Keynesian model we used to derive the Harberger-Laursen-Metzler effect. Consider the small open economy real business cycle model. The small open endowment economy is inhabited by the infinitely lived representative household, with preferences described by the intertemporal utility function in the form:

$$U = E_0\left[\sum_{t=0}^{\infty} \beta^t u(c_t)\right] \tag{15}$$

where c_t denotes private consumption and $0 < \beta < 1$ is a subjective discount factor. The operator E_t denotes the expectations operator conditional on information available in the period *t*. The utility, *u*, is a continuously differentiable, strictly increasing, and strictly concave function of consumption; therefore, the marginal utility of consumption is always positive:

$$u'(c_t) > 0;\ \forall t \in \{1, 2, \ldots\} \tag{16}$$

The marginal utility of consumption is a decreasing function of consumption:

$$u''(c_t) < 0;\ \forall t \in \{1, 2, \ldots\} \tag{17}$$

We assume that $u(c_t)$ is homogeneous of degree –1, so that:

$$\frac{u'(c_{t+1})}{u'(c_t)} = \frac{c_t}{c_{t+1}}; \forall t \in \{1,2,\ldots\} \quad (18)$$

Assume that the consumption good, c_t, is imported and the household is endowed with 1 unit of exportable goods in each period. As before, tot_t denotes the international relative price of exportable goods in terms of importable goods (i.e., terms-of-trade). Then, the household's unit endowment expressed in terms of importable goods is simply tot_t. The budget constraint of the representative household in period t is in the form:

$$d_t = (1+r)\,d_{t-1} + c_t - tot_t; \forall t \in \{1,2,\ldots\} \quad (19)$$

where d_t denotes the household's debt position in period t expressed in terms of import goods and $r > 0$ denotes a constant world interest rate. In terms of import goods in period t, the household's endowment, tot_t, modified by net debt income, rd_t, is used for the household's consumption, c_t, and the change of household's debt position. The household and the firm are not allowed to trigger Ponzi games; therefore, a no-Ponzi games constraint must hold in the following form:

$$\lim_{j\to\infty} \frac{1}{(1+r)\,E_t\left(d_{t+j}\right)} = 0; \forall t \in \{1,2,\ldots\} \quad (20)$$

As the economy is small, the evolution of the terms-of-trade, tot_t, is exogenous, and we suppose that it follows the AR(1) process:

$$tot_t = \rho\, tot_{t-1} + \varepsilon_t^{tot}; \forall t \in \{1,2,\ldots\} \quad (21)$$

where $0 < \rho < 1$ is a serial correlation parameter describing a persistence of the terms-of-trade shocks and ε_t^{tot} is a normally distributed stochastic term with zero mean and constant variance.

Markets clear when the trade balance of import goods equals endowment (exports) minus consumption (imports):

$$tb_t = tot_t - c_t; \forall t \in \{1,2,\ldots\} \quad (22)$$

The household's debt position equals the net international investment position (i.e., household borrows/lends from/to abroad). The representative household is in a small open economy; it is such an insignificant agent in the international markets that it takes the world prices $\{tot_t, r\}_{t=0}^{\infty}$ as given.

Equilibrium is an allocation $\{c_t\}_{t=0}^{\infty}$ so that all markets clear and representative of the household takes the prices $\{tot_t, r\}_{t=0}^{\infty}$ as given. We can solve the equilibrium as the household problem of choosing the allocation $\{c_t\}_{t=0}^{\infty}$ to maximize utility U subject to the budget constraint (19) in each period t and subject to the no-Ponzi games constraint (20).

The first-order condition of the problem is a Euler equation in the form:

$$u'(c_t) = \beta(1+r)\,E_t u'(c_{t+1}); \forall t \in \{1,2,\ldots\} \quad (23)$$

We do not need to form second-order conditions as the utility function is concave in c_t and the constraint function is linear in c_t. We define a deterministic steady-state consumption $c_t = E_t(c_{t+1})$ so that $u_{ct} = E_t(u_{ct+1})$ in each period t, as $u(c_t)$ is homogeneous of degree –1, therefore $\beta(1+r) = 1$.

Considering the no-Ponzi games condition the present value of the real live-time household budget in period t is:

$$\sum_{s=t}^{\infty} E_t\left[\frac{c_s}{(1+r)^s}\right] = \sum_{s=t}^{\infty} E_t\left[\frac{tot_s}{(1+r)^s}\right] - (1+r)\,d_{t-1}; \forall t \in \{1,2,\ldots\} \quad (24)$$

Let us substitute the steady-state Euler equation and AR(1) into the live-time household budget (24) for consumption and terms-of-trade, respectively, in each period s. Then, by solving for consumption, we yield:

$$c_t = \frac{r}{1+r-\rho} tot_t - rd_{t-1}; \forall t \in \{1,2,\ldots\} \quad (25)$$

By substituting (25) into the trade balance (22) for consumption, we yield:

$$tb_t = \frac{1-\rho}{1+r-\rho} tot_t + rd_{t-1}; \forall t \in \{1,2,\ldots\} \quad (26)$$

The Obsfeld-Razin-Svensson effect is:

$$\frac{\partial tb_t}{\partial tot_t} = \frac{1-\rho}{1+r-\rho}; \forall t \in \{1,2,\ldots\} \quad (27)$$

An increase in the terms-of-trade in period t produces an improvement in the trade balance in period t. In response to a mean-reverting increase in export income stemming from an improvement in the terms-of-trade, households consume only part of the additional income and save the rest

to smooth consumption over time. Consumption increases by less than income, leading to an improvement in the trade balance. The Obsfeld-Razin-Svensson effect states that the effect of terms-of-trade shocks on the trade balance is decreasing in shock persistency ρ. Moreover, it is decreasing in interest rate r. Households have more incentive to save more in response to temporary shocks than in response to persistent shock. Analogically, the more the households save, the higher the interest rate is.

Intuitively, in countries with high capital costs (i.e., with a high country interest rate spread), the effect of terms-of-trade shocks on the trade balance is very small. This intuition can be theoretically verified using the small open real business cycle model of the production economy. This economy consists of a representative household and a firm. The output is produced by the firm using inputs capital and labor. The output is supposed to be the exports of the economy while the sum of the investment, consumption, and capital costs is supposed to be imports of the economy. An effectiveness of the production is given by the terms-of-trade (instead of the total factor productivity).

Uribe and Schmitt-Grohé (2016) presented the model. Because in the model terms-of-trade shocks are identical to productivity shocks, a persistent increase in the terms of trade induces firms to increase the stock of capital to take advantage of the persistent expected increase of the marginal product of capital in terms of imports. The increase in the desired stock of capital induces a surge in the demand for (imported) investment goods, which tends to deteriorate the trade balance. This negative effect is stronger if imported capital costs are larger. The final effect of terms-of-trade shocks on the trade balance can be negative if both the persistency of the terms of trade shock and the capital costs are sufficiently high.

Using this simple concept with the terms-of-trade instead of the total factor productivity in the production function, the effect of terms-of-trade on the output is clearly positive. This theoretical result is confirmed in the extended small open real business cycle model considering firms producing both importable and exportable goods presented by Uribe and Schmitt-Grohé (2016). The model is more realistic as only a fraction of the GDP is exported. However, as we stated in the introduction, empirical observations do not confirm this theory. Empirically, the effect of the terms-of-trade on the output is negligible.

Uribe and Schmitt-Grohé (2016) extended their model to non-tradable goods, which cannot be exported or imported. Their prices are not equalized across countries because, for various reasons, such as transportation costs and trade barriers, trading them across borders is economically inviable. By calibrating the model, Uribe and Schmitt-Grohé (2016) showed that a model presence of non-tradable goods decreases the theoretical effect of the terms-of-trade on the output. However, this effect is still too high compared to the terms-of-trade effect predicted by the empirical studies.

Methodology

We used vector autoregressive (VAR) models for our analysis. In VAR models, every endogenous variable is a function of all lagged endogenous variables in the system; see Lütkepohl (2005) for more details about VAR models. The mathematical representation of the unrestricted VAR model of order p is:

$$\mathbf{y}_t = \mathbf{A}_1\mathbf{y}_{t-1} + \mathbf{A}_2\mathbf{y}_{t-2} + \ldots + \mathbf{A}_p\mathbf{y}_{t-p} + \mathbf{e}_t \tag{28}$$

where $\mathbf{y}_t$ is a k-dimensional vector of endogenous variables; $\mathbf{A}_1$, $\mathbf{A}_2$, …, $\mathbf{A}_p$ are $k \times k$ matrices of coefficients to be estimated; and $\mathbf{e}_t$ is a $k \times 1$ vector of innovations that may be contemporaneously correlated but are uncorrelated with their own lagged values.

The VAR model (28) can be interpreted as a reduced form model. A structural vector autoregressive (SVAR) model is defined as:

$$\mathbf{A}\mathbf{y}_t = \mathbf{B}_1\mathbf{y}_{t-1} + \mathbf{B}_2\mathbf{y}_{t-2} + \ldots + \mathbf{B}_p\mathbf{y}_{t-p} + \mathbf{B}\mathbf{u}_t \tag{29}$$

It is assumed that the structural errors, $\mathbf{u}_t$ are white noise and the coefficient matrices $\mathbf{B}_1$, $\mathbf{B}_2$, …, $\mathbf{B}_p$ are structural coefficients that in general differ from their reduced form counterparts while $\mathbf{B}$ is matrix of restrictions on $\mathbf{u}_t$.

A SVAR model can be used to identify shocks and trace these out by employing impulse response analysis and variance decomposition through an imposition of restrictions on the matrices used. Uribe and Schmitt-Grohé (2016) proposed a specification of the SVAR, through which we can determine responses on terms-of-trade impulse:

$$\mathbf{A}\begin{pmatrix} tot_t \\ tb_t \\ y_t \\ c_t \\ i_t \end{pmatrix} = \mathbf{B}_1\begin{pmatrix} tot_{t-1} \\ tb_{t-1} \\ y_{t-1} \\ c_{t-1} \\ i_{t-1} \end{pmatrix} + \mathbf{B}\begin{pmatrix} u_t^{tot} \\ u_t^{tb} \\ u_t^{y} \\ u_t^{c} \\ u_t^{i} \end{pmatrix} \tag{30}$$

where *tot* is the relative cyclical component of the terms of trade, *tb* is the relative cyclical component of the trade balance to output ratio, *y* is the relative cyclical component

of output, *c* is the relative cyclical component of consumption, and *i* is the relative cyclical component of investment. The terms-of-trade is computed as the ratio of export and import deflators. The trade balance is computed as the difference between exports and imports. The output is considered to be GDP, the consumption is considered to be the final consumption of households, and the investment is considered to be the gross capital formation. The last four variables are at constant prices with the reference year 2010. The cyclical components were obtained using the Hodrick-Prescott filter (Hodrick & Prescott, 1997) with $\lambda = 1600$.

The u_t^{tot}, u_t^{tb}, u_t^{y}, u_t^{c}, and u_t^{i} are structural shocks of the given variables. We estimated the parameters of the SVAR specification (30) using Amisano and Giannini's (1997) approach (AB model, pp. 18–19). The class of commonly used models may be written as:

$$\mathbf{A}\mathbf{e}_t = \mathbf{B}\mathbf{u}_t \tag{31}$$

The structural innovations $\mathbf{u}_t$ are assumed to be orthonormal—that is, its covariance matrix is an identity matrix $\mathbf{\Sigma}_u = \mathbf{I}$. The assumption of orthonormal innovations imposes the following identifying restrictions on **A** and **B**:

$$\mathbf{A}\mathbf{\Sigma}_e\mathbf{A}^{\mathrm{T}} = \mathbf{B}\mathbf{B}^{\mathrm{T}} \tag{32}$$

Noting that the expressions on both sides of (32) are symmetric, this imposes $k(k+1)/2 = 15$ restrictions on the $2k^2 = 50$ unknown elements in **A** and **B**. Therefore, in order to identify **A** and **B**, we need to impose $(3k^2–k)/2 = 35$ additional restrictions. The matrix **A** of unrestricted specification is a lower triangular matrix with unit diagonal (10 zero and 5 unity restrictions), and matrix **B** is a diagonal matrix (20 zero restrictions) in this just-identified specification. Other tested restrictions are imposed on elements of **A** (matrix of contemporary effects between endogenous variables), which means that our specification becomes over-identified and also testable.

We verified the stability of a VAR model (i.e., whether all roots have a modulus less than one and fall inside the unit circle). We estimated the parameters of restricted and unrestricted specifications. Using the logarithm of the maximum likelihood functions of both specifications, we calculated the likelihood ratio statistics and verified the significance of restrictions. All tests are explained in Greene (2003).

Using the matrix polynomial in lag operator $\mathbf{A}(L) = \mathbf{B}_1L + \mathbf{B}_2L^2 + \ldots + \mathbf{B}_pL^p$ we can rewrite (29) as SMA representation:

$$\mathbf{y}_t = \left[\mathbf{A} - \mathbf{A}(L)\right]^{-1}\mathbf{B}\mathbf{u}_t = \mathbf{C}(L)\mathbf{u}_t = \mathbf{C}(0)\mathbf{u}_t + \mathbf{C}(1)\mathbf{u}_{t-1} + \mathbf{C}(2)\mathbf{u}_{t-2} + \ldots + \mathbf{C}(h)\mathbf{u}_{t-h} + \ldots \tag{33}$$

Hence, $\mathbf{C}(0)$ is the coefficient matrix on impact, $\mathbf{C}(1)$ at a one-period lag, $\mathbf{C}(2)$ at a two-period lag, and so on. Generally, the $\mathbf{C}_{i,j}(h)$ element is the impulse response of variable *i* to shock *j* at horizon *h*. The forecast error of **y** at horizon *s* is:

$$\mathbf{y}_{t+h} - \hat{\mathbf{y}}_{t+h} = \mathbf{C}(0)\mathbf{u}_{t+h} + \mathbf{C}(1)\mathbf{u}_{t+h-1} + \mathbf{C}(2)\mathbf{u}_{t+h-2} + \ldots + \mathbf{C}(h)\mathbf{u}_t \tag{34}$$

The variance of the forecast error (assuming orthogonality) is expressed as the sum of the individual variances of shocks:

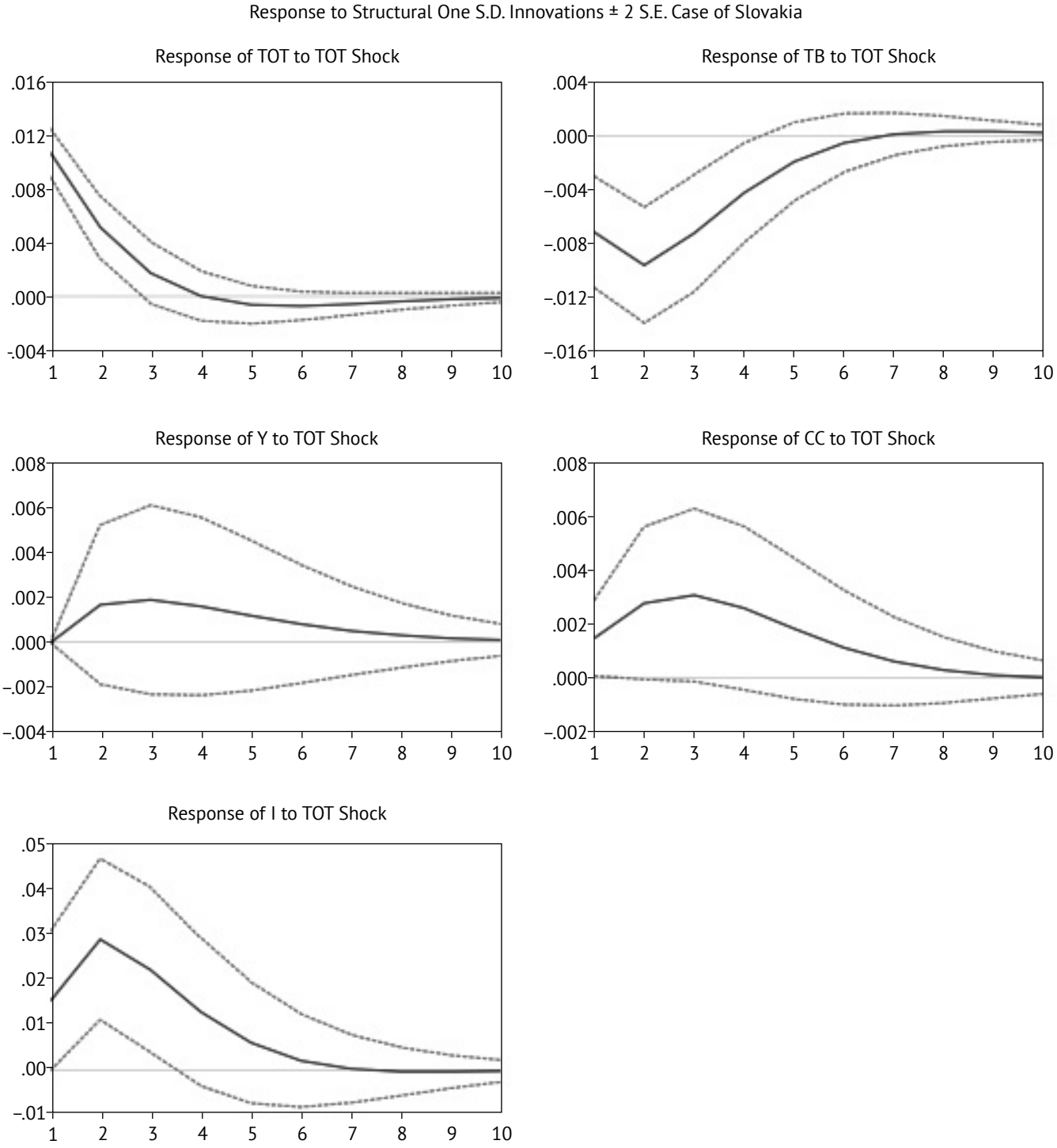
$$\mathrm{var}\left(\mathbf{y}_{t+h} - \hat{\mathbf{y}}_{t+h}\right) = \mathbf{C}(0)\mathbf{I}\mathbf{C}(0)^{\mathrm{T}} + \mathbf{C}(1)\mathbf{I}\mathbf{C}(1)^{\mathrm{T}} + \mathbf{C}(2)\mathbf{I}\mathbf{C}(2)^{\mathrm{T}} + \ldots + \mathbf{C}(h)\mathbf{I}\mathbf{C}(h)^{\mathrm{T}} \tag{35}$$

The fraction of the forecast error variance of variable *i* due to shock *j* at horizon *h* is then the (*i*,*j*) element of expression (35) divided by the total forecast error variance and is expressed as a percentage. We calculated the impulse response functions (IRF) and realized variance decomposition (VD) to quantify the short-term impact of shocks. Generally, the IRF traces the effect of a one-time shock in one of the innovations on the current and future values of the endogenous variables, and VD is a way to quantify how important each shock is in explaining the variation of each of the variables.

Results

Slovakia. The responses to the terms-of-trade shock are shown in Figure 1. As the output shock elasticity coefficient was not statistically significant (0 is in the two standard deviation interval), the improvement in terms-of-trade had no impact on the aggregate activity, and the one-quarter delayed output expansion was statistically insignificant. Investment displayed a somewhat larger expansion, albeit with a one-quarter delay. Consumption expansion was slightly over the limit of statistical significance. The 10% increase in the terms-of-trade caused an increase of 1.5% in consumption. On the other hand, the impact of the terms-of-trade shock on trade balance was statistically significant. The 10% increase in the terms of trade caused a decrease of 7.2% in trade balance. Furthermore, a larger contraction was delayed by one quarter. The results suggest the confirmation of the Obstfeld-Svensson-Razin effect.

Figure 1. Impulse response functions to terms-of-trade shock in Slovakia



Source: Author's illustration

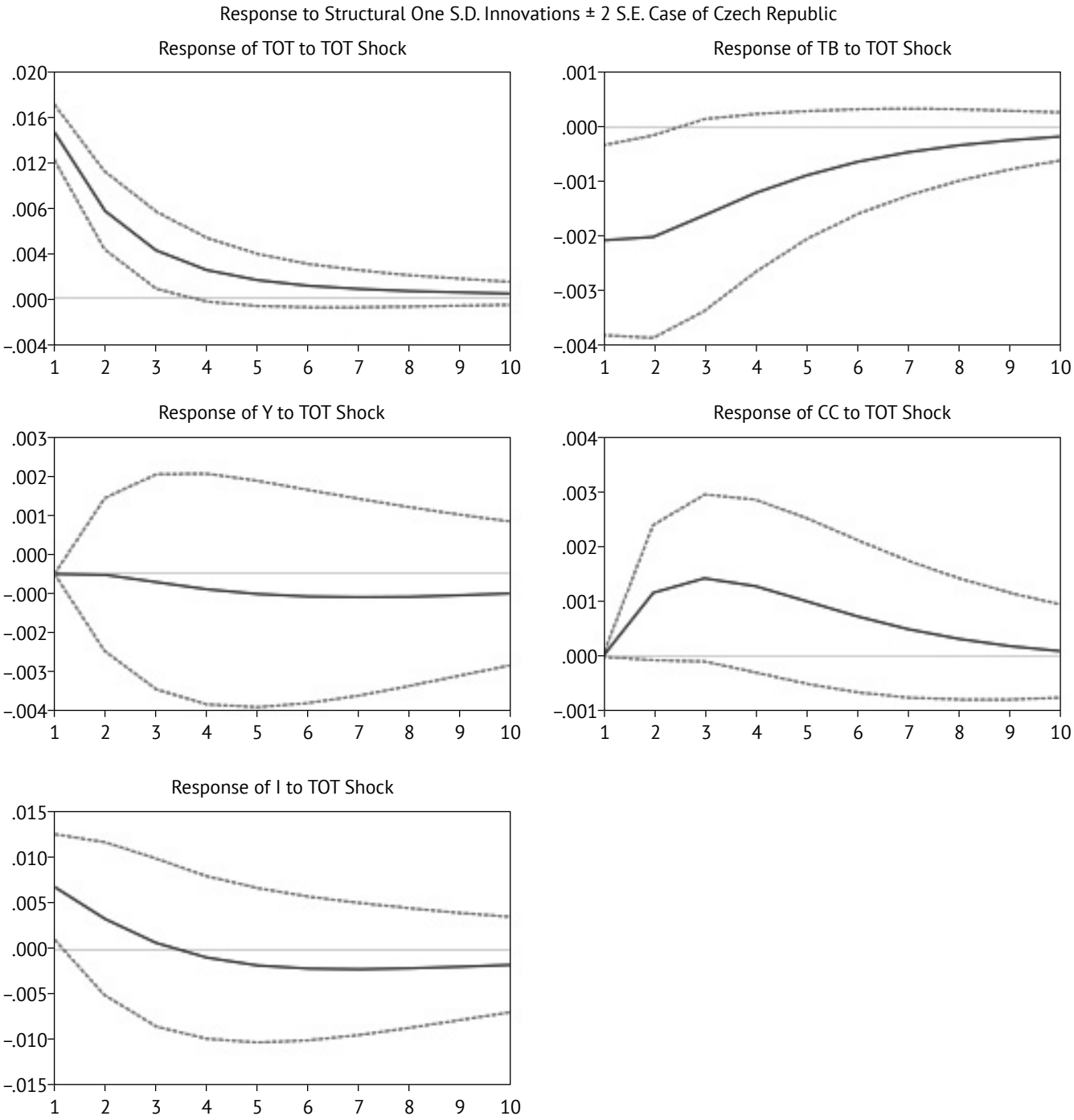
To gauge the importance of the terms-of-trade shock, we computed the fraction of the variance of all indicators of interest explained by terms-of-trade; in other words, we computed the variance decomposition. The share of variance explained by terms-of-trade shocks in Slovakia was 100% for the variance of terms-of-trade, 15.7% for the variance of trade balance, 0% for the variance of output, 1.2% for the variance of consumption, and 3.1% for the variance of investment.

Czech Republic. The responses to the terms-of-trade shock are depicted in Figure 2. As the output shock elasticity coefficient was not statistically significant, the improvement in terms-of-trade had no impact on the aggregate activity, and the one-quarter delayed output expansion was statistically insignificant. Consumption exhibited the same insignificant results as output. Investment expansion was slightly over the limit of statistical significance.

The 10% increase in the terms-of-trade caused an increase of 6.9% in investment. The 10% increase in the terms of trade caused a decrease of 2.1% in trade balance. As in the case of Slovakia, the results suggest the confirmation of the Obstfeld-Svensson-Razin effect of the terms-of-trade.

The share of variance explained by terms-of-trade shocks in the Czech Republic were 100% for the variance of

Figure 2. Impulse response functions to terms-of-trade shock in Czech Republic

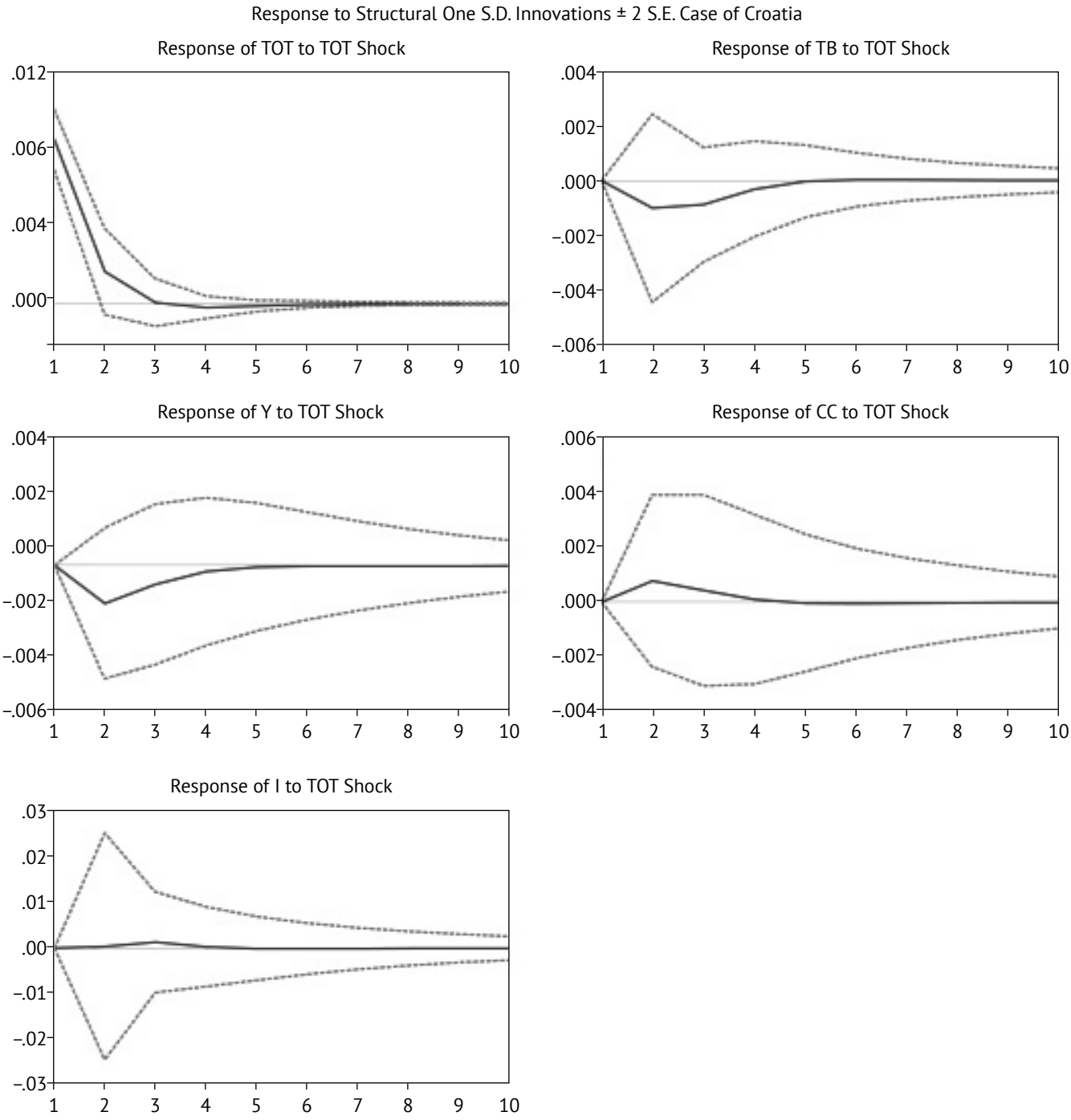


Source: Author's illustration

terms-of-trade, 7.7% for the variance of trade balance, 0% for the variance of output, 0% for the variance of consumption, and 3.3% for the variance of investment.

Croatia. The responses to the terms-of-trade shock are in Figure 3. The improvement in terms-of-trade had no impact on the aggregate activity, consumption, investment, or terms-of-trade. Nevertheless, as in case of Slovakia and the Czech Republic, the results suggest the confirmation of the Obstfeld-Svensson-Razin effect of the terms-of-trade. The share of variance explained by terms-of-trade shocks in Croatia were 100% for the variance of terms-of-trade and 0% for the variances of trade balance, output, consumption, and investment.

Figure 3. Impulse response functions to terms-of-trade shock in Croatia



Source: Author's illustration

Discussion and Conclusion

The terms-of-trade had a significant impact on the trade balance in Slovakia and the Czech Republic. We could not confirm a statistically significant impact of the terms-of-trade on the trade balance in Croatia. These results support the Obstfeld-Svensson-Razin effect rather than the Harberger-Laursen-Metzler effect. As Uribe and Schmitt-Grohé (2016) showed, this correlation is on average positive in the developing countries around the world. From the theoretical background, it follows that the negative or no effect of the terms-of-trade on the trade balance comes from persistent terms-of-trade shocks or from big capital costs.

However, Szomolányi, Lukáčik, and Lukáčiková (2013) showed that capital costs were not a significant source of the Slovak and Czech business cycles. Using the SVAR analysis of the output, investment, trade balance, world interest rate, and domestic interest rate, they showed that more than 90% of business cycles were addressed to the output shocks. Therefore, we suggest that terms-of-trade shocks are relatively highly persistent in these two countries. The main imported goods to Slovakia and the Czech Republic have been energy goods such as natural gas and oil. On the other hand, both countries have been exporting mainly cars. In fact, the prices of these goods are changing more consistently than usual.

Our results confirm the empirical evidence of Aguirre (2011), Broda (2004) and Uribe and Schmitt-Grohé (2016) that terms-of-trade shocks explain a very little fraction of the output variance in emerging countries, including Slovakia, the Czech Republic, and Croatia. This evidence can be theoretically explained by the existence of non-tradable goods. A challenge is to form and solve a theoretical model with non-tradable goods explaining the contribution of the trade balance on short-run macroeconomic performance.

The success of the SVAR models in explaining business cycles depends on the correct econometric specification that comes from a proper theoretical model. The specification used in this paper is helpful for understanding that the terms-of-trade shocks do not drive the business cycles in the studied countries. A subject of authors' future research is to form a theoretical model suggesting an appropriate empirical model to identify the main sources of the business cycles in post-communist countries.

References

Aguirre, E. (2011). *Business cycles in emerging markets and implications for the real exchange rate* (unpublished Ph.D. dissertation). Columbia University, New York.

Amisano, G., & Giannini, C. (1997). *Topics in structural VAR econometrics* (2nd ed.). Berlin: Springer-Verlag. https://doi.org/10.1007/978-3-642-60623-6

Broda, C. (2004). Terms of trade and exchange rate regimes in developing countries. *Journal of International Economics, 63*(1), 31–58. https://doi.org/10.1016/S0022-1996(03)00043-6

Greene, W. H. (2003). *Econometric analysis* (5th ed.). City, NJ: Prentice Hall.

Harberger, A. C. (1950). Currency depreciation, income, and the balance of trade. *Journal of Political Economy, 58*(1), 47–60. https://doi.org/10.1086/256897

Hodrick, R. J., & Prescott, E. C. (1997). Postwar U.S. business cycles: An empirical investigation. *Journal of Money, Credit and Banking, 29*(1), 1–16. https://doi.org/10.2307/2953682

Laursen, S., & Metzler, L. A. (1950). Flexible exchange rates and the theory of employment. *Review of Economics and Statistics, 32*(4), 281–299. https://doi.org/10.2307/1925577

Lucas, R. (1976). Econometric policy evaluation: A critique. In K. Brunner & A. Meltzer (Eds.), *The Phillips curve and labor markets* (pp. 19–46). New York: American Elsevier. https://doi.org/10.1016/s0167-2231(76)80003-6

Lütkepohl, H. (2005). *New introduction to multiple time series analysis*. Berlin: Springer. https://doi.org/10.1007/978-3-540-27752-1

Obstfeld, M. (1982). Aggregate spending and the terms of trade: Is there a Laursen-Metzler effect? *Quarterly Journal of Economics, 97*(2), 251–270. https://doi.org/10.2307/1880757

Svensson, L. E. O., & Razin, A. (1983). The terms of trade and the current account: The Harberger-Laursen-Metzler effect. *Journal of Political Economy, 91*(1), 97–125. https://doi.org/10.1086/261130

Szomolányi, K., Lukáčik, M., & Lukáčiková, A. (2013). Financial world frictions and the Slovak economy. In Kolektiv autorů (Eds.), *INPROFORUM 2013* (pp. 295–299). České Budějovice: Jihočeská univerzita v Českých Budějovicích. Retrieved from http://ocs.ef.jcu.cz/index.php/inproforum/INP2013/paper/view/277

Uribe, M., & Schmitt-Grohé, S. (2016). *Open economy macroeconomics*. Retrieved from http://www.columbia.edu/~mu2166/book/

Authors

Karol Szomolányi is an associated professor of operations research and econometrics at the University of Economics in Bratislava, Faculty of Economic Informatics, Department of Operations Research and Econometrics. He deals with the macroeconomic analysis and econometrics. His areas of interest are real business cycle models and dynamic stochastic macroeconomic models and their use for developing countries of Eastern Europe. The author can be contacted at karol.szomolanyi@euba.sk.

Martin Lukáčik is an associated professor of operations research and econometrics at the University of Economics in Bratislava, Faculty of Economic Informatics, Department of Operations Research and Econometrics. He is president of the Slovak Society for Operations Research. He deals with the econometric methods in the macroeconomic framework and time series econometrics. His areas of interest are VAR models used in macroeconomics and forecasting methods. The author can be contacted at martin.lukacik@euba.sk**.**

Adriana Lukáčiková is an assistant professor of operations research and econometrics at the University of Economics in Bratislava, Faculty of Economic Informatics, Department of Operations Research and Econometrics. She deals with computable general equilibrium models and econometrics. Her area of interest is the econometric modelling of national economies. The author can be contacted at adriana.lukacikova@euba.sk.

Kratkoročni vpliv pogojev menjave na Slovaško, Češko republiko in Hrvaško

Izvleček

Šoki zaradi pogojev menjave v treh postkomunističnih državah, tj. v Slovaški, Češki republiki in Hrvaški, niso temeljni vir poslovnih ciklov. Ničelni ali negativni odzivi trgovinske bilance na pozitivne šoke zaradi pogojev menjave v državah kažejo Obstfeld-Svensson-Razinov učinek, za katerega velja, da manjši ko je Harberger-Laursen-Metzlerjev učinek pogojev menjave na trgovinsko bilanco, vztrajnejši je šok zaradi pogojev menjave. Zaključki izhajajo iz strukturne vektorske avtoregresijske analize cikličnih komponent pogojev menjave, trgovinske bilance, izložka, porabe in investicij v treh postkomunističnih državah.

Ključne besede: inovacija, pogoji menjave, poslovni cikel, slovaško gospodarstvo, češko gospodarstvo, hrvaško gospodarstvo, trgovinska bilanca

ORIGINAL SCIENTIFIC PAPER

RECEIVED: NOVEMBER 2016

REVISED: FEBRUARY 2017

ACCEPTED: FEBRUARY 2017

DOI: 10.1515/ngoe-2017-0002

UDK: 347.736

JEL: G33, G34

Citation: Zorin Bukovšek, M., Bratina, B., & Tominc, P. (2017). Factors of a Successfully Implemented Compulsory Settlement. *Naše gospodarstvo/Our Economy, 63*(1), 14–26. DOI: 10.1515/ngoe-2017-0002

Factors of a Successfully Implemented Compulsory Settlement

Marjeta Zorin Bukovšek
PhD Student at the Faculty of Economics and Business, University of Maribor, Slovenia
marjeta.zorin@siol.net

Borut Bratina
Faculty of Economics and Business, University of Maribor, Slovenia
borut.bratina@um.si

Polona Tominc
Faculty of Economics and Business, University of Maribor, Slovenia
polona.tominc@um.si

Abstract

In Slovenia, many companies try to avoid bankruptcy with the introduction of a compulsory settlement procedure, but only a handful of companies successfully complete the compulsory settlement in the sense of a final repayment of creditors in accordance with the adopted financial restructuring plan. The article identified the factors affecting the confirmation of a compulsory settlement as well as the factors affecting the final repayment of creditors and, thus, permanently eliminated the causes of insolvency. The factors were divided into internal and external, whereby the impact of factors on a successfully completed compulsory settlement was verified using quantitative and qualitative research methods.

Keywords: compulsory settlement, insolvency, financial restructuring plan, business restructuring, ownership restructuring

Introduction

A compulsory settlement procedure typically begins after the occurrence of insolvency of the debtor and allows the prevention of bankruptcy with the reorganization of the debtor's assets and the overall reduction of the claims incurred up to the beginning of the procedure. From a legal point of view, compulsory settlement is a contract concluded between the debtor and creditors before the court, which reduces the claims of the debtors and/or suspends their payment (Šinkovec & Škerget, 1999, p. 17). The purpose of a compulsory settlement is to annul insolvency—that is, the economic situation as a result of which a bankruptcy proceeding may be initiated against the debtor. Under Article 136 of ZFPPIPP (2014), the compulsory settlement procedure is carried out to implement financial restructuring of the debtor's undertaking, which ensures that debtor's partners can only retain such a portion of the debtor's share capital that corresponds to the value of the remaining assets of the debtor that would be given to them if a bankruptcy proceeding was initiated against the debtor. At the same time, it is necessary to ensure more favorable terms of payment of the claims to creditors as

NG
OE

**NAŠE GOSPODARSTVO
OUR ECONOMY**

Vol. 63 No. 1 2017

pp. 14–26

if a bankruptcy proceeding was initiated against the debtor; in addition, the sense of a compulsory settlement procedure is the continued operation of the debtor's undertaking or the profitable part of this undertaking. Compulsory settlement is accepted and confirmed by the creditors, but is only successfully implemented when the debtor repays all the creditors in accordance with the financial restructuring plan.

Numerous factors affect the compulsory settlement procedure; therefore, we tried to identify factors of key importance, which we divided into internal and external factors. External factors are independent from the company (the management has no direct impact on them) whereas internal factors are those that arise in the company (the management has a direct impact on them).

The purpose of this article is complex in that it aims to provide an (i) analysis and definition of the factors affecting the successful implementation of the compulsory settlement; (ii) a formulation of recommendations for the company to successfully implement the compulsory settlement, and (iii) a formulation of recommendations for the holders of the economic policy in the field of support for the successful restructuring of the companies.

Literature Overview and Hypotheses

External factors. External factors include macroeconomic factors, such as fluctuations of the gross domestic product, interest rates, inflation, and other performance categories or criteria of a particular national economy. Manavald (2010) defined a close correlation between the decline of GDP and the increased number of insolvency proceedings in the case of Estonia; similar conclusions were also reached by Halim, Mohd Daud, Rizal Mazlan, and Marzuki (2008), whereby the latter analyzed corporate insolvency and fluctuations of GDP in the case of Malaysia. Gaffeo and Santoro (2009), Archambault and Laverdière (2005), and Moravec (2010) confirmed in their studies the impact of the fluctuations of GDP as well as interest rates and inflation on the number of initiated insolvency proceedings. The link between the fluctuations of GDP and the number of insolvency proceedings is in the form of a negative correlation between the aforementioned variables.

Fluctuations of GDP are closely associated with the changes in the amount of the interest rate and inflation. The review of the literature revealed that authors put the interest rate in the foreground as a key factor for the changing number of initiated bankruptcy proceedings and compulsory settlements. Sharabany (2004) statistically confirmed that the number of bankruptcy proceedings increases with the rise of the nominal interest rate. Yet the rise in nominal interest rate does not affect the financial stability of major export companies as they are not limited to the acquisition of capital on the domestic market. Statistical analysis results also showed that the number of bankrupt companies grows with unexpected inflation and positive changes in the nominal and the real interest rate. As a general rule, there is a positive correlation between the fluctuations of the interest rate and the number of initiated insolvency proceedings, but it must be pointed out that the positive correlation is stronger if several years of delay are taken into consideration. This means that the consequences of an increased interest rate in the economy are only visible after a few years. In the case of the Czech Republic, Moravec (2010, p. 6) established a strong positive correlation between the interest rate and the number of insolvency proceedings by a delay of three years. Kaplin et al. (2009, p. 11) also established a positive correlation between the fluctuations of the short-term interest rate and the degree of non-payment by companies. A positive correlation is visible in the long term, while in the short term a negative correlation is evident among the aforementioned variables.

Important external factors in successful financial restructuring of a company are also insolvency legislation (Armour, 2003; Ayotte & Skeel, 2009; Pindado, Rodrigues, & de la Torre, 2008; Succurro, 2008; Tarantino, 2009) and the role of the banking system (Brunner & Krahnen, 2001; Davydenko & Franks, 2006; Franks & Sussman, 2003; Huang & Huang, 2009; Levine, 1998; Senbet & Seward, 1995).

Internal factors. Internal factors are factors that apply to an individual company and can be influenced by the management of the company. In the event of a vote for confirmation of a compulsory settlement, the amount of the repayment and the period in which the creditors would be repaid are very important factors. The higher the percentage of repayment offered by the debtor to the creditors and the shorter the deadline for the execution of the payment, the greater the chances are that the creditors will agree with the proposal for compulsory settlement. There is an existing belief that a high repayment of creditors should be possible over a longer period, while lower repayments should be feasible in a shorter period.

Internal factors also include the size of the company. Larger companies may have a better negotiating position, given their ability to persuade creditors on the soundness of a compulsory settlement (Constantini, 2009; Ohlson, 1980; Sengupta & Faccio, 2011). On the contrary, Sun (2010) demonstrated a positive correlation between the size of the company and the chance of bankruptcy, whereby it is emphasized that a positive correlation could be attributed to the fact that, when a financial crisis appears in a larger company, this reflects quite serious problems that had accumulated over the years

and are therefore more difficult to solve than they would have been in smaller companies.

The research also revealed that the financial situation and the operation of the company before the compulsory settlement are also important internal factors. The starting point from which the company works to solve the crisis in the company is extremely important for the continued development of events, while the company's financial situation also influences the formation of a proposal for compulsory settlement. Financial indicators are an important tool in assessing the performance of companies and forecasting their potential insolvency (Back, Laitinen, Sere, & Wezel, 1996; Branch & Xu, 2008; Heine, 2000; Stanišić, Mizdraković, & Knežević, 2013).

An agreement with the creditors is a factor that we believe is extremely important for the successful implementation of a compulsory settlement. In addition to an agreement with the creditors, the restructuring method of the liabilities of the debtor, which is enabled by the legislation, is important (i.e., the conversion of a creditor's claims in the equity of an insolvent company). A key element of any conversion of claims into equity is thus the balance sheet restructuring of a corporate debtor so that important creditors—usually mostly financial creditors (i.e., banks)—receive equity in a reorganized capital structure in return for a reduction of their claims toward the debtor. This restructuring method comes from the American economy, where the conversion method is well established (Baird, 1997; Fuller, 1940; Lubben, 2004). In Slovenia, the increase in share capital with in-kind contributions is governed by ZGD-1, while we only received the legal basis (in ZFPPIPP) to increase the share capital by substantial or new cash contributions without the consent of the shareholders within the framework of a compulsory settlement a few years ago (Plavšak, 2011, pp. 28–34). Clowry (2008) also offered some examples of European companies that have successfully gone through the process of reorganization using the conversion of debts.

We listed internal factors, which are more or less related to financial and ownership restructuring, but it is also necessary to point out the factor of the implementation of other measures of business restructuring. The methods of business restructuring eliminate the causes leading companies to insolvency and essential for the companies to operate successfully after a confirmed compulsory settlement (solvent in the short and long term; Dubrovski, 2004).

Given the fact that companies' decision-makers are people who do not always follow the principle of rationality, but often operate emotionally, the psychological aspect of crisismanagement in a company and the communication among stakeholders are extremely important factors in the successful completion of a compulsory settlement (Berk, Peterlin, & Ribarič, 2005, pp. 39–48; Pearson & Clair, 1998, pp. 4–6).

Based on the review of theoretical foundations, we defined the following hypotheses, which were verified in the research:

H_1: The fluctuations of macroeconomic indicators influence the number of confirmed compulsory settlements.

H_{1a}: A decline in economic growth influences the decreased number of confirmed compulsory settlements.

H_{1b}: A decline in inflation influences the decreased number of confirmed compulsory settlements.

H_{1c}: A reduced interest rate influences the decreased number of confirmed compulsory settlements.

H_2: The proposed deadline to repay the creditors is affected by the amount of repayment, company size, and the amount of working capital (on the cut-off day before compulsory settlement).

H_3: Key features that distinguish companies for which compulsory settlement was confirmed and those for which compulsory settlement was not confirmed are the amount of working capital, the deadline for repayment of ordinary creditors proposed in the financial restructuring plan, and the amount of the proposed repayment.

H_4: The long-term rehabilitation of a company demands simultaneous financial, ownership, and business restructuring.

H_{4a}: For a successful final repayment of creditors from the compulsory settlement, in addition to an agreement with ordinary creditors, the debtor also has to reach an agreement with the secured creditors about the restructuring of their claims so that the debtor can achieve a sustainable debt (financial restructuring).

H_{4b}: The conversion of debts in equity shares or the acquisition of management (under Articles 144, 199.a or 199.b) allows a successful final restructuring of a company.

H_{4c}: Business restructuring in the context of the implementation of all measures referred to in the financial restructuring plan depends on the amount of working capital available to the company and is essential for the long-term rehabilitation of the company.

H_5: Good communication among the management of the company, creditors, the administrator, and other stakeholders

of the company and the preparedness of all stakeholders of the company to rescue the insolvent company enable successful long-term rehabilitation.

Research Methodology

Hypotheses H_{1a} to H_{1c} were verified with a simple linear regression analysis. Hypothesis H_2 was verified with a multiple regression analysis. One of the multivariate methods is also the discriminant analysis, which was used to examine the H_3 hypothesis. The discriminant analysis was used to determine and explain the differences between a group of companies for which a compulsory settlement was confirmed and a group of companies for which the compulsory settlement was not confirmed and ended in bankruptcy.

When verifying hypotheses H_{1a}–H_{1c}, we used secondary data obtained from publicly available databases—namely, Surs, Ajpes, Umar, Eurostat, Bank of Slovenia, Ministry of Justice of the Republic of Slovenia, and others. In hypotheses H_{1a}–H_{1c}, the number of confirmed compulsory settlements appeared in the role of a dependent variable. The variable of the number of confirmed compulsory settlements is in the form of a time series, as it included companies in Slovenia according to individual consecutive years for which a compulsory settlement was initiated and also voted for. This variable refers to the 2001–2014 period, whereby the period can vary for some hypotheses (e.g., 2002–2014 or 2003–2014) due to the availability of data on independent variables. Data for the annual number of confirmed compulsory settlements were acquired from the annual publications of court statistics, which are published on the website of the Ministry of Justice of the Republic of Slovenia.

To test hypotheses H_2 and H_3, we used data that we gathered on our own from databases by Audit & Co. (i.e., Družba za Revizijo in Svetovanje) and Zo-fing, d. o. o. (i.e., Svetovalno in Trgovsko Podjetje); we also used the database found on the website of Ajpes. The sampling method we used represents non-random sampling; 82 companies for which compulsory settlement was initiated were selected for the sample. The non-random sampling method was used because we randomly selected companies from the available data (there are no data available for the entire statistical set) for which compulsory settlement was initiated since 2008 and either completed with voting or stopped and changed to bankruptcy proceedings. Data on individual variables were obtained from the financial statements that are part of the financial restructuring plan, and they reported on the financial position and business operations of the debtor. In the selection of units for the sample, we focused on companies that had gone through a compulsory settlement between 2008 and 2013 because, in 2008, the new Financial Operations, Insolvency Proceedings and Compulsory Dissolution Act (ZFPPIPP) went into effect.

Hypotheses H_4 and H_5 were examined with a qualitative method, using a multiple holistic case study. Only a few companies successfully finished the compulsory settlement, and some repaid their creditors only to later go bankrupt. Kotnik (2014) also pointed out the extremely low percentage of successfully completed compulsory settlements. When verifying hypotheses H_4 and H_5, which refer to business operations after the confirmed compulsory settlement, we also used primary data in addition to secondary data, such as non-structured and in-depth interviews with the management of insolvent companies and the stakeholders of these companies as well as experts in the field of finance and law. At the same time, we also used an observation technique, such as with the discussions of creditor committees, communication between the debtor and creditors, and the functioning of the administrator in the compulsory settlement procedure. The sample included three companies that successfully completed the compulsory settlement procedure, meaning they repaid the creditors: Iskraemeco, d.d., Steklarna Rogaška, d.d., and KG-EKO, d.o.o. We analyzed the following in each case:

- causes of insolvency
- the proposed compulsory settlement offered by the debtor in the financial restructuring plan
- the business operation and the implementation of the measures written in BRP after the confirmed compulsory settlement
- the repayment of liabilities from the confirmed compulsory settlement, and the analysis of the financial situation after the completed compulsory settlement

Case studies of companies against which the compulsory settlement was finally confirmed, but not yet completed, were used for the additional verification of the hypotheses. These companies had undergone the compulsory settlement procedure a few years earlier, but the deadlines to repay the creditors had not yet expired. We analyzed the following companies: LIV Kolesa, d.o.o., Beti tekstilna industrija, d.d., and Semenarna Ljubljana, d.d.

Research Results

In the research, we analyzed the macroeconomic factors in connection with the changing number of confirmed compulsory settlements. In the linear regression analysis for the example of hypothesis H_{1a}, we came to the following conclusions. The correlation coefficient R shows a strong linear relationship between GDP and the number of confirmed

compulsory settlements (Table 1). The coefficient of determination shows that 81.6% of the variation of the dependent variable was explained by the variation of the independent variable. The variables are in the form of a time series, so we checked the presence of autocorrelation between residuals using the Durbin-Watson test. We discovered no autocorrelation between the residuals of the sample.

Based on the F-test, we established that the obtained regression function was of good quality because the null hypothesis about the coefficient of determination being zero can be turned down at a significance level lower than 0.05 (Table 2).

The negative sign before the regression coefficient indicates that, if GDP increases one unit, confirmed compulsory settlements decrease by 0.008 unit, which means that the set hypothesis H_{1a} has to be rejected (Table 3). When setting up hypothesis H_{1a}, we derived it from a practical point of view—namely, that the uncertain economic conditions further complicated the survival of the companies during the compulsory settlement procedure, causing many compulsory settlements to fail and end in bankruptcy. At the same time, the creditors were quite careful when confirming compulsory settlement proposals, which were too optimistic given the economic situation. A statistical analysis showed the opposite, which can be attributed to the overall increase in insolvency proceedings

Table 1. Description of the Model, Correlation Coefficient, Coefficient of Determination, and Durbin-Watson Test

Model summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.903[a]	0.816	0.801	9.319	1.518

Note: a. Predictors: (Constant), gross domestic product (per resident in euro, current prices and prices according to the current exchange rate)
b. Dependent variable: confirmed compulsory settlements

Source: Authors' calculations, extracted from SPSS

Table 2. Analysis of Variance and the F-test

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4,627.981	1	4,627.981	53.296	0.000[b]
	Residual	1,042.019	12	86.835		
	Total	5,670.000	13			

Note: a. Dependent variable: confirmed compulsory settlements
b. Predictors: (Constant), gross domestic product (per resident in euro, current prices and prices according to the current exchange rate)

Source: Authors' calculations, extracted from SPSS

Table 3. Regression Coefficient Values and the t-test

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	168.617	17.657		9.549	0.000
	Gross domestic product (per resident in euro, current prices and prices according to the current exchange rate)	-0.008	0.001	−0.903	−7.300	0.000

Note: Dependent variable: confirmed compulsory settlements

Source: Authors' calculations, extracted from SPSS

during the economic crisis and consequently a greater number of confirmed compulsory settlements.

Hypothesis H_{1a} was rejected, but we can say that changes in GDP affected the changes in the number of confirmed compulsory settlements.

The correlation coefficient in the case of hypothesis H_{1b} showed a medium strong correlation between changes in inflation and the number of confirmed compulsory settlements (Table 4). The assumption that the dependent variable residuals were uncorrelated cannot be confirmed as the value of the Durbin-Watson test fell under the lower reference limit of 1.5. Autocorrelation occurred more often in data in the form of a time series due to the inertia. The presence of autocorrelation reduced the reliability of the obtained results.

From the point of view of the analysis of variance and the calculated F-test, the regression model was of good quality because the null hypothesis ($H_0 : r^2_{xy} = 0$) could be rejected at a significance level lower than 0.05 (Table 5).

The *t*-test demonstrated that the calculated regression coefficient was statistically significantly different from zero, as the calculated significance level was lower than 0.05 (Table 6). The sign of the calculated regression coefficient was positive, indicating a positive correlation between the change in inflation and the number of confirmed compulsory settlements. Hypothesis H_{1b} was not rejected.

From the theoretical point of view, a reduction in the rate of inflation encourages economic activity and, thus, GDP growth. However, the time delay should also be mentioned in the change of inflation. This delay could be particularly felt in the recent economic crisis, in which—despite the low inflation rate—there was no significant economic recovery, which was also reflected in the lower number of confirmed

Table 4. Description of the Model, Correlation Coefficient, Coefficient of Determination, and Durbin-Watson Test

Model summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.716[a]	0.512	0.468	14.539	0.717

Note: a. Predictors: (Constant), inflation, annual
b. Dependent variable: confirmed compulsory settlements

Source: Authors' calculations, extracted from SPSS

Table 5. Analysis of Variance and the F-test

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2,439.128	1	2,439.128	11.539	0.006[b]
	Residual	2,325.180	11	211.380		
	Total	4,764.308	12			

Note: a. Dependent variable: confirmed compulsory settlements
b. Predictors: (Constant), inflation, annual

Source: Authors' calculations, extracted from SPSS

Table 6. Regression Coefficient Values and the t-test

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.671	7.654		2.178	0.052
	Inflation, annual	6.973	2.053	0.716	3.397	0.006

Note: Dependent variable: confirmed compulsory settlements

Source: Authors' calculations, extracted from SPSS

compulsory settlements. The recent economic crisis showed that changes in inflation and interest rates did not cause an immediate impact on the economic activity, but other important factors still emerged—mainly political events in the country and around the world.

The regression analysis in the case of hypothesis H_{1C} revealed a medium strong relationship between the change in interest rate and the number of confirmed compulsory statements (Table 7). As with hypothesis H_{1b}, the Durbin-Watson statistics did not allow us to confirm the assumption about the residuals being uncorrelated.

The regression model was of good quality because the null hypothesis could be rejected at the significance level lower than 0.05 (Table 8).

The regression coefficient was statistically significantly different from zero at the significance rate lower than 0.05 (Table 9). The sign of the mentioned regression coefficient was positive, indicating that an increase in the interest rate effected an increase in confirmed compulsory settlements. Thus, hypothesis H_{1C} was not rejected.

Changes in the interest rate were thus indicated in the changes of GDP, but it was necessary to consider several years of delay—the same as in the event of changes in inflation. Although interest rates have decreased in recent years, no detectable larger scope of loans to companies and, thus, increases in economic activity could be identified in Slovenia. Banks have become extremely careful when granting loans to companies because of previous negative

Table 7. Description of the Model, Correlation Coefficient, Coefficient of Determination, and Durbin-Watson Test

Model summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.683[a]	0.467	0.413	14.186	0.760

Note: a. Predictors: (Constant), interest rate for loans of up to 1 million euro, variable and fixed interest rate of up to 1 year (in %)
b. Dependent Variable: confirmed compulsory settlements

Source: Authors' calculations, extracted from SPSS

Table 8. Analysis of Variance and the F-test

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1,761.759	1	1,761.759	8.754	0.014[b]
	Residual	2,012.491	10	201.249		
	Total	3,774.250	11			

Note: a. Dependent Variable: confirmed compulsory settlements
b. Predictors: (Constant), interest rate for loans of up to 1 million euro, variable and fixed interest rate of up to 1 year (in %)

Source: Authors' calculations, extracted from SPSS

Table 9. Regression Coefficient Values and the t-test

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	−33.673	23.985		−1.404	0.191
	Interest rate for loans of up to 1 million euro, variable and fixed interest rate of up to 1 year (in %)	11.164	3.773	0.683	2.959	0.014

Note: Dependent Variable: confirmed compulsory settlements

Source: Authors' calculations, extracted from SPSS

experiences. Stricter banking terms for the operation of companies have also hindered the operation of companies during compulsory settlements, causing many to declare bankruptcy. The decrease in interest rates resulted in a reduction in the number of confirmed compulsory settlements.

When checking hypothesis H_2, we used the multiple regression analysis, which revealed medium strong dependencies between the dependent and independent variables (Table 10). The multiple determination coefficient of determination was low and showed that only 24% of the total variance could be explained by the variability of independent variables. The Durbin-Watson test indicated no autocorrelation between the residuals of the sample because the value of the mentioned statistics was within the limits ($1.5 < d < 2.5$).

The significance level in the F-test was lower than the reference significance level of 0.05, indicating that the coefficient of determination was statistically different from zero and that the multiple regression function was of good quality (Table 11).

T-tests for individual regression coefficients demonstrated that the regression coefficients for the variables of company size and amount of repayment were statistically different from zero whereas, regarding working capital, we could not reject the null hypothesis that the regression coefficient was different from zero (Table 12). The larger the company and the higher the proposed repayment, the longer the deadline for the repayment of creditors in accordance with the proposal described in the financial restructuring plan. For

Table 10. Description of the Model, Multiple Correlation Coefficient, Multiple Coefficient of Determination, and the Durbin-Watson Test

Model summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.518[a]	0.268	0.240	0.16407	1.957

Note: a. Predictors: (Constant), logsize, loglevel, working capital/net revenue from sales
b. Dependent variable: logdeadline

Source: Authors' calculations, extracted from SPSS

Table 11. Analysis of Variance and the F-test

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.769	3	0.256	9.527	0.000[b]
	Residual	2.100	78	0.027		
	Total	2.869	81			

Note: a. Dependent variable: logdeadline
b. Predictors: (Constant), logsize, loglevel, working capital/net revenue from sales

Source: Authors' calculations, extracted from SPSS

Table 12. Regression Coefficient Values, t-tests, and Multicollinearity Test (VIF)

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.384	0.189		−2.031	0.046		
	Working capital/ net revenue from sales	4.741E-006	0.000	0.055	0.533	0.596	0.878	1.140
	loglevel	0.256	0.075	0.352	3.409	0.001	0.879	1.138
	logsize	0.078	0.027	0.300	2.860	0.005	0.850	1.176

Note: Dependent variable: logdeadline

Source: Authors' calculations, extracted from SPSS

the variable of working capital, we could not confirm that it affected the length of the deadline to repay the creditors, as proposed by the debtor. The presence of multicollinearity was checked with the factor of variance inflation, whereas the factor values were very low (close to 1), meaning that the independent variables were not strongly correlated among each other and the regression model was, thus, stable.

Hypothesis H_2 could be partially accepted, because we were unable to statistically confirm the effect of the independent variable of working capital on the dependent variable during the period for the repayment of creditors.

H_3 was checked with the discriminant analysis for two groups. The eigenvalue revealed that the obtained discriminant function did not allow for a good distinction between the group of companies with confirmed compulsory settlements and the group of companies with unconfirmed compulsory settlements (Table 13). The low eigenvalue indicated that the calculated discriminant function only captured 7.4% of the total variance of measured variables. The value of the canonical correlation also suggested that only 26.3% of the variation between groups could be explained with the discriminant function.

Poor differentiation between the groups was also indicated by the high Wilks' lambda value (Table 14). The high significance level in the chi-square test speaks in favor of the null hypothesis about the equality of average values of the discriminant function in groups, meaning that hypothesis H_3 was rejected because the discriminant function did not allow for a good distinction between the two groups.

Table 15 summarizes the standardized discriminant function coefficients, showing that—in the distinction between groups—the most important variable was the size of the company, followed by the capital coverage of long-term assets, on the basis of which the level of capital prior to filing a compulsory settlement and the level of working capital on the cut-off day before filing the proposal for a compulsory settlement were indicated (Table 15).

Hypothesis H_3 was rejected, because the calculated discriminant function was not of good quality. The reasons for

Table 13. Eigenvalues

Eigenvalues				
Function	Eigenvalue	% of variance	Cumulative %	Canonical correlation
1	0.074	100.0	100.0	0.263

Note: First, 1 canonical discriminant function was used in the analysis.
Source: Authors' calculations, extracted from SPSS

Table 14. Wilks' Lambda and Chi-square Test

Wilks' lambda				
Test of function(s)	Wilks' lambda	Chi-Square	df	Sig.
1	0.931	5.534	5	0.354

Source: Authors' calculations, extracted from SPSS

Table 15. Standardized Discriminant Function Coefficients

Standardized Canonical Discriminant Function Coefficients	
	Function
	1
Working capital/net revenue from sales	0.325
coefficient of coverage of long-term assets = capital/long-term assets	0.663
logsize	-0.762
loglevel	0.158
logdeadline	0.304

Source: Authors' calculations, extracted from SPSS

the poor quality of the calculated discriminant function can be attributed to the violation of the basic assumptions on which the discriminant analysis is based. These violations are (Marinšek, 2015, p. 95):

– the units in each group are not selected at random because there are no data available for the entire statistical set;
– not all independent variables are distributed normally; and
– there is multicollinearity between independent variables.

The discriminant function did not allow for a good distinction between the groups, which resulted from the fact that the distinction between companies with confirmed compulsory settlement and the companies with unconfirmed compulsory settlement was also affected by factors not included in the discriminant analysis. These factors of agreement mostly occurred with the creditors seeking to restructure their claims and communicate with stakeholders and the psychological aspect of solving the crisis in the company. Due to the difficult measurability of these factors, the latter had to be left out of the implementation of the discriminant analysis, and their effects on the course of the procedure of compulsory settlement were discussed when checking the hypotheses with the quality research methods.

The qualitative research method of a case study was used to analyze six Slovenian companies that have successfully undergone the compulsory settlement procedure. Among them, three companies also finally repaid their creditors in accordance with the proposed compulsory settlement. An analysis of the focus group of companies showed that the successful implementation of a compulsory settlement requires an agreement with the secured creditors on the restructuring of their claims, conversion of creditors' claims in equity shares of the company, business restructuring, and communication among all stakeholders of the company. Case studies have shown that all companies for which banks acted as secured creditors entered into an agreement with these banks on the restructuring of their claims within the meaning of a moratorium on the repayment of the principal and control of the amount of the annual interest rate. Ownership restructuring was also carried out in the analyzed companies, either with the conversion of debts into the share capital of the company during the compulsory settlement procedure and/or recapitalization after the compulsory settlement. At the same time, business restructuring measures were implemented in all companies and are still being implemented, thereby ensuring that the company releases its potential for further development while eliminating the causes of insolvency in the long term. Hypothesis H_4 was confirmed.

Given that companies' decision-makers do not always follow the principle of rationality, but often operate emotionally, the psychological aspect of crisis management in the company and the communication among their stakeholders are extremely important factors in the successful completion of the compulsory settlement. During the compulsory settlement procedure, numerous conflicts arose in all the analyzed companies, either between the management and the creditors or between the owners and the creditors or even among all the stakeholders. An important observation was that conflicts were promptly resolved with good communication, which enabled the successful implementation of the procedure. Hypothesis H_5 was confirmed.

Discussion

Manavald (2010), Halim et al. (2008), Gaffeo and Santoro (2009), Archambault and Laverdière (2005), Moravec (2010), Sharabany (2004), Kaplin et al. (2009), and many other researchers have established a link between the change in the macroeconomic indicators and the number of insolvency procedures around the world. When checking the partial hypotheses H_{1a}–H_{1c}, we found that the macroeconomic indicators also affected the number of confirmed compulsory settlements. Despite the fact that hypothesis H_{1a} was rejected, the regression analysis indicated a strong link between changes in GDP and the number of compulsory settlements. The regression analysis of changes in GDP and the number of confirmed compulsory settlements for the 2001–2008 period also confirmed the negative correlation; thus, we can draw parallels between our findings and those of other authors. The regression analysis of changes in GDP and the number of confirmed compulsory settlements for the 2009–2014 period revealed that the economic crisis strongly affected the relationship between GDP and the number of confirmed compulsory settlements. In his book, Krugman (2012, p. 40) discussed the so-called Minsky moment that supports our findings. Krugman described the economic situation in which over-indebted subjects are forced to sell their property to pay their liabilities, which causes a fall in real estate prices and a sharp decline in market liquidity. At the same time, it indicates that the deleveraging cannot bring economic growth, but only deepens the crisis, which induces an increase in the number of bankrupt companies. Sun (2010), Constantini (2009), and Sengupta and Faccio (2011) established a link between the size of the company and the success of financial restructuring. Large companies are in a better negotiating position, so they may propose a longer period to repay their creditors. Regarding the level of working capital, the case is therefore exactly the opposite of that with the size of company and the amount of repayment: The more working capital that is available in the company during a compulsory settlement, the more likely the financial restructuring will be successful with a shorter period to repay the creditors.

A qualitative analysis of selected companies revealed that several factors are essential for a confirmed compulsory settlement as well as the consequent final repayment of creditors and the long-term rehabilitation of the company—namely, an agreement between the debtor as well as the ordinary and secured creditors about the restructuring of their claims (financial restructuring), the conversion of claims into equity shares or the acquisition of management by the creditors (ownership restructuring), and the implementation of business restructuring measures. Our findings support the basic thesis established at the beginning of the research. Financial, ownership, and business restructuring efforts are crucial for long-term crisis resolution in the company and the resolution of insolvency. A successfully implemented compulsory settlement is only possible if the restructuring measures are carried out in the company on all three of these levels, otherwise it is very likely that the process will fail sooner or later.

Conclusions

Our research could form the basis for the formulation of recommendations for the management of companies and the formation of an appropriate economic policy in the field of support for successfully restructuring companies. By defining the basic factors for successfully rescuing companies through compulsory settlement, we also opened many new issues and ideas for further investigation. Our research showed that the psychological aspect of solving the crisis is an extremely important factor as well, but it is often ignored in economic sciences. Therefore, it would be reasonable to extend the research in the direction of an in-depth analysis of the psychological factors, which are important for solving crises in companies. In the next phase, each factor could be researched in more detail individually or in groups, depending on the type of restructuring. As rescuing a company in crisis requires interdisciplinarity, the compulsory settlement procedure could also be discussed from other aspects—for example, as a compulsory settlement procedure from the legislative aspect alone and, thus, as the constituting of proposals for improving the Slovenian insolvency legislation. It would also be very interesting to perform a more detailed analysis of the impact of the Slovenian banking system in solving a company crisis. Further research could also be performed in the direction of the annual collection of data on successfully executed, finished compulsory settlements. These data could later form the basis for the performance of statistical analyses, such as with a discriminant analysis, to help us analyze the key differences between companies that ended in bankruptcy and those that successfully restructured during the compulsory settlement process.

References

Archambault, R., & Laverdière, D. (2005). A macroeconomic model for analysing and forecasting levels of business and consumer insolvency in Canada. *Economic Information and Analysis Office of the Superintendent of Bankruptcy Industry Canada*. Retrieved from http://www.ic.gc.ca/eic/site/bsf-osb.nsf/vwapj/macroeconomicmodelforanalysingandforecastinginsolvency.pdf/$file/macroeconomicmodelforanalysingandforecastinginsolvency.pdf

Armour, J. (2003). *Financing innovation: The role of insolvency law*. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.196.260

Ayotte, K., & Skeel Jr., D. A. (2009). Bankruptcy or bailouts? *Journal of Corporation Law, 35*(3), 469–498. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1362639 https://doi.org/10.2139/ssrn.1362639

Back, B., Laitinen, T., Sere, K., & Wezel, M. (1996). Choosing bankruptcy predictors using discriminant analysis, logit analysis, and genetic algorithms. *Turku Centre for Computer Science, 40*. Retrieved from http://intes-group.narod.ru/books/choosing_predictors.pdf

Baird, D. G. (1997). *The hidden virtues of chapter 11: an overview of the law and economics of financially distressed firms*. Coase-Sandor Working Paper Series in Law and Economics (Working Paper No. 43). Retrieved from http://www.law.uchicago.edu/files/files/43.Baird_.Chapter11.pdf.

Berk, A., Peterlin, J., & Ribarič, P. (2005). *Obvladovanje tveganja: skrivnosti celovitega pristopa*. Ljubljana: GV Založba.

Branch, B., & Xu, M. (2008). *The power of Z-score to predict the post-bankruptcy performance*. Retrieved from http://www.fma.org/Texas/Papers/ThePowerofZScoretoPredictthePostbankruptcyPerformance2008.pdf

Brunner, A., & Pieter Krahnen, J. (2001). *Corporate debt restructuring: Evidence on lending coordination in financial distress*. Financial Economics (Discussion Paper No. 3030). Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=290388

Clowry, K. (2008). Debt-for-equity swaps. *Globe Law and Business,* 27–58. Retrieved from http://www.globelawandbusiness.com/rw/sample.pdf

Constantini, J. A. (2009). *Effects of bankruptcy procedures on firm restructuring: Evidence from Italy* (Draft Working Paper). Retrieved from http://www.insead.edu/facultyresearch/faculty/personal/jcostantini/research/documents/james_costantini_bankruptcy_italy.pdf

Davydenko, S. A., & Franks, J. R. (2006). *Do bankruptcy codes matter? A study of defaults in France, Germany and the UK* (Finance Working Paper No. 89/2005). Retrieved from http://papers.ssrn.com/sol3/papers.cfm?Abstract_id=647861

Dubrovski, D. (2004). *Krizni management in prenova podjetja*. Koper: Fakulteta za management Koper.

Franks, J., & Sussman, O. (2003). Financial distress and bank restructuring of small to medium size UK companies. *Review of Finance, 9*(1), 65–96. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?Down=10.1.1.319.3964&Rep=rep1&type=PDF https://doi.org/10.1007/s10679-005-2988-8

Fuller, W. (1940). The background and techniques of equity and bankruptcy railroad reorganizations—survey. *Law and Contemporary Problems, 7*(3), 377–392. Retrieved from http://scholarship.law.duke.edu/cgi/viewcontent.cgi?Article=2026&context=LCP https://doi.org/10.2307/1189700

Gaffeo, E., & Santoro E. (2009). Business failures, macroeconomic risk and the effect of recessions on long-run growth: a panel cointegration approach. *Journal of Economics and Business, 61*(6), 435–452. Retrieved from http://www.econ.ku.dk/esantoro/images/bankruptcy_sg.pdf https://doi.org/10.1016/j.jeconbus.2009.05.001

Halim, A., Mohd Daud, S. N., Rizal Mazlan, A., & Marzuki, A. (2008). Macroeconomic determinants of corporate failures in Malaysia. *International Journal of Business and Management, 3*(3), 3–10. Retrieved from http://www.ccsenet.org/journal/index.php/ijbm/article/view/1621

Heine, M. L. (2000). Predicting financial distress of companies: Revisiting the Z-score and ZETA models. Adapted and updated from E. Altman, "Financial ratios, discriminant analysis and the prediction of corporate bankruptcy." *Journal of Finance*, *September*. Retrieved from http://pages.stern.nyu.edu/~ealtman/predfncldistr.pdf

Huang, J.-C., & Huang, C.-S. (2009). Bank relationships and firm private debt restructuring: a duration analysis. *Banks and Bank Systems, 4*(2), 38–47. Retrieved from http://businessperspectives.org/journals_free/bbs/2009/bbs_en_2009_2_huang.pdf

Kaplin, A., Levy, A., Qu, S., Wang, D., Wang, Y., & Zhang, J. (2009). The relationship between default risk and interest rates: and empirical study. *Moody's Analytics, October*. Retrieved from http://www.moodysanalytics.com/~/media/Insight/Quantitative-Research/Portfolio-Modeling/09-10-02-Default-and-Interest-Rates.ashx

Kotnik, T. (2014). Polomije prisilnih poravnav. *Finance, 70*. Retrieved from http://www.finance.si/8800163

Krugman, P. (2012). *Ustavimo to krizo takoj!.* Ljubljana: Modrijan.

Levine, R. (1998). The legal environment, banks, and long-run economic growth. *Journal of Money, Credit and Banking, 3*(3), 596–613. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?Abstract_id=88888 https://doi.org/10.2307/2601259

Lubben, S. J. (2004). Out of the past: Railroads & sovereign debt restructuring. *Georgetown Journal of International Law* (Draft for Presentation at Georgetown Symposium on sovereign debt restructuring). Retrieved from http://papers.ssrn.com/sol3/papers.cfm?Abstract_id=506122

Manavald, P. (2010). Economic crisis and the effectiveness of insolvency regulation. *Juridica International, 17*, 207–216. Retrieved from http://www.juridicainternational.eu/public/pdf/ji_2010_1_207.pdf

Marinšek, D. (2015). *Multivariatna analiza: Zbirka rešenih primerov s komentarji*. Ljubljana: Ekonomska fakulteta v Ljubljani, Založništvo.

Moravec, T. (2010). *The bankruptcy in the Czech Republic—influence of macroeconomic variables.* Retrieved from http://www.slu.cz/su/opf/cz/informace/acta-academica-karviniensia/casopisy-aak/aak-rocnik-2013/docs-3-2013/Moravec.pdf

Ohlson, J. A. (1980). Financial ratios and the probabilistic prediction of bankruptcy. *Journal of Accounting Research, 18*(1), 109–131. Retrieved from http://www.jstor.org/stable/2490395?seq=1#page_scan_tab_contents https://doi.org/10.2307/2490395

Pearson, C. M., & Clair, J. A. (1998). Reframing crisis management. In A. Boin (Ed.), *Crisis management* (Vol. II). London: Sage. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=DDCD3D04A2D63806FBBAAA82818B5778?doi=10.1.1.460.7005&rep=rep1&type=pdf https://doi.org/10.5465/amr.1998.192960

Pindado, J., Rodrigues, L., & de la Torre, C. (2008). How do insolvency codes affect a firm's investment? *International Review of Law and Economics, 28*(4), 227–238. Retrieved from http://xiforofinanzas.ua.es/trabajos/1056.pdf https://doi.org/10.1016/j.irle.2008.08.001

Plavšak, N. (2011). *Odločanje upnikov o spremembi osnovnega kapitala v postopku prisilne poravnave. Aktualna vprašanja insolvenčnega prava: 3. Strokovno srečanje, Hotel Golf, Bled, 1. in 2. December 2011.* Ljubljana: GV Založba.

Senbet, L. W., & Seward, J. K. (1995). Financial distress, bankruptcy and reorganization. *Handbooks in Operations Research and Management Science, 9*, 921–961. Retrieved from http://www.rhsmith.umd.edu/faculty/lsenbet/lemmas%20papers/Financial%20Distress,%20Bankruptcy%20and%20Reorganization.pdf https://doi.org/10.1016/S0927-0507(05)80072-6

Sengupta, R., & Faccio, M. (2011). Corporate response to distress: Evidence from the Asian financial crisis. *Federal Reserve Bank of St. Louis Review, 93*(2), 127–154. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.204.6669&rep=rep1&type=pdf

Sharabany, R. (2004). *Business failures and macroeconomic risk factors* (Bank of Israel Discussion Paper No. 2004.06). Retrieved from http://www.bankisrael.gov.il/deptdata/mehkar/papers/dp0406e.pdf

Stanišić, N., Mizdraković, V., & Knežević, G. (2013). Corporate bankruptcy prediction in the Republic of Serbia. *Industrija, 40*(4), 145–159. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2368763

Succurro, M. (2008). *Bankruptcy systems and economic performance across countries: some empirical evidence* (Working Paper No. 200801). City: Universita della Calabria. Retrieved from http://econpapers.repec.org/paper/clbwpaper/200801.htm

Sun, L. (2010). *The effects of client size and stress criteria on bankruptcy prediction models: An empirical analysis*. Retrieved from https://www.google.si/search?q=The+Effects+of+Client+Size+and+Stress+Criteria+on+Bankruptcy+Prediction+Models:+An+Empirical+Analysis-&ie=utf-8&oe=utf-8&rls=org.mozilla:sl:official&client=firefox-a&channel=sb&gws_rd=cr&ei=JmNeU_G8CYHpywPIt4D4AQ

Šinkovec, J., & Škerget, D. (1999). *Zakon o finančnem poslovanju z uvodnimi pojasnili in zakon o prisilni poravnavi, stečaju in likvidaciji s komentarjem*. Ljubljana: Založniška hiša Primath.

Tarantino, E. (2009). *Bankruptcy law and corporate investment decisions* (TILEC Discussion Paper No. 2009-040). Retrieved from http://arno.uvt.nl/show.cgi?fid=96696

ZFPPIPP. (2014). Financial operations, insolvency proceedings and compulsory dissolution act—official consolidated text—UPB8—ZFPPIPP. Official Gazette of the RS, 13/2014. Retrieved from http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO4735

Authors

Marjeta Zorin Bukovšek is a Ph.D. student at the Faculty of Economics and Business in Maribor. She graduated in 2009 with the help of her mentor, Professor Jani Bekő, Ph.D. In 2011, she successfully defended her master's thesis with Professor Borut Bratina, Ph.D. In her master's thesis, entitled *Financial restructuring of a company with compulsory settlement*, she familiarized herself with the field of commercial law, more specifically with insolvency proceedings. She works as an assistant director in the consulting company Zo-fing d.o.o., which mainly operates in the field of insolvency proceedings and crisis management.

Borut Bratina holds a Ph.D. in law and works as an associate professor at the Faculty of Economics and Business (Maribor University) in the Department of Business and Company Law. In 1980 he graduated from the Faculty of Law in Ljubljana and the School of Economics and Commerce in Maribor. He earned his M.Sc. in law after completing post-graduate studies at the Faculty of Law in Ljubljana in 1987 and his Ph.D. in law in 1997 from the Faculty of Law in Maribor.

Polona Tominc, PhD, is a professor in the Department of Quantitative Economic Analysis at the Faculty of Economics and Business, University of Maribor. Her research is focused on statistical methods in economics, especially in the field of entrepreneurship and gender differences. She teaches statistics, quantitative research methods and methodology within the entrepreneurial research. She has participated in more than 30 scientific and professional conferences, is the author of various chapters in books and articles in scientific and professional journals, and has published in Slovenia and abroad. She is participating in the DIANA network analyzing female entrepreneurship and is a team member of GEM Slovenia and the Slovenian entrepreneurship observatory research team.

Analiza dejavnikov uspešno izvedene prisilne poravnave

Izvleček

V Sloveniji se veliko podjetij poskuša izogniti stečaju z uvedbo postopka prisilne poravnave, vendar le peščica od njih prisilno poravnavo uspešno zaključi v smislu dokončnega poplačila upnikov s skladu s sprejetim načrtom finančnega prestrukturiranja. V članku smo opredelili tiste dejavnike, ki vplivajo na potrditev prisilne poravnave, in tudi tiste, ki vplivajo na dokončno poplačilo upnikov in s tem trajno odpravo vzrokov insolventnosti. Dejavnike smo razdelili na notranje in zunanje, njihov vpliv na uspešno dokončano prisilno poravnavo pa preverili s kvantitativnimi in kvalitativnimi metodami raziskovanja.

Ključne besede: prisilna poravnava, insolventnost, načrt finančnega prestrukturiranja, poslovno prestrukturiranje, lastniško prestrukturiranje

Moderating Effects between Job Insecurity and Intention to Quit in Samples of Slovene and Austrian Workers

Paul Jiménez
Department of Psychology, University of Graz, Austria
paul.jimenez@uni-graz.at

Borut Milfelner
Faculty of Economics and Business, University of Maribor, Slovenia
borut.milfelner@uni-graz.at

Simona Šarotar Žižek
Faculty of Economics and Business, University of Maribor, Slovenia
simona.sarotar-zizek@um.si

Anita Dunkl
Department of Psychology, University of Graz, Austria
anita.dunkl@uni-graz.at

ORIGINAL SCIENTIFIC PAPER

RECEIVED: OCTOBER 2016

REVISED: DECEMBER 2016

ACCEPTED: JANUARY 2017

DOI: 10.1515/ngoe-2017-0003

UDK: 331.4:159.944.4

JEL: J28, J81

Citation: Jiménez, P., Milfelner, B., Šarotar Žižek, S., & Dunkl, A. (2017). Moderating Effects between Job Insecurity and Intention to Quit in Samples of Slovene and Austrian Workers. *Naše gospodarstvo/Our Economy, 63*(1), 27–37. DOI: 10.1515/ngoe-2017-0003

Abstract

Job insecurity is a serious stressor in the work environment, with negative work-related outcomes. The effects of job insecurity strongly depend on the country's economic condition. The present study investigated the relationship among job insecurity, job satisfaction, and the intention to quit as well as possible mediating variables (resources/recovery and stress). The samples of 251 Slovene and 219 Austrian workers were analyzed. The data indicated that job insecurity is related to higher stress and intention to quit as well as to lower resources/recovery at the workplace. Stress is an important mediator in the relationship between resources/recovery and job satisfaction as well as intention to quit. These relationships were found in both samples.

Key words*:* intention to quit, job insecurity, job satisfaction, resources, recovery, stress

Introduction

When the global financial crisis hit Europe in 2008, many countries suffered from significant labor market changes. The effects are still visible years later, such as having high unemployment rates in the countries most affected by the crisis. According to Anderson and Pontusson (2007), these critical labor market conditions seem to be related to a higher fear of losing one's job, a higher experience of stress, and lower job satisfaction (JS).

The fear of losing one's job (i.e., job insecurity [JI]) and its negative effects on work-related outcomes have been repeatedly studied in the past. However, in

NG
OE

NAŠE GOSPODARSTVO
OUR ECONOMY

Vol. 63 No. 1 2017

pp. 27–37

these studies, JI has mostly been operationalized as different employment types, such as fixed or temporary contracts (de Cuyper & De Witte, 2009; Rigotti, de Cuyper, De Witte, Korek & Mohr, 2009). These different employment types do not automatically reflect employees' work environment, and relationships with work-related outcomes might show contradictory results (Silla, Gracia, & Peiró, 2005). These negative effects of JI on work-related outcomes appear to depend strongly on the economic conditions of the country. Studies have shown that, in countries with worse macroeconomic factors, the negative relationship between JI and JS as well as commitment is stronger (De Witte & Näswall, 2003).

In addition to JS, intention to quit has been frequently used as an outcome variable of JI. Our study extends previous research on the JI–intention to quit relationship in several ways. First, we examine stress, resources/recovery and JS simultaneously as mediating factors between JI and intention to quit. To our knowledge, including stress, resources/recovery, and JS simultaneously as moderators has not yet been done in research about job insecurity and intention to quit. Second, we investigate the effects of JI in two countries with different economic conditions: Austria and Slovenia. Although geographically neighbors, Austria and Slovenia differ significantly in terms of their cultural past and economy. Slovenia in particular suffered from the great recession in 2009, where unemployment rates increased strongly. As job insecurity is especially dependent on the economic condition of the country, we aim to investigate if the proposed structure among job insecurity, intention to quit, and moderating variables (JS, stress, and resources/recovery) differ in countries with different economic conditions.

Theoretical Background

Job insecurity and outcomes. JI is described as experiencing a discrepancy between the preferred and the perceived level of security at the workplace—more specifically, the "perceived threat of job loss and the worries related to that threat" (De Witte, 2005, p. 1). JI can be differentiated between cognitive JI and affective JI (Anderson & Pontusson, 2007; Sverke & Hellgren, 2002). The cognitive component of JI refers to the individual's estimated probability of job loss in the near future. The affective component describes the worry or fear of job loss.

Another distinction has to be made between subjective self-perceived JI and objective indicators of insecurity (Erlinghagen, 2008; De Witte & Näswall, 2003). The first refers to the individual's subjective feeling of insecurity about keeping the job in the future. The latter is the result of economic conditions that are likely to influence the individual's perception of JI, such as organizations' downsizing strategies, or a critical economic situation indicated by high levels of unemployment and bad labor market situation (Anderson & Pontusson, 2007; Erlinghagen, 2008). Critical labor market conditions and high unemployment rates seem to be highly connected with subjective JI: Anderson and Pontusson (2007) showed in their study that employees in countries with high levels of unemployment (e.g., Spain or Portugal) are more likely to experience JI, whereas the lowest subjective JI can be found in Scandinavian countries. These results indicate that labor market conditions seem to be a powerful predictor for JI.

JI is seen as an especially harmful stressor that affects well-being at the workplace, as this stressor includes uncertainty and uncontrollability. Therefore, it is difficult for the individual to react adequately to the stressor with the appropriate coping strategy, which in turn leads to feelings of anxiety and lower well-being (Sverke, Hellgren, & Näswall, 2002). One theory that explains the negative outcomes of JI is the psychological contract theory (Rousseau, 1995). According to this theory, the employer and the employee perceive a mutual obligation to each other (e.g., a psychological contract). Within this contract, the loyalty of the employee is exchanged with the security of the employer. If the employer can no longer guarantee security, employees will perceive this as a violation of the psychological contract, which has consequences for the well-being and commitment of employees (De Witte, 2005; Schreurs, Emmerik, Notelaers, & De Witte, 2010).

JI seems to be negatively associated with JS and physical health, and positively associated with stress and burnout (Bosman, Rothmann & Buitendach, 2005; De Cuyper & De Witte, 2007; Reisel, Probst, Chia, & König, 2010). In other studies, JI is positively associated with a higher need for recovery, which indicates a lack of recovery and health problems (Schreurs et al., 2010). In addition, employees who worry about losing their job have a higher intention to quit their job (Stiglbauer, Selenko, Batinic, & Jodlbauer, 2012).

JS and intention to quit. Büssing, Bissels, Fuchs, and Perrar (1999) describe JS as a comparison between the current work situation and the aspiration level, which can lead to different forms of JS. In the cybernetic model of job satisfaction (Jiménez, 2006), JS is seen as either an outcome or a causing variable. The major goal in this model is to obtain a homeostatic condition for satisfaction. Similar to Büssing et al. (1999), JS is described as the result of the comparison of the current state of JS with the aspiration level. This comparison is also influenced by expected changes in time (e.g., a person expects that the working conditions will improve). Specifically, JS can be regulated by the subjective expectation of the future, and these future expectations can predict

behaviors (Jiménez, Dunkl, & Stolz, 2015). If JS is low and the future JS is negative, the employees might use coping strategies such as inner withdrawal or having the intention to leave the organization.

Van Dick et al. (2004) explained the link between JS and intention to quit with the social identity approach and self-categorization theory by Haslam, Jetten, Postmes, and Haslam (2009). They argued that satisfied co-workers link their own future to the organization's future. Thus, quitting the organization would be counterproductive.

JS and intention to quit can be outcomes of JI. In De Witte and Näswall's (2003) study, four countries with different economic conditions were investigated regarding the relationship between subjective JI and JS and commitment. The findings indicated that, in countries with stable economic conditions (i.e., Sweden and the Netherlands), the relationship between JI and JS/commitment was lower than in countries with unstable economic conditions (i.e., Belgium and Italy).

Resources/recovery-stress state and its relationship with JS and intention to quit. The resources/recovery-stress state refers to processes of stress, resources, and recovery and not solely on recovery activities or stress symptoms (Kallus, 2016). According to the model of resources/recovery-stress balance, a balance is achieved "when the depleted resources during stress episodes are adequately restored in the recovery phases" (Kallus, 2016, p. 41). This interplay among stress, resources, and recovery is rarely addressed explicitly in traditional stress theories. However, many researchers highlight the importance of including recovery in stress research (Sonnentag, Mojza, Demerouti, & Bakker, 2012; Zijlstra, Cropley, & Rydstedt, 2014). The combination of recovery and resources at the workplace is discussed very rarely. The concepts of resources and recovery can be seen as almost interchangeable in the work-related context, as recovery at work can be referred to restoring work-related resources (Jiménez, Dunkl, & Kallus, 2016). The important role of resources/recovery becomes especially apparent if we include organizational outcomes such as intention to quit in the stress–recovery relationship. Research shows that resources/recovery are negatively related to intention to quit, and this relationship is fully mediated by stress (Bakker, Demerouti, & Euwema, 2005; Jiménez, Dunkl, & Peißl, 2016). This result supports the assumption of the model of resources/recovery–stress balance, where recovered resources potentially buffer negative effects of demands by reducing stress.

Differences between Austria and Slovenia. A critical economic situation is highly related with the individual perception of JI and might have different effects on JS and intention to quit. In the present paper, we focus on Austria and Slovenia as they differ significantly in terms of cultural past and economy.

Slovenia was the most developed Yugoslav republic that gained its independence in June 1991 and developed many business ties with Western Europe even prior to the transition period (Gligorov, 2004). When the great recession hit the global capitalist economy in 2008 and 2009, the Slovene economy experienced a decrease of exports by 16.1% in 2009 and a devastating decline in economic growth. The gross domestic product (GDP) per capita was 29.95 in 2008, 27.59 in 2010, and 26.91 in 2012 (OECD, 2015). The debt crisis that followed was a logical outcome of the recession and the crisis rooted in the corporate sector. The government debt reached 35.1% of GDP in 2010, 38.7% in 2011, 47.1% in 2012, and 54.4% in 2013 (overview by Furlan, 2014). Unemployment rates were 4.4% in 2008 (year of the crisis) and rose to 7.2% (2010) and 8.8% (2012), leading to higher employment rates than the OECD average (OECD, 2015).

In Austria, the GDP per capita is higher than in Slovenia and much more stable, being 42.91 in 2008, 41.88 in 2010, and 43.04 in 2012. Austria's unemployment rates also proved to be rather stable: 4.1% in 2008 and 5.2% in 2010 and 2012 (OECD, 2015). Austria and Slovenia also differ regarding the inhabitants' well-being. In Arechavala, Espina, and Trapero's (2015) study, the quality of life in 27 EU countries was investigated in 2007 (before the economic crisis) and in 2011. This quality-of-life indicator consisted of components such as income, health, society, physical environment, safety and education. In both years, the Austrian population had a much higher quality of life (ranking 7 and 5) than the Slovene population (ranking 11 and 12), further supporting the assumption that Austrians experience better economic conditions than Slovenes and that economic conditions influence life quality.

Hypotheses. JI has numerous negative outcomes, such as lower JS and resources/recovery, as well as higher stress and intention to quit. Therefore, we propose the following hypotheses:

H1: Job insecurity is positively related to stress.

H2: Job insecurity is negatively related to resources/recovery.

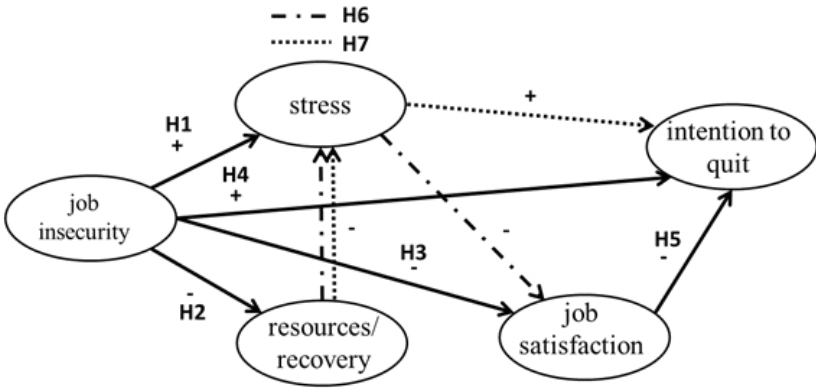
H3: Job insecurity is negatively related to job satisfaction.

H4: Job insecurity is positively related to intention to quit.

Referring to past research, JS and intention to quit are linked. Therefore, we add the following hypothesis:

H5: Job satisfaction is negatively related to intention to quit.

Figure 1. Hypothesized model



According to the model of resources/recovery–stress balance, we propose that stress can be seen as an important mediator between resources/recovery and JS as well as intention to quit. All proposed relationships are depicted in Figure 1.

H6: Stress mediates the positive relationship between resources/recovery and job satisfaction.

H7: Stress mediates the negative relationship between resources/recovery and intention to quit.

In compliance with the literature, a critical economic situation is highly related with the individual perception of JI. Therefore, we propose that, in a country with a worse economic situation (Slovenia), the effects of JI will be stronger than in a country with a stable economic situation (Austria).

H8: The impairing effects of job insecurity on stress, recovery/resources, job satisfaction and intention to quit (H1–H4) will be stronger in Slovenia than in Austria.

Method

Sample and procedure. Austrian and Slovene workers were invited to participate in an online study. The data were collected in cooperation with a well-known German market research company[1] in 2012 by sending out e-mails to Austrian and Slovene workers. As we aimed to obtain a working population for our analyses, two requirements for participation were set. Participants who did not fulfill the requirements of (i) working at least 10 hours per week and (ii) having colleagues at work were excluded from participating in the study. Using this selection method, a sample of 219 Austrian and 251 Slovene participants was acquired.

Austrian sample. Of the 219 employees, 46.6% were male and 53.4% were female. Furthermore, 30.6% were 30 years or younger, 26.5% were between 31 and 40 years, 23.7% were between 41 and 50 years old, and 19.2% were older than 50 years. The majority of participants (78.1%) worked full-time or more, while the rest (21.9%) worked part-time. The participants worked in different industrial sectors, most of them in manufacturing (11.3%), health care (10.8%), telecommunications, (10.8%) and the public sector (8.4%).

Slovene sample. Of the 251 employees, 45% were male and 55% were female. In terms of age, 19.9% were 30 years or younger, 43% were between 31 and 40 years, 23.5% were between 41 and 50 years old, and 13.5% were older than 50 years. Nearly all of the participants (96.8%) worked full-time; only 3.2% worked part-time. The participants worked in different industrial sectors, including manufacturing (20.1%), public sector (14.9%), commerce/trades (8.8%), and telecommunication (8%).

Measures.

Job insecurity. JI was measured with one item: "I am afraid to lose my current job." The answer scale ranged from 1 (no) to 4 (yes).

Job satisfaction. Several aspects of JS were measured with the screening version of the Profile Analysis of JS (PAJS-SC, Jiménez, 2008). The items were written in keywords (e.g., "Satisfaction with… having a demanding job"). The 16 items were answered on a 5-point Likert scale ranging from

[1] Data were collected within the project "culture4leadership" funded by the state of Styria within the "grenz-frei" framework.

1 (dissatisfied) to 5 (very satisfied). The items were categorized into three dimensions—task-related JS, social JS, and organizational JS—and could be combined to one JS score.

Stress and resources/recovery. Stress and resources/recovery at the workplace were measured using the Recovery-Stress-Questionnaire for Work (RESTQ-Work-55, Jiménez & Kallus, 2016). This questionnaire addresses different aspects of stress, resources, and recovery in the preceding seven days/nights. The 55 items can be assigned to 7 sub-dimensions: social emotional stress, performance(-related) stress, loss of meaning/burnout, general recovery, leisure/breaks, psychosocial recovery, and work-related recovery. These dimensions can be further classified as total stress and total resources/recovery. One example item for a resources/recovery activity is "In the past 7 days and nights… I was able to relax during my breaks." The answer scale ranged from 0 (never) to 6 (always).

Intention to quit. The intention to quit scale (I2Q, Jiménez, 2002) measured the intention to leave the organization with three items: (1) The thought of looking for a new job already entered my mind, (2) I would prefer working in a different business, and (3) I have already looked for another job. The answer scale was evenly divided from 1 (no), 2 (rather no than yes), 3 (rather yes than no), to 4 (yes).

All questionnaires were translated into Slovene by three translators using a high-quality translation process. Aspects like cultural norms or other cultural specifics were considered in the translation of the questionnaire.

Analysis. A confirmatory factor analysis (CFA) using structural equation modelling (SEM) with the maximum likelihood method of estimation was performed. In order to simplify the structures, second order constructs for JS, stress, and resources/recovery were recalculated to second-order latent constructs. For intention to quit, first-order latent constructs were entered in the structural model. JI (one item) was entered as a manifest variable. For the analyses, SPSS 22.0 and AMOS 21.0 were used.

Results

Item analysis, reliability and validity of the measures. Means, standard deviations, and reliability estimates (Cronbach's alpha) for all scales, separately for the Austrian and Slovene sample, are shown in Table 1. All correlations are shown in Table 2. The convergent validity, discriminant validity, and reliability were assessed for all constructs with an exploratory factor analysis (Table 3). All factor loadings were higher than .60, and the average variance extracted (AVE) exceeded .50 for all latent variables, indicating convergent validity. Composite reliability (CR) was higher than .80 for all constructs, indicating good reliability. Discriminant validity was achieved, as all AVE for the latent

Table 1. Means, Standard Deviations, Internal Consistencies (Cronbach's α) among All Study Scales for the Austrian and Slovene Samples

		Austria			Slovenia		
No.	Dimension	Mean	SD	α	Mean	SD	α
1	JI	1.94	1.02	-	2.14	1.11	-
2	JS	3.57	0.87	.96	3.24	0.79	.94
3	Stress	2.02	1.19	.94	2.12	1.07	.92
4	Resources/recovery	3.28	0.99	.81	3.26	0.96	.85
5	Intention to Quit	2.10	0.98	.86	2.51	1.06	.88

Note: Austria N = 219 and Slovenia N = 251; Cronbach's α cannot be obtained for JI (single-item)

Table 2. Correlations among All Study Scales for the Austrian (lower left) and Slovene (upper right) Samples

No.	Dimension	1	2	3	4	5
1	JI		-.25**	.30**	-.31**	.28**
2	JS	-.25**		-.48**	.53**	-.48**
3	Stress	.28**	-.61**		-.46**	.35**
4	Resources/recovery	-.25**	.59**	-.53**		-.29**
5	Intention to Quit	.22**	-.60**	.50**	-.39**	

Note: ** correlation significant ($p < .01$)

Table 3. Indicators' Means, Standard Deviations, Loadings, Composite Reliabilities (CR), and Average Variances Extracted (AVE) for the Joint Sample

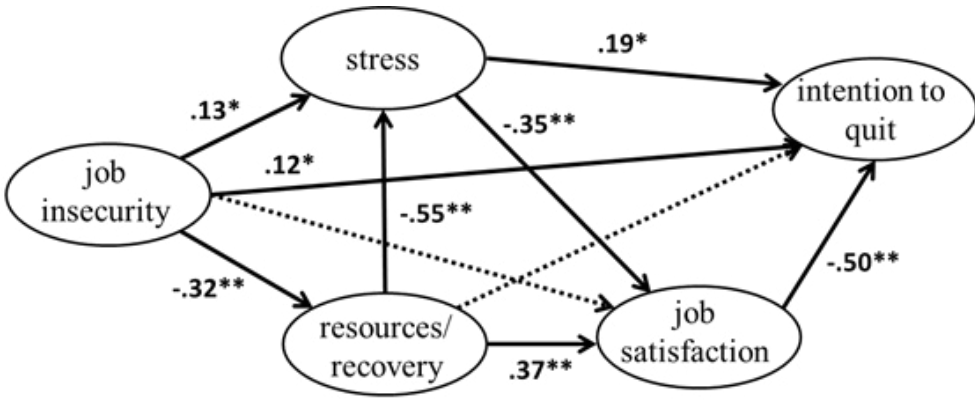
Latent variable	Manifest variables	Mean	SD	Loading (lambda)	CR	AVE
JI	I am afraid to lose my current job	2.04	1.07	1.00	n/A	n/A
JS	Task-related JS	3.46	0.87	0.92	0.89	0.73
	Social JS	3.55	0.99	0.76		
	Organizational JS	3.12	0.94	0.87		
Stress	Social emotional stress	2.10	1.26	0.90	0.93	0.81
	Performance(-related) stress	2.13	1.15	0.91		
	Loss of meaning/burnout	2.00	1.22	0.89		
Resources/ recovery	Overall recovery	3.41	1.01	0.88	0.84	0.57
	Leisure/breaks	3.05	1.16	0.70		
	Psychosocial recovery	3.32	1.29	0.69		
	Work-related recovery	3.29	1.30	0.73		
Intention to quit	The thought of looking for a new job already entered my mind	2.55	1.16	0.92	0.88	0.71
	I would prefer working in a different business	2.20	1.11	0.78		
	I have already looked for another job	2.20	1.21	0.82		

Table 4. Correlations between the Second Order Constructs and AVE (joint sample)

	JS	Stress	Resources/recovery	Intention to quit
JS	**.73**			
Stress	-.54	**.81**		
Resources/recovery	.55	-.50	**.57**	
Intention to quit	-.55	.42	-.33	**.71**

Note: AVE in the diagonal and bolded.

Figure 2. Structural equation modeling (SEM)—joint sample



Note. *paths significant at $p < .05$; **paths significant at $p < .01$.

constructs were greater than the standardized correlation of the pairs of latent constructs (Table 4).

Structural equation modeling (SEM). First the analysis was performed on the joint sample in order to test hypotheses 1 to 5. The model ($\chi 2(64) = 271.8$) reached an acceptable fit (GFI = .92, CFI = .95 RMSEA = .08) and showed the predicted paths to be in the expected direction, with the exception of JI to JS, which was not significant (Figure 2). As expected, JI showed a positive path to stress (.13) and to intention to quit (.12) and a negative path to resources/recovery (-.32). Resources/recovery was negatively related to stress (-.55). Stress showed a negative relationship with JS (-.35) and a positive relationship with intention to quit (.19). Finally, JS was strongly related to intention to quit (-.50) and resources/recovery (.37).

Analysis of mediating effects. Mediating effects proposed in hypotheses 6 and 7 were tested using Baron and Kenny's (1986) and Judd and Kenny's (1981) procedure as well as the bootstrapping procedure proposed by Preacher and Hayes (2008). The results (direct, indirect, and total effects) are presented in Table 5. The indirect impact of resources/recovery on JS was weaker than the direct impact ($\beta d = .37$; $\beta id = .19$) but significant, meaning that stress only partially mediated the relationship between resources/recovery and JS (H6). Furthermore, resources/recovery did not have a direct impact on intention to quit but a negative indirect impact (βd = ns.; $\beta id = -.39$) on intention to quit, meaning that either JS or stress could mediate the relationship. Therefore, an alternative model was tested in which JS was excluded. Direct paths from resources/recovery to stress and from resources/recovery to intention to quit were both significant. Adding a path from stress to intention to quit, the relationship between resources/recovery and intention to quit became non-significant, meaning that stress completely mediated the negative relationship between resources/recovery and intention to quit (H7).

Differences in impacts for both samples (Austria and Slovenia). In H8, we expected the impairing effects of job insecurity on stress, recovery/resources, job satisfaction, and intention to quit to be stronger in Slovenia than in Austria. To assess the differences in impacts for both samples, a group analysis of the structural model and invariance testing (configural and metric invariance) between the group was deployed (e.g. Horn & McArdle, 1992; Steenkamp & Baumgartner, 1998, Vanderberg & Lance, 2000).

Configural invariance was achieved, as all indices were in appropriate intervals (Table 4). Metric invariance was tested by constraining all factor loadings of the single constructs. Comparing the metric invariance model to the configural

Table 5. Direct, Indirect, and Total Impacts in Structural Model

Paths	Direct impact	Sig.	Indirect impact	Sig.	Total impact	Sig.
JI -> Stress	.127	p<.01	.175	p<.01	.302	p<.01
JI -> JS	-.054	ns.	-.224	p<.05	-.278	p<.01
JI -> Resources/recovery	-.318	p<.01	n.a.	n.a.	-.318	p<.01
JI -> Intention to quit	.116	p<.01	.170	p<.05	.286	p<.01
Resources/recovery -> Stress	-.547	p<.01	n.a.	n.a.	-.547	p<.01
Resources/recovery -> JS	.370	p<.01	.193	p<.05	.563	p<.01
Resources/recovery -> Intention to quit	.081	ns.	-.385	p<.05	-.304	p<.05
Stress -> JS	-.354	p<.01	n.a.	n.a.	-.354	p<.01
Stress -> Intention to Quit	.185	p<.01	.178	p<.05	.363	p<.05
JS -> Intention to Quit	-.504	p<.01	n.a.	n.a.	-.538	p<.01
Fit indices for the structural model: $\chi^2(60)= 271.8$; p<.001; RMSEA=.08; GFI=.92; NFI=.94;TLI=.93; IFI=.95						

Note: n.a. = not applicable; ns. = not significant

Table 6. Invariance Test Results for the Structural Model

Model	χ^2	df	$\Delta \chi^2$/df sig.	NFI	IFI	TLI	CFI	RMSEA
Configural invariance	321.56	128		.93	.90	.94	.96	.06
Metric invariance	336.17	137	0.10	.93	.90	.94	.95	.06
Path invariance	343.15	147	0.73	.92	.91	.94	.95	.05

invariance model, the $\Delta \chi 2/df$ was statistically insignificant, indicating that metric equivalence was achieved. Finally, all regression paths were constrained between the two groups to test if the paths were different. Table 6 shows that the path invariance model (constrained paths) was not significantly different from the metric invariance model (unconstrained paths), meaning that the impacts did not differ for the two groups. Therefore, H8 was not supported. A detailed investigation of the regression paths in both groups revealed that they were not significantly different (JI x stress: Slovenia = .13, Austria = .11; JI x recovery/resources: Slovenia = -.34, Austria = -.30; JI x JS: Slovenia = -.04, Austria = -.03; JI x intention to quit: Slovenia: .10, Austria =.13)

Discussion

The aim of the present study was to investigate the relationships among JI, JS, and intention to quit as well as the mediating effects of resources/recovery and stress. As economic conditions seem to be important for the perception of JI, we investigated the relationships in two countries with different economic conditions: Austria and Slovenia.

The results indicated that JI was related to higher stress and intention to quit as well as lower resources/recovery, supporting hypotheses 1, 2, and 4. JI was not related to JS in the structural model. However, investigating the simple bivariate correlations, the relationship between the variables was negative (H3). The results verify that JI was a serious harmful stressor affecting different work-related outcomes. Giving employees secure workplaces might be challenging in times of economic uncertainty, but can lead to recovered, low-stressed employees who want to stay in the organization.

As expected, high JS was related to a lower intention to quit (H5), confirming explanation models about JS and intention to quit (Jiménez, 2006; Van Dick et al., 2004). Satisfied employees identify with their organization and feel committed to stay. For these employees ,coping strategies such as the intention to quit are not necessary as the evaluation of the current and expected working condition is positive.

Stress seemed to be an important mediator in the relationship between resources/recovery and JS as well as intention to quit (H6 and H7). These results are in line with past research (Bakker et al., 2005; Jiménez, Dunkl, & Peißl, 2016) and the model of resources/recovery–stress balance, where recovered resources are able to reduce feelings of stress, which in turn raises JS and lowers the intention to quit the job.

As economic conditions might influence the perception and effects of JI, we expected higher coefficients for the relationships between job insecurity and its respective outcomes in the Slovenian sample (H8). Taking the economic development of Slovenia into account, the country finds itself in a recession. As for Austria, its economy is doing well and seems to be stable. However, our analyses did not show any structural differences between the two countries, indicating that the effects of JI are similar in both countries. However, we did not ask our participants if their subjective perception of the economic condition in their country overlapped with the objective indicators. It might be possible that, although the current state in Slovenia shows critical economic conditions, employees expect them to improve in the future. Alternatively, despite having a good market condition compared to Slovenia, Austrian employees might fear a worsening of their current situation. Both perceptions could have influenced our findings.

Limitations. This study was a cross-sectional study, with the data collected at one measurement point. To determine causality, longitudinal analyses are needed.

A single-item measure was used to operationalize JI. Single items are easier to understand than a scale score (Wanous, Reichers, & Hudy 1997) and are used to avoid an overlap with other variables (De Witte, 1999), which occurs if different instruments measure same aspects. The disadvantage of using a single item of JI lies in the underestimation of effects (Sverke et al., 2002). Therefore, we recognize that a single item measure has its limits, and the model should be further verified with a multi-item measure.

Practical implications and conclusion. Managers should pay attention to the fact that employees perceive their organization as successful and secure, which is also reflected in permanent forms of employment. In order to control competitive challenges, organizations in Slovenia need to develop a strategic management, which defines vision, goals, strategies, tactics and projects. Next to security in employment, organizations should focus on developing workplace health promotion programs (WHP), which help employees raise the resources to cope with stress, even under high demands.

JS is an attitude toward the work environment and depends on the expectations regarding the future of the organization (Jiménez et al., 2015). JS determines the behavioral strategies of employees; therefore, organizations should take care of it. As we demonstrated, JI does not have a (strong) effect on JS, which helps to underscore the importance of WHP intervention. WHP can also—or better, even—be recommended in economically hard times to improve the work environment and JS.

References

Anderson, C. J., & Pontusson, H. J. (2007). Workers, worries and welfare states: Social protection and job insecurity in 15 OECD countries. *European Journal of Political Research, 46*(2), 211–235. https://doi.org/10.1111/j.1475-6765.2007.00692.x

Arechavala, N. S., Espina, P. Z., & Trapero, B. P. (2015). The economic crisis and its effects on the quality of life in the European Union. *Social Indicator Research, 120*, 323–343. https://doi.org/10.1007/s11205-014-0595-9

Bakker, A., Demerouti, E., & Euwema, M. (2005). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology, 10*(2), 170–180. https://doi.org/10.1037/1076-8998.10.2.170

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173. https://doi.org/10.1037/0022-3514.51.6.1173

Bosman, J., Rothmann, S., & Buitendach, J. H. (2005). Job insecurity, burnout and work engagement: The impact of positive and negative affectivity. *Journal of Industrial Psychology, 31*(4), 48–56. https://doi.org/10.4102/sajip.v31i4.199

Büssing, T., Bissels, V., Fuchs, V., & Perrar, K.-M. (1999). A dynamic model of work satisfaction: Qualitative approaches. *Human Relations, 52*(8), 999–1027. https://doi.org/10.1023/A:1016979523846

De Cuyper, N., & De Witte, H. (2007). Job insecurity in temporary versus permanent workers: Associations with attitudes, well-being, and behaviour. *Work & Stress, 21*(1), 65–84. https://doi.org/10.1080/02678370701229050

De Witte, H. (1999). Job insecurity and psychological well-being: Review of the literature and exploration of some unresolved issues. *European Journal of Work and Organizational Psychology, 8*(2), 155–177. https://doi.org/10.1080/135943299398302

De Witte, H. (2005). Job insecurity: Review of the international literature on definitions, prevalence, antecedents and consequences. *Journal of Industrial Psychology, 31*(4), 1–6. https://doi.org/10.4102/sajip.v31i4.200

De Witte, H., & Näswall, K. (2003). "Objective" vs. "subjective" job insecurity: Consequences of temporary work for job satisfaction and organizational commitment in four European countries. *Economic and Industrial Democracy, 24*(2), 149–188. https://doi.org/10.1177/0143831X03024002002

Erlinghagen, M. (2008). Self-perceived job insecurity and social context: A multi-level analysis of 17 European countries. *European Sociological Review, 24*(2), 183–197. https://doi.org/10.1093/esr/jcm042

Furlan, S. (2014). The Slovenian banking and debt crisis. *Competitiveness, Debt, Slovenia*. Retrieved from http://www.troikawatch.net/the-slovenian-banking-and-debt-crisis/

Gligorov, V. (2004). Socialism and the disintegration of SFR Yugoslavia. In M. Mrak, M. Rojek, & C. Silva-Jauregui (Eds.), *Slovenia: From Yugoslavia to the European Union* (pp. 16–31). Washington, DC: World Bank.

Haslam, S. A., Jetten, J., Postmes, T., & Haslam, C. (2009). Social identity, health and well-being: An emerging agenda for applied psychology. *Applied Psychology: An International Review, 58*(1), 1–23. https://doi.org/10.1111/j.1464-0597.2008.00379.x

Horn, J. L., & McArdle, J. J. (1992). A practical and theoretical guide to measurement invariance in aging research. *Experimental Aging Research, 18*(3), 117–144. https://doi.org/10.1080/03610739208253916

Jiménez, P. (2002). Specific influences of job satisfaction and work characteristics on the intention to quit: Results of different studies. *Psychologische Beiträge, 44*, 596–603.

Jiménez, P. (2006). Arbeitszufriedenheit als Mittlervariable in Feedbackprozessen. Eine kybernetische Perspektive [Job satisfaction as mediator in feedback loops. A cybernetic view]. In L. Fischer (Eds.), *Arbeitszufriedenheit. Konzepte und empirische Befunde [Job satisfaction. Concepts and empirical results]* (pp. 160-186). Göttingen: Hogrefe.

Jiménez, P. (2008). *PAZ Profilanalyse der Arbeitszufriedenheit. Manual Wiener Testsystem* [Profile Analysis of Job Satisfaction. Test Manual in Vienna Test System]. Mödling: Schuhfried GmbH.

Jiménez, P., Dunkl, A., & Kallus, K. W. (2016). Recovery–stress questionnaire for work. In K. W. Kallus & M. Kellmann (Eds.), *The recovery–stress questionnaires: User manual* (pp. 158–187). Frankfurt: Pearson Assessment.

Jiménez, P., Dunkl, A., & Peißl, S. (2016). Workplace incivility and its effects on value congruence, recovery-stress-state and the intention to quit. *Psychology, 6*(14), 1930-1939. https://doi.org/10.4236/psych.2015.614190

Jiménez, P., Dunkl, A., & Stolz, R. (2015). Anticipation of the development of job satisfaction—Construct and validation results of an indicator for well-being at the workplace. *Psychology*, *6*(7), 856–866. https://doi.org/10.4236/psych.2015.67084

Jiménez, P., & Kallus, K. W. (2016). RESTQ-Work. In K. W. Kallus & M. Kellmann (Eds.), *The recovery–stress questionnaires: User Manual* (pp. 327–346). Frankfurt: Pearson Assessment.

Judd, C. M., & Kenny, D. A. (1981). Process analysis estimating mediation in treatment evaluations. *Evaluation Review, 5*(5), 602–619. https://doi.org/10.1177/0193841X8100500502

Kallus, K. W. (2016). Stress and recovery: An overview. In K. W. Kallus & M. Kellmann (Eds.), *The recovery–stress questionnaires: User manual* (pp. 27–48). Frankfurt: Pearson Assessment.

Organisation for Economic Co-operation and Development (OECD). (2015). *Labour market situation*. Retrieved from http://stats.oecd.org/

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879–891. https://doi.org/10.3758/BRM.40.3.879

Reisel, W. D., Probst, T. M., Chia, S-L., & König, C. J. (2010). The effects of job insecurity on job satisfaction, organizational citizenship behavior, deviant behavior, and negative emotions of employees. *International Studies of Management and Organization, 40*(1), 74–91. https://doi.org/10.2753/IMO0020-8825400105

Rigotti, T., de Cuyper, N., de Witte, H., Korek, S., & Mohr, G. (2009). Employment prospects of temporary and permanent workers: Associations with well-being and work related attitudes. *Journal of Everyday Activity, 2*(1), 22–35.

Rousseau, D. (1995). *Psychological contracts in organizations: Understanding written and unwritten agreements*. Thousand Oaks, CA: Sage Publications.

Schreurs, B., van Emmerik, H., Notelaers, G., & De Witte, H. (2010). Job insecurity and employee health: The buffering potential of job control and job self-efficacy. *Work & Stress, 24*(1), 56–72. https://doi.org/10.1080/02678371003718733

Silla, I., Gracia, F. J., & Peiró, J. M. (2005). Job insecurity and health-related outcomes among different types of temporary workers. *Economic and Industrial Democracy, 26*(1), 89–117. https://doi.org/10.1177/0143831X05049404

Sonnentag, S., Mojza, E. J., Demerouti, E., & Bakker, A. B. (2012). Reciprocal relations between recovery and work engagement: The moderating role of job stressors. *Journal of Applied Psychology, 97*(4), 842–853. https://doi.org/10.1037/a0028292

Steenkamp, J. B. E., & Baumgartner, H. (1998). Assessing measurement invariance in cross-national consumer research. *Journal of Consumer Research, 25*(1), 78–90. https://doi.org/10.1086/209528

Stiglbauer, B., Selenko, E., Batinic, B., & Jodlbauer, S. (2012). On the link between job insecurity and turnover intentions: Moderated mediation by work involvement and well-being. *Journal of Occupational Health Psychology, 17*(3), 354–364. https://doi.org/10.1037/a0028565

Sverke, M., & Hellgren, J. (2002). The nature of job insecurity: Understanding employment uncertainty on the brink of a new millennium. *Applied Psychology: An International Review, 51*(1), 23–42. https://doi.org/10.1111/1464-0597.0077z

Sverke, M., Hellgren, J., & Näswall, K. (2002). No security: A meta-analysis and review of job insecurity and its consequences. *Journal of Occupational Health Psychology, 7*(3), 242–264. https://doi.org/10.1037/1076-8998.7.3.242

Vandenberg, R. J., & Lance, C. E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods, 3*(1), 4–7 https://doi.org/10.1177/109442810031002

Van Dick, R., Christ, O., Stellmacher, J., Wagner, U., Ahlswede, O., Grubba, C., … Tissington, P. (2004). Should I stay or should I go? Explaining turnover intentions with organizational identification and job satisfaction. *British Journal of Management, 15*, 351–360. https://doi.org/10.1111/j.1467-8551.2004.00424.x

Wanous, J. P., Reichers, A. E., & Hudy, M. J. (1997). Overall job satisfaction: How good are single-item measures? *Journal of Applied Psychology, 82*(2), 247–252. https://doi.org/10.1037/0021-9010.82.2.247

Zijlstra, F. R. H., Cropley, M., & Rydstedt, L. W. (2014). From recovery to regulation: An attempt to reconceptualize "recovery from work". *Stress and Health, 30*, 244–252. https://doi.org/10.1002/smi.2604

Authors

Dr. Paul Jiménez works at the University of Graz in the Work, Organizational, and Environmental Psychology Department. Currently, his main field of research is work-related stress and recovery, as well as job satisfaction, burnout, and leadership. His scientific contribution is visible in a long list of publications to this field. He is also working in the practical field as a consultant in the area of workplace health promotion, a participant of norming committees (Austrian norms and ISO), a member of the Work, Economic, and Organizational Psychology Division of the Austrian Federation of Psychologists (BOEP), and a delegate of Austria for the Standing Committee of Work and Organizational Psychology in the European Federation of Psychologists' Associations.

Dr. Borut Milfelner is an associate professor of marketing at the University of Maribor, Slovenia, Faculty of Economics and Business. He received his Ph.D. degree from the University of Ljubljana, Faculty of Economics in 2010. His research interests include the areas of marketing research, internal marketing, consumer behavior, tourism marketing, and resource-based theory. His scientific bibliography consists of 32 published scientific articles (12 of them in JCR-indexed journals), 37 scientific conference contributions, 5 scientific monographs, and participation in several research projects. He is also a member of the editorial board of three scientific journals in the field of marketing and management and a reviewer for several domestic and international scientific journals.

Simona Šarotar Žižek, Ph.D., is an assistant professor at the University of Maribor's Faculty of Economic and Business. She is the author and/or co-author of several articles published in various international and Slovenian journals and/or presented at scientific and expert conferences. She has prepared several scientific monographs and chapters in scientific and expert monographs. On several occasions she has been invited to present her papers at scientific and expert conferences. She is also active in preparing and implementing projects.

Mag. Anita Dunkl is a research associate at the University of Graz in the Work, Organizational, and Environmental Psychology Department. Anita graduated with a master's degree in work and organizational psychology, focused on job satisfaction. She continued her research at the University of Graz, working in different fields of work and organizational psychology. Her main field of research includes health-promoting leadership, workplace health promotion, burnout, and work-related stress and recovery.

Moderacijski učinek pri povezavi med varnostjo delovnega mesta in namero po odpovedi na vzorcu slovenskih in avstrijskih zaposlenih

Izvleček

Negotovost zaposlitve je v delovnem okolju stresor z negativnimi rezultati, povezanimi z delom. Učinki negotovosti delovnih mest so odvisni od gospodarskega stanja države. Raziskovali smo odnos med negotovostjo zaposlitve, zadovoljstvom pri delu in namero prenehati delati ter moderacijske spremenljivke (viri/regeneracija in stres). V vzorec raziskave je bilo vključenih 251 slovenskih in 219 avstrijskih zaposlenih. Rezultati kažejo, da je negotovost zaposlitve povezana z višjo ravnijo stresa in z namero prenehati delati, hkrati pa tudi z manjšimi viri/regeneracijo na delovnem mestu. Stres je pomemben posrednik v odnosu med viri/regeneracijo in zadovoljstvom na delovnem mestu ter tudi namero prenehati delati, kar vse smo raziskali v obeh vzorcih.

Ključne besede: namera prenehati delati, negotovost zaposlitve, zadovoljstvo pri delu, viri, okrevanje, stres

ORIGINAL SCIENTIFIC PAPER

RECEIVED: OCTOBER 2016

REVISED: FEBRUARY 2017

ACCEPTED: FEBRUARY 2017

DOI: 10.1515/ngoe-2017-0004

UDK: 316.62:159.947.23

JEL: M14, M31

Citation: Stanisavljević, M. (2017). Does Customer Loyalty Depend on Corporate Social Responsibility?. *Naše gospodarstvo/Our Economy, 63*(1), 38–46. DOI: 10.1515/ngoe-2017-0004

NG
OE

**NAŠE GOSPODARSTVO
OUR ECONOMY**

Vol. 63 No. 1 2017

pp. 38–46

Does Customer Loyalty Depend on Corporate Social Responsibility?

Milena Stanisavljević
Faculty of Technical Sciences Čačak, University of Kragujevac, Serbia
milena.stanisavljevic@ftn.kg.ac.rs

Abstract

This paper presents the results of a study conducted to examine the dependence of customer loyalty on corporate social responsibility (CSR). CSR is a good opportunity for a company's differentiation, but only if customers value the company's efforts in this field. Loyalty is a primary goal of each company, but it is influenced by numerous factors. The goal of this paper was to examine if CSR influences customer loyalty as one possible factor. Based on the presented results, management recommendations are provided concerning business strategy, mission, and vision formulation, so companies can fulfill customers' interests and gain their loyalty.

Keywords: corporate social responsibility, loyalty, strategy, management

Introduction

Increasing market competitiveness demands a company's constant attention to improving products and services that could satisfy customers' constantly growing demands. Price and quality are not the only factors that influence purchase decisions. In addition to customers, a large number of stakeholders (shareholders, suppliers, government, local community, etc.) set numerous requirements before the companies, which companies need to fulfill if they want to keep their competitive position and develop. Business strategy needs to recognize the interests of all of them, so management is facing new, bigger challenges than before. One possible option for companies may be to develop business strategy based on the concept of CSR, which means doing business with respect to the interests of all stakeholders and social norms.

A growing number of companies in Serbia have adopted this business concept, actively participating in the life of communities and society, but people are not sufficiently informed about the socially responsible activities of companies. This research aims to demonstrate if customers in Serbia have heard about CSR and if CSR influences their purchasing decisions and loyalty. Loyal customers are the greatest value to companies, which invest much effort in retaining customers because it has been proven that it is cheaper to retain existing customers than attract new ones.

The contribution of this paper is reflected in the possibility to formulate recommendations for management to enable them to adapt their business strategy with respect to certain dimensions of CSR, fulfill the requirements of customers, and create long-term relationships and loyalty.

Literature Review

Corporate social responsibility. Until the 1960s, profit maximization was considered the primary business goal. However, in the 1970s and 1980s, due to the higher intensity of globalization, IT development, higher level of people's education, strengthening of associations for the protection of human rights, associations for environment protection, and so on, pressures increased for companies to start doing business while considering the well-being of the society and environment. The concept of corporate social responsibility (CSR) started to develop during this time. In addition to profits, companies were becoming more interested in environmental protection, education, and customer safety in the sense of purchasing and using products and services. Regardless of these changes, it should be emphasized that profit and social responsibility are not mutually exclusive goals, but complementary. A lot of companies are profitable and socially responsible at the same time. If the products and services are in accordance with social and other norms, then the conditions for long-term relationships with customers are created, which will result in increased profits.

As a growing number of companies adopt the concept of CSR, there is a need to explaing what it really means. The concept of CSR is based on the stakeholder theory of corporate governance (Ivanović-Đukić, 2011; Srbljinović, 2012; Weimer & Pape, 1999), where the primary company's goal is not only profit maximization, but also the satisfaction of all stakeholders' interests. Socially responsible behavior means caring about the interests of a large number of stakeholders and society in general (Maden, Arikan, Telci, & Kantur, 2012). The concept of CSR can be defined in different ways. Kotler and Lee (2005, p. 3) explained CSR as "a commitment to improve community well-being through discretionary business practices and contributions of corporate resources." Thus, discretionary practices refer to activities not mandated by law. It is a voluntary commitment of one company and its decision to choose and apply such business practices and much these contributions, while community well-being refers to the conditions in which people live and the ecological issues. The European Commission's (2011) definition provides more details: "CSR is a concept by which the company integrates the care for society and environment in its business activities and interaction with its stakeholders on a voluntary basis" (p. 3). CSR involves a wide spectrum of company's activities focused on the well-being of all stakeholders, like investors, humanitarian organizations, employees, suppliers, customers, and future generations (Geoffrey, Sprinkle & Maines, 2010, p. 446).

Carroll (1979, 1991) gave a specific definition of CSR that consisted of four dimensions for companies to be good corporate citizens: economic, legal, ethical, and philanthropic responsibilities. A socially responsible company should strive to make profits, obey the law, be ethical, and be a good corporate citizen (Carroll, 1991, p. 43). This kind of CSR definition is known as the pyramid of CSR, and it is very accepted among researchers in this field and the most frequently cited in domestic and foreign literature (García de los Salmones, Herrero, & Rodríguez del Bosque, 2005; Ivanović-Đukić, 2011; Lee, Park, Rapert & Newman, 2012; Park, Lee & Kim, 2014; Perez, García de los Salmones, & Rodríguez del Bosque, 2012; Srbljinović, 2012), which is why this research is based on this definition of CSR. Some authors have suggested a different order in Carroll's pyramid due to different cultural, historical, and religious traditions (Crane, Matten, & Spence, 2006; Visser, 2006). Visser (2006) also considered that Carroll gave one integrated model for corporate citizenship, business ethics, and stakeholder management that lacked clarity and excluded care about environment. Hockerts, Casanova, Gradillas, Sloan, and Jensen (2008) criticized this framework by arguing that there was no need to represent CSR as a hierarchy. Yet Carroll and Shabana (2010, p. 90) pointed out that the four categories of CSR address the motivations for initiatives in the category and are also useful for identifying specific kinds of benefits that flow back to companies, as well as society, in their fulfillment. These concepts can also be overlapping and interrelated in their interpretation and application, but they are helpful for sorting out the specific types of benefits that businesses receive (Carroll & Shabana, 2010, p. 90). In this paper, the analysis is based on Carroll's original pyramid of CSR.

Figure 1. Pyramid of CSR

Source: Carroll, A. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, *4*(3), p. 42

Although these four responsibilities have always existed in companies, the history of doing business shows that companies have emphasized economic responsibility first, then legal, and later on care for ethical and philanthropic aspects of companies. The first dimension of CSR is economic responsibility. Companies are, before everything, the basic economic units in society; as such, they have a responsibility to produce the goods and services that society desires (Carroll, 1979, 1991). Satisfying customers' needs should be followed by making profits. Making profits is not generally a negative goal, but it is a precondition for satisfying the expectations of shareholders and owners as well as society and the environment. Profits are necessary both to reward investors/owners and to ensure business growth when profits are reinvested back into the business (Carroll, 2016, p. 3). Economic responsibility refers to the obligations of a company to make its business productive and profitable while maintaining wealth (García de los Salmones et al., 2005, p. 371).

Society expects companies to fulfill their economic responsibility with respect to laws and regulations as defined by the authorities (Park et al., 2014), which is why legal responsibility is the next level in the pyramid of CSR. The pyramid highlights the historical development of CSR dimensions, but before everything, economic and legal responsibility are accomplished at the same time. Companies are expected to be dedicated to their economic mission within the legal framework (Carroll, 1979, 1991). Companies are expected and required to comply with laws and regulations as a condition of operating (Carroll, 2016, p. 3). Disrespect of the law and regulations has a negative influence on customers' attitudes toward the company and the company's reputation, and the company's sales could be significantly reduced (Park et al., 2014).

Ethical responsibility is incorporated in the previous two dimensions; it is characterized by behavior and activities that are not part of the law, but that are expected or prohibited by society (Carroll, 1979, 2016). It refers to standards, norms, and expectations that employees, customers, shareholders, and society consider fair, just, or for the protection of shareholders' moral rights (Carroll, 1991, p. 41). Society expects companies to go above the legal requirements. Ethical responsibility could be understood as the adoption of new norms and values that society expects from companies, although those values and norms could reflect a higher standard of performance than those required by law (Carroll, 1991, p. 41). Unethical behavior happens when an individual or company does something at the expense of society. Companies should comply with ethical norms, because the public expects them to; if those expectations are not satisfied, the company could be subjected to criticism, negative publicity, purchasing boycotts, etc. (Srbljinović, 2012, p. 165).

Philanthropic responsibility refers to the company's commitment to voluntarily help threatened social groups and to participate in social and ecological problem solving in society. Philanthropy refers to society's expectation that a company should do business as a "good corporate citizen" (Carroll, 1991, p. 42). It includes activities that contribute and help the arts, culture, medicine, science, education, and community improvement (Seifert, Morris & Bartkus, 2004). Most often it includes donations for various purposes, but corporate philanthropy is not limited to just monetary donations. Many companies encourage philanthropic activities by their employees and customers through various forms of collaboration (Carroll & Shabana, 2010, p. 96). Philanthropic activities are voluntary and non-binding, and they are a matter of individual assessment and choice (Carrol, 1979). Although voluntary, society expects companies to play some role in solving certain social issues. The difference between ethical and philanthropic responsibility comes from the belief that a company is socially responsible if it is a "good citizen" in the community (Carroll, 1991).

Companies decide to embrace CSR as the foundation for their business for numerous reasons. Socially responsible business results in positive public opinion and a higher status, which enables the company to differentiate itself in the market and find a way to attract a greater number of customers (Carroll, 2015). Socially responsible companies attract, motivate, and retain employees as well as investors (Carroll, 2015; Ćeha, 2013; Geoffrey et al., 2010; Peterlin, Dimovski, Uhan & Penger, 2011). Activities such as caring for the environment, employees, and any kind of help toward the community are becoming important criteria for customers' decision making (Marin, Ruiz, & Rubio, 2009; Srbljinović, 2012). Socially responsible companies have higher productivity due to employees' satisfaction and lower employee fluctuation costs (Kotler & Lee, 2005). CSR positively affects customers only if its activities are persuasive and customers consider the company to have sincere intentions. It can increase trust and build relationships between the company and its customers.

Customer loyalty. Customer loyalty is the basic goal of each company, especially in the conditions of strong competition, economic crisis, and international scandals. It is considered a vital objective for a company's survival and growth as well as an important basis for developing a sustainable competitive advantage (Chung, Yu, Choi & Shin, 2015). Loyalty can be defined as a customer's unconditional commitment to the company and his or her strong relationship with the brand, which is not likely to be affected under normal circumstances (Maheshwari, Lodorfos, & Jacobsen, 2014, p. 16). Customer loyalty refers to the intention to apply a set of behavioral forms that signal the motivation to keep the relationship with a

certain company, which includes increased spending on the company's products, positive word of mouth, and repeated purchases (Sirdeshmukh, Japdig, & Berry, 2002). Customers are limited and the most valuable resource of each company to have a direct impact on the company's profit level. Research has shown that a 5% increase in customer loyalty could increase profits by 25% to 85% (Kandampully & Suhartanto, 2000, p. 346). A 2% increase of customer retention has almost the same effect as a 10% cost reduction (Marinković, 2012, p. 155).

There are two dimensions to customer loyalty: behavioral and attitudinal (Akbar & Parvez, 2009; Chen, Chang & Lin, 2012; Day, 1969; García de los Salmones et al., 2005; Kandampully & Suhartanto, 2000; Perez et al., 2012). The behavioral dimension refers to a customer's repeat purchase behavior, indicating a preference for a specific brand over time (Kandampully & Suhartanto, 2000, p. 347). But repurchasing does not mean satisfaction, and it could be caused by a lack of alternatives or barriers to change. This behavior leads to "spurious loyalty" (Day, 1969, p. 30), which occurs when the repurchase happens even if company has a bad image (Perez et al., 2012, p. 224). The attitudinal dimension refers to a customer's intention to repurchase and recommend (Kandampully & Suhartanto, 2000, p. 347). This dimension means that a positive evaluation of the company is made and that an emotional link exists between the customer and the company that generates a real loyalty. It is linked to active loyalty, which leads to positive word of mouth (Perez et al., 2012, p. 224). It could refer to commitment to a brand, which can be defined as trust, esteem, or a customer's desire to maintain the relationship or acquire the same brand (García de los Salmones et al., 2005, p. 373).

Loyal customers bring various benefits to the company, but the creation of customer loyalty is not easy; it is a long process that will not pay off initially and could even lead to losses (Marinković, 2012). But loyal customers increase their purchases of certain products over time. At the same time, they are ready to buy and use other products from the product range of the company to which they are loyal, so they are important for delivering long-term profits (Chung et al., 2015). A cost reduction in loyal customers' services could also be achieved. They are less sensitive to price changes than other customers (Marinković, 2012). Loyal customers gladly recommend products they use to their friends and acquaintances, thereby creating and spreading positive worth of mouth, which has much more credibility and reliability than communication through media (Jobber & Fahy, 2006). Loyal customers are a very important source of new ideas for products' and services' quality improvement.

Customer loyalty is influenced by numerous factors (price, quality, product/service availability, satisfaction, etc.). As the goal of this research is to explain the relationship between CSR and loyalty, the focus is on this relationship. Research has shown that customers prefer products from companies involved in social causes (García de los Salmones et al., 2005, p. 373). Customers have more trust, purchase more, and prefer to recommend socially responsible companies (Vlachos, Tsamakos, Vrechopoulos, & Avramidis, 2009). Numerous studies have shown a positive relationship between perceptions of CSR and customer loyalty (Ailawadi, Neslin, Luan, & Taylor, 2014; Chung et al., 2015; García de los Salmones et al., 2005; He & Li, 2011; Lee et al., 2012; Marin et al., 2009; Perez et al, 2012; Srbljinović, 2012). Customers appreciate companies' participation in humanitarian events, programs devoted to energy conservation, sponsorship of local events, etc. These activities can influence creation of higher customer loyalty (García de los Salmones et al., 2005, p. 373).

Growing market competition means companies must search for new ways to differentiate products and attract and retain customers, so basing a business strategy on the CSR concept became a good way for companies to make a difference and stand out. Customers' perceptions about companies' socially responsible behavior influence their relationship with the company and its products; thus, this research examines if companies' socially responsible behavior influences customers' loyalty. Based on the results obtained, recommendations for business strategy formulation and CSR activities can be offered to improve companies' position in the market and within customers' minds.

Research Methodology

This research has four goals: to determine if respondents have heard about the concept of CSR, to show that CSR is not a relevant criterion for purchase decisions, to emphasize the significance of certain CSR dimensions for customers, and to highlight any statistically significant differences in perceptions of CSR dimensions among respondents with different levels of professional qualifications and show if perceptions about CSR dimensions influence variances in customer loyalty. The following research hypotheses were formulated, based on the given literature review and research goals:

H1: Most respondents have heard about the concept of CSR.

H2: Price is the most important criterion for making purchase decisions.

H3: Customers give the highest significance to the economic and legal dimensions of CSR.

H4: There is a statistically significant difference in perceptions of CSR dimensions among respondents with different levels of professional qualification.

H5. Perceptions about CSR dimensions have a statistically significant influence on customer loyalty.

H5a: Perceptions of economic and legal dimensions of CSR contribute the most to explaining the variance of loyalty.

The data were collected using questionnaires that had three parts. The first part contained questions about respondents' sex, age, and professional qualifications. The second part referred to the CSR dimensions; this part contained 20 items, where each dimension of CSR (economic, legal, ethical and philanthropic) was represented by 5 items identified by Carroll (1991). The third part referred to customer loyalty; this part of the questionnaire contained four items often used in similar research of customer loyalty and formulated by the model of questionnaires used in the research of Zeithaml, Berry, and Parasuraman, (1996) and Sirdeshmukh et al. (2002). Respondents showed their level of agreement or disagreement for all items using a 5-point Likert scale (1 = absolutely disagree, 5 = absolutely agree).

This paper is a result of a study conducted in July 2014. The analysis was carried out on a sample of 200 mobile telephone users from Kragujevac. The questionnaires were distributed through the mail and collected until the sample reached 200.

The respondents' sex, age, and professional qualifications are summarized in Table 1. Preliminary research was carried out to verify the suitability of the questionnaire and possibly remove any ambiguities; after consulting with professors from this field of research, the data collection process was done.

As all the variables were explained through several items, a confirmatory factor analysis was carried out. The value of the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.886 (higher than 0.6), and the value of the Bartlett's test of sphericity was statistically significant, which justified a factor analysis. The principal component analysis was carried out, as was a varimax rotation. As expected from the theoretical propositions, the results obtained showed a four-dimensional structure of CSR. All of the items had high factor loadings—higher than 0.6. The first factor included all the economic items, so this factor was labelled the economic dimension of CSR (ED), the second factor was labelled the legal dimension (LD), the third factor was labelled the ethical dimension (EtD), and the fourth factor was labelled the philanthropic dimension (PD). These dimensions comprised the four independent variables. Cronbach's alpha coefficients were used as a measurement of reliability for each variable (independent variables = dimensions of CSR [i.e., ED, LD, EtD, PD]; dependent variable = customer loyalty [i.e., L]), and their value confirmed the internal reliability of proposed constructs (ED = 0.865, LD = 0.894, EtD = 0.844, PD = 0.857, L = 0.868).

Table 1. Respondents' Structure

Criterion		Number
Sex	Male	101
	Female	99
Age	⩽ 25	43
	26-35	91
	36-45	26
	46-65	37
	>65	3
Professional qualification	Primary professional qualification	4
	Secondary professional qualification	66
	Higher professional qualification	13
	High professional qualification	78
	MSc/Mr/PhD	39

A descriptive analysis was done to determine the significance of each CSR dimension, the relevance of purchasing criteria, and how familiar the concept of CSR was to customers. A variance analysis was done to define any statistically significant differences in perceptions of CSR dimensions among respondents with different levels of professional qualifications. A regression analysis was done to determine the influence of CSR dimensions on customer loyalty. SPSS was used for the data analysis and presentation of the results.

Research Results

The research results showed that 69.5% of respondents were familiar with the concept of CSR. Customers gave the highest significance to the legal dimension of CSR, with an average mark of 4.19. The next highest scored dimension was economic dimension (3.989), followed by ethical (3.979) and philanthropic (3.9367) dimensions. The most important criterion for making purchase decisions was quality, followed by ecological and health dimensions of products and the price (Table 2). Corporate social responsibility ranked sixth, before product brand and packing.

A variance analysis was done to determine if statistically significant differences emerged in perceptions of CSR dimensions among respondents with different levels of professional qualifications. A Scheffe test was used to compare the

Table 2. Significance of Certain Criterion for Making Decisions about Purchase

Criterion	Mean
Quality	4.67
Ecological and health dimension of products	4.08
Price	4.05
Availability of products in the nearest selling point	3.68
Image of the company	3.60
Corporate social responsibility	3.46
Product brand	3.31
Packing	3.25

Source: Author

groups. A statistically significant difference in the perceptions of the philanthropic dimension emerged among respondents with different levels of professional qualifications: F (4, 195) = 2.777, $p = 0.028$. An additional analysis using a Scheffe test showed that the arithmetic mean of respondents with higher professional qualifications (M = 3.0769, SD = 1.047) was significantly different from respondents with secondary professional qualifications (M = 3.9899, SD = 1.038) and from respondents with high professional qualifications (M = 4.0214, SD = 0.946), for $p < 0.05$. There was no statistically significant difference in the perceptions of the economic dimension among respondents with different professional qualifications (F (4, 195) = 1.047, $p = 0.384$). The statistically significant difference among respondents with different levels of professional qualifications did not exist for the ethical dimension of CSR (F (4, 195) = 1.745, $p = 0.142$). A statistically significant difference among respondents with different levels of professional qualifications existed for the legal dimension of CSR (F (4, 195) = 2.927, $p = 0.022$). An additional comparison showed that the arithmetic mean of respondents with higher professional qualifications (M = 3.4423, SD = 1.099) was significantly different from those with high professional qualifications (M = 4.3301, SD = 0.718), for $p < 0.05$.

A multiple regression analysis was done in order to examine the influence of independent variables (perceptions about CSR dimensions) on customer loyalty and highlight which dimension contributed the most to the explanation of customer loyalty variance. In order to carry out the regression analysis, the preliminary analysis of assumptions compliance was tested; it was concluded that all data fulfilled the conditions for regression analysis. The results of this analysis are presented in Table 3.

The coefficient of determination r^2 was 0.195, which means that the defined model consisting of four independent variables (dimensions of CSR) explained 19.5% of the total variance of loyalty, F (4, 195) = 11.819, $p = 0.000$; thus,

Table 3. Influence Evaluation of Independent Variables

Model	Standardized Coefficients Beta	t	Sig.	Semipartial correlations coefficient
(Constant)		2.492	0.014	
Economic dimension	0.214	3.057	0.003	0.196
Ethical dimension	0.140	1.540	0.125	0.099
Philanthropic dimension	0.320	3.723	0.000	0.239
Legal dimension	-0.105	-1.181	0.239	-0.076

Note: Dependent Variable: loyalty

Source: Author

the given model is statistically significant. The independent variable that contributed the most to explaining the loyalty variance was the philanthropic dimension of CSR ($\beta = 0.32$, for $p = 0.000$); its influence was statistically significant. The semipartial correlation coefficient for this variable was 0.239, meaning that it explained 5.7% of the total variance of loyalty. The second independent variable that had a statistically significant influence on loyalty was the economic dimension of CSR ($\beta = 0.214$, $p = 0.003$). The semipartial correlation coefficient for this variable was 0.196, meaning that it explained 3.8% of the total variance of loyalty. The influence of the legal and ethical dimensions of CSR was not statistically significant (because $p > 0.05$).

Discussion and Conclusion

Rapidly changing market conditions require companies to formulate a business strategy to allow the easy adaptation and maintenance as well as improvement of their competitive position. The creation of a business strategy based on the CSR concept is an important opportunity for differentiation as it considers the interests of numerous different stakeholders and is dedicated to achieving social goals and environmental protection. Carroll (1991) developed the pyramid of CSR, which included four different dimensions of CSR: economic, legal, ethical, and philanthropic. Taken together, they explain the concept of CSR. As this definition of CSR has been highly appreciated and cited among researchers in the field, the research discussed in this paper was based on this explanation of CSR.

The results of the conducted research showed that 69.5% of respondents are familiar with the CSR concept, thereby confirming H1; however, this does not mean that they really

know what this concept means and how it manifests. Similar results have been found in research in Slovenia (Peterlin et al., 2011) and Croatia (Srbljinović, 2012). The highest significance is given to the legal followed by the economic dimensions of CSR, then ethical and philanthropic, which confirmed H2. As there are numerous problems in the economy of Serbia, starting with inadequately protected employees' rights, unsuccessful privatization, and loopholes in the law, giving the highest marks to the legal and economic dimensions of CSR seems like a logical choice. Srbljinović (2012) found different results with Croatian customers, who valued the philanthropic dimension the most, followed by the ethical, economic, and legal dimensions. CSR is ranked as the sixth (of eight) most significant criterion for decision making about purchases. The most important criteria are quality and the ecological and health dimensions of the product. Hypothesis 3 was not confirmed, but as price ranked third, it still has a high position compared to CSR, and that could be explained with a relatively low standard of living and low GDP per capita in the country.

A statistically significant difference emerged in the perceptions of the philanthropic dimension of CSR between respondents with higher qualifications and respondents with secondary qualification levels. There was also a statistically significant difference between respondents with higher qualifications and respondents with high qualification levels regarding the legal dimension of CSR, which confirmed H4.

The analysis of perceptions about CSR dimensions' influence on customer loyalty showed that perceptions about CSR dimensions explained 19.5% of the total variance of loyalty, thereby confirming H5, while philanthropic and economic dimensions contributed the most to that explanation, which partially rejected H5a. Numerous studies have confirmed the influence of perceptions about CSR dimensions on customers' loyalty (Ailawadi et al., 2014; Chung et al., 2015; García de los Salmones et al., 2005; He & Li, 2011; Marin et al., 2009; Perez et al., 2012; Srbljinović, 2012).

The contribution of this paper is in providing guidelines for management during business strategy formulation in terms of paying attention and emphasizing dedication to CSR, because the results showed that customers consider these activities when making purchase decisions. This research showed the level of influence of certain CSR dimensions on loyalty, suggesting those most important for creating long-term customer loyalty. Managers need to recognize that investing in CSR initiatives is an important strategic task that leads to enduring customer loyalty based on intangible company assets. In order to increase customer awareness about CSR activities, it is necessary to dedicate more attention to reporting about these activities so companies can improve their image among customers, gain their trust, and consequently ensure their loyalty.

Limitations and Future Research

Future research should be directed to the identification of specific activities that customers consider to be the most relevant and that contribute the most to the creation of an image of a socially responsible company; the recommendations for companies could be given in terms of resource allocations for such activities. Research could be expanded by including new variables in the model (such as quality of products/services, price). Using a regression analysis, the impact of these new variables respecting CSR dimensions could be determined.

The research limitations refer to the applied method of data collection because respondents were asked to express their subjective opinion about the CSR dimensions. The second limitation is the sample size and structure. More reliable results could be obtained if the sample had been bigger, the respondents had been from different geographical regions of the country, and there had been a more equal structure in the sense of professional qualifications and age.

References

Ailawadi, K. L., Neslin, S. A., Luan, Y. J., & Taylor, G. A. (2014). Does retailer CSR enhance behavioral loyalty? A case for benefit segmentation. *International Journal of Research in Marketing, 31*(2), 156–167. https://doi.org/10.1016/j.ijresmar.2013.09.003

Akbar, M. M., & Parvez, N. (2009). Impact of service quality, trust and customer satisfaction on customer loyalty. *ABAC Journal, 29*(1), 24–38

Carroll, A. (1979). A three dimensional conceptual model of corporate social performance. *Academy of Management Review*, 4(4), 497–505. https://doi.org/10.5465/AMR.1979.4498296

Carroll, A. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, 4(3), 1–20. https://doi.org/10.1016/0007-6813(91)90005-g

Carroll, A. (2015). Corporate social responsibility: The centerpiece of competing and complementary frameworks. *Organizational Dynamics,* 44, 87–96. https://doi.org/10.1016/j.orgdyn.2015.02.002

Carroll, A. (2016). Carroll's pyramid of CSR: taking another look. *International Journal of Corporate Social Responsibility, 3*(1), 1–8. https://doi.org/10.1186/s40991-016-0004-6

Carroll, A., & Shabana, K. (2010). Business case for corporate social responsibility: A review of concepts, research and practice. *International Journal of Management Reviews, 12*(1), 85–105 https://doi.org/10.1111/j.1468-2370.2009.00275.x

Chen, F. Y., Chang, Y. H., & Lin, Y. H. (2012). Customer perceptions of airline social responsibility and its effect on loyalty. *Journal of Air Transport Management, 20*, 49–51. https://doi.org/10.1016/j.jairtraman.2011.11.007

Chung, K. H., Yu, J. E., Choi, M. G., & Shin, J. I. (2015). The effect of CSR on customer satisfaction and loyalty in China: The moderating role of corporate image. *Journal of Economics, Business and Management, 3*(5), 542–547. https://doi.org/10.7763/JOEBM.2015.V3.243

Crane, A., Matten, D., & Spence, L. J. (2013). Corporate social responsibility in a global context. In A. Crane, D. Matten, & L. J. Spence (Eds.), *Corporate social responsibility: Readings and cases in a global context* (2nd ed.; pp. 3–26). Abingdon: Routledge.

Ćeha, M. (2013). Analysis of application of the concept of corporate social responsibility in local business. *Singidunum Journal of Applied Sciences, 10*(1), 1–10. https://doi.org/10.5937/sjas1301001C

Day, G. (1969). A two-dimensional concept of brand loyalty. *Journal of Advertising Research, 9*(3), 29–35.

European Commission. (2011). *A renewed EU strategy 2011–14 for corporate social responsibility.* Retrieved from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0681:FIN:EN:PDF

García de los Salmones, M. M., Herrero, A., & Rodríguez del Bosque, I. (2005). Influence of corporate social responsibility on loyalty and valuation of services. *Journal of Business Ethics*, *61*(4), 369–385. https://doi.org/10.1007/s10551-005-5841-2

Geoffrey, B., Sprinkle, G. B., & Maines, L. A. (2010). The benefits and costs of corporate social responsibility. *Business Horizons, 53*(5), 445–453. https://doi.org/10.1016/j.bushor.2010.05.006

He, H., & Li, Y. (2011). CSR and service brand: the mediating effect of brand identification and moderating effect of service quality. *Journal of Business Ethics, 100*(4), 673–688. https://doi.org/10.1007/s10551-010-0703-y

Hockerts, K., Casanova, L., Gradillas, M., Sloan, P., & Jensen, E. (2008). An overview of CSR practices response benchmarking report. *INSEAD Working Papers Collection, 67*, 1–50.

Ivanović-Đukić, M. (2011). Promovisanje društveno odgovornog poslovanja preduzeća u Srbiji. *Sociologija, 53*(1), 21–42.

Jobber, D., & Fahy, J. (2006). *Osnovi marketinga* (2nd ed.). Beograd: Data Status.

Kandampully, J., & Suhartanto, D. (2000). Customer loyalty in the hotel industry: the role of customer satisfaction and image. *International Journal of Contemporary Hospitality Management, 12*(6), 346–351. https://doi.org/10.1108/09596110010342559

Kotler, P., & Lee, N. (2005). *Corporate social responsibility: Doing the most good for your company and your cause.* Hoboken, NJ: John Wiley & Sons, Inc.

Lee, E. M., Park, S. Y., Rapert, M. I., & Newman, C. L. (2012). Does perceived consumer fit matter in corporate social responsibility issues?. *Journal of Business Research, 65*(11), 1558–1564. https://doi.org/10.1016/j.jbusres.2011.02.040

Maden, C., Arikan, E., Telci, E. E., & Kantur, D. (2012). Linking corporate social responsibility to corporate reputation: A study on understanding behavioral consequences. *Procedia–Social and Behavioral Sciences, 58*, 655–664. https://doi.org/10.1016/j.sbspro.2012.09.1043

Maheshwari, V., Lodorfos, G., & Jacobsen, S. (2014). Determinants of brand loyalty: A study of the experience–commitment–loyalty constructs. *International Journal of Business Administration, 5*(6), 13–23. https://doi.org/10.5430/ijba.v5n6p13

Marin, L., Ruiz, S., & Rubio, A. (2009). The role of identity salience in the effects of corporate social responsibility on consumer behavior. *Journal of Business Ethics, 84*(1), 65–78. https://doi.org/10.1007/s10551-008-9673-8

Marinković, V. (2012). *Marketinški aspekti satisfakcije i lojalnosti: orijentacija na potrošače u savremenom bankarskom poslovanju*. Kragujevac: Ekonomski fakultet.

Park, J., Lee, H., & Kim, C. (2014). Corporate social responsibilities, consumer trust and corporate reputation: South Korean consumers' perspectives. *Journal of Business Research, 67*(3), 295–302. https://doi.org/10.1016/j.jbusres.2013.05.016

Perez, A., García de los Salmones, M. M., & Rodríguez del Bosque, I. (2012). The effect of corporate associations on consumer behavior. *European Journal of Marketing, 47*(1), 218–238.

Peterlin, J., Dimovski, V., Uhan, M., & Penger, S. (2011). Rethinking the corporate social responsibility in Slovenia: empirical evidence. *Ekonomska istraživanja, 24*(4), 126–142. https://doi.org/10.1080/1331677X.2011.11517487

Seifert, B., Morris, S., & Bartkus, B. (2004). Having, giving, and getting: slack resources, corporate philanthropy, and firm financial performance. *Business and Society, 43*, 135–161. https://doi.org/10.1177/0007650304263919

Sirdeshmukh, D., Japdig, S., & Berry, S. (2002). Customer trust, value, and loyalty in relational exchanges. *Journal of Marketing, 66*(1), 15–37. https://doi.org/10.1509/jmkg.66.1.15.18449

Srbljinović, M. (2012). Utjecaj društvene odgovornosti poduzeća na ponašanje potrošača u Hrvatskoj. *Zbornik Ekonomskog fakulteta u Zagrebu, 10*(2), 161–180.

Visser, W. (2006). Revisiting Carroll's CSR pyramid: an African perspective. In M. Huniche & E. P. Rahbek (Eds.), *Corporate citizenship in developing countries—new partnership perspectives* (pp. 29–56). Copenhagen: Copenhagen Business School Press.

Vlachos, P. A., Tsamakos, A.,Vrechopoulos, A. P., & Avramidis, P. K. (2009). Corporate social responsibility: attributions, loyalty, and the mediating role of trust. *Journal of the Academy of Marketing Science, 37*, 170–180. https://doi.org/10.1007/s11747-008-0117-x

Weimer, J., & Pape, J. C. (1999). A taxonomy of systems of corporate governance. *Corporate Governance: An International Review, 7*(2), 152–167. https://doi.org/10.1111/1467-8683.00143

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing, 60*(2), 31–46. https://doi.org/10.2307/1251929

Author

Milena Stanisavljević, MSc, is a teacher assistant at the Department of Entrepreneurship Management at the Faculty of Technical Sciences in Čačak, University of Kragujevac, Serbia. She is a PhD student at the Faculty of Economics, University of Kragujevac, Serbia. She is interested in the field of organization, corporate social responsibility and entrepreneurial economics. Address: Svetog Save St. 65, 32000 Čačak, Serbia; Phone: +381 64 2925705; email: milena.stanisavljevic@ftn.kg.ac.rs

Ali je zvestoba kupcev odvisna od družbene odgovornosti podjetij?

Izvleček

V prispevku so predstavljeni rezultati raziskave, ki je bila izvedena, da bi proučili odvisnost zvestobe kupcev od družbene odgovornosti podjetij. Družbena odgovornost je dobra priložnost za diferenciacijo podjetja, a le, če stranke cenijo njegova prizadevanja na tem področju. Zvestoba je primarni cilj vsakega podjetja, vendar nanjo vplivajo številni dejavniki. Cilj tega prispevka je proučiti, ali družbena odgovornost podjetij kot eden od mogočih dejavnikov vpliva na zvestobo kupcev. Na podlagi predstavljenih rezultatov je mogoče podati priporočila za upravljanje, ki zadevajo poslovno strategijo, poslanstvo in oblikovanje vizije, da bi podjetje lahko zadovoljilo interese strank in si pridobilo njihovo zvestobo.

Ključne besede: družbena odgovornost, zvestoba, strategija, menedžment

Benchmarking Firm-level Resources, Capabilities, and Postures Driving Export Performance of SMEs

Robert Celec
RIS Dvorec Rakičan, Murska Sobota, Slovenia
robert.celec@gmail.com

Dietfried Globocnik
Department of Innovation Management and Entrepreneurship, Alpen-Adria Universitaet Klagenfurt, Austria
dietfried.globocnik@aau.at

ORIGINAL SCIENTIFIC PAPER

RECEIVED: DECEMBER 2016

REVISED: FEBRUARY 2016

ACCEPTED: FEBRUARY 2017

DOI: 10.1515/ngoe-2017-0005

UDK: 339.564:005

JEL: M16, M10, M30

Citation: Celec, R., & Globocnik, D. (2017). Benchmarking Firm-level Resources, Capabilities, and Postures Driving Export Performance of SMEs. *Naše gospodarstvo/Our Economy, 63*(1), 47–58. DOI: 10.1515/ngoe-2017-0005

Abstract

This paper aimed to identify success factors of export performance for small and medium-sized enterprises (SMEs). Drawing on the resource-based view, the dynamic capability view, and international entrepreneurship theory, we extracted relevant assets, capabilities, and postures at the firm level. An extended benchmarking method was applied to empirically test the proposed success factors with a cross-sectional sample of 99 Slovenian SMEs. The results highlight the crucial role of management competence, financial and human resources, market orientation, negotiation flexibility, and a proactive and risk-taking posture to achieve superior export performance.

Key words: Export performance, resource-based view, dynamic capabilities, entrepreneurial orientation, SME, benchmark

Introduction

Exporting to foreign markets is an important growth option for organizations (Lu & Beamish, 2001), and small and medium-sized enterprises (SMEs) are becoming increasingly involved in cross-border trade (Araújo & Gonnard, 2011; Gallup, 2007), especially in smaller economies with limited domestic markets. As the number of SMEs exceeds the number of large companies in most countries (Pett & Wolff, 2011), the export performance of SMEs becomes an issue of both micro- and macroeconomic relevance. Thus, this research aims to identify firm-level success factors of export performance in the specific context of Slovenian SMEs.

Addressing this research question requires drawing on multiple theoretical sources. In the search for success factors, we need to consider the SMEs' resources, capabilities, and postures oriented toward change and adaptations because established firms are built to serve their domestic markets, which may not fit the needs of the foreign market (Knight & Cavusgil, 2004). Based on the resource-based view (Barney, 1991; Penrose, 1959), past research has identified numerous resources relevant for export performance (Dhanaraj & Beamish, 2003; Fahy, 2002). However, most studies rely on empirical studies conducted in the United States. This research validates the findings for Slovenia. More recently, the dynamic

NG
OE

NAŠE GOSPODARSTVO
OUR ECONOMY

Vol. 63 No. 1 2017

pp. 47–58

capability view (Teece, Pisano, & Shuen, 1997) has gained attention in internationalization research, but empirical evidence on the performance impact of specific capabilities is still limited (Jantunen Puumalainen, & Saarenketo, 2005). This study derives dynamic capabilities and empirically assesses their export performance relevance. Finally, venturing into new markets can be seen as an entrepreneurial act (McDougall & Oviatt, 2000), which is the view of international entrepreneurship. One central concept is the entrepreneurial orientation (Covin & Slevin, 1989), but empirical evidence about its performance impact in established firms is limited (Ahuja & Lampert, 2001). This research applies the concept to explore how established SMEs' postures toward change and renewal drive export performance.

Subsequently, we develop hypotheses and then test them with data collected from 99 Slovenian SMEs. By applying a benchmark approach, we empirically show what successfully exporting SMEs do differently than their less successful peers.

Theoretical Foundation

Resource-based view. According to the resource-based view, firm performance is achieved through competitive advantage that derives from the application of resources that are valuable, rare, difficult to imitate, and unable to substitute (Barney, 1991; Penrose, 1959). In this section, we discuss the main firm resources and their relevance for export performance.

Management export experience. Managers are the main decision makers and coordinators of all export market activities (Westhead, Wright, & Ucbasaran, 2001). Their knowledge and experience regarding foreign markets, potential strategies, and operations determine whether the firm can recognize and exploit the opportunities (Aragon-Sanchez & Sanchez-Marin, 2005; Daily, Certo, & Dalton, 2000). Experienced managers more effectively build the capabilities required for new markets, defining clear competitive strategies, and consequently creating competitive advantages (Morgan, Kaleka, & Katsikeas, 2004).

H1. Management export experience is positively related to export performance.

Management export market information. Management export market information refers to the competences of the management to generate relevant information about the export market, such as potential customers, a competitive environment, and funding agencies. It facilitates the generation of a competitive advantage in the export market (Kaleka, 2002) and better decisions on the resources and capabilities necessary for export activities (Morgan et al., 2004). In contrast, a lack of information-related management competence runs the risk of unexpected customer and competitor responses.

H2. Management export market information is positively related to export performance.

Financial resources. Expanding into foreign markets requires investments (e.g., promotion, new sales teams). However, gathering the funds is more difficult for smaller firms due to their limited equity and securities, which limits their options to enter new markets (Mischensky, 1998). Due to the financial limitations of SME, investments also need to break even faster, which reduces the intensity of export activities (Hutchinson et al., 2005). Thus, more financial resources do not increase export performance per se, but a lack of funds definitely inhibits SMEs to engage in export activities.

H3. The lack of financial resources is negatively related to export performance.

Physical resources. Physical resources refer to technology, equipment, production capacities, and access to supplies (Morgan et al., 2004). Similar to financial resources, their availability is not sufficient for successful export, but a lack of physical resources inhibits all related activities. For instance, SMEs cannot fill orders from export customers in the case of production capacity or supply shortage. Thus, physical resources are necessary for export activities.

H4. The lack of physical resources is negatively related to export performance.

Human resources. As employees are the ones implementing the decisions made at higher levels and interacting with customers, they are crucial for firm performance. Past research shows that employee satisfaction is closely related to customer satisfaction, which drives financial performance (Hooley, Greenley, Cadogan, & Fahy, 2005). Employees' skills, loyalty, and motivation are also difficult to imitate and, thereby, are a source of competitive advantage. In the context of internationalization, outstanding human resources have been shown to facilitate international learning and marketing, which in turn improves financial performance (Ling & Jaw, 2006).

H5. Superior human resources are positively related to export performance.

Brand strength. The brand is an intangible asset built over time through marketing activities. With respect to customers, a strong brand creates awareness, reduces uncertainty, reduces price sensitivity, and increases loyalty (Evanschitzky,

2003; Tauber, 1988; Zou, Fang, & Zhao, 2003). This also applies to foreign market activities, resulting in positional advantages of the firm against local competitors and higher export sales and profitability (Zou et al., 2003).

H6. Brand strength is positively related to export performance.

Dynamic capability view. Resources are necessary, but not sufficient, for achieving a sustainable competitive advantage (Barney, 1991); the set of processes determine how these resources are deployed, which refers to the capabilities. They are ill-structured activities embedded in the firm's routines. The dynamic capabilities in particular reconfigure and adapt resources and activities to changes in the environment, serving as performance drivers (Teece et al., 1997). The concept of dynamic capabilities has been shown to also apply in the context of internationalization (Jantunen et al., 2005), although research is still limited. In this section, we explain the impact of the dynamic capabilities that past research has found to impact general firm performance on achieving superior export outcomes.

Market orientation. Market orientation refers to the dynamic capability of aligning strategy and operations with the customer and competitive circumstances. It subsumes all activities to understand customers' needs, how to serve them, and how to differentiate from local competitors (Hooley et al., 2005). Market orientation is found as a performance antecedent across industries and firms of all sizes (Jaworski & Kohli, 1993; Kara, Spillan, & Deshields, 2005; Pelham, 1999). Specifically for export activities, it can be assumed that identifying differences between home and foreign markets regarding customers and competitors, and adapting to them**,** increases export performance.

H7. Market orientation is positively related to export performance.

Negotiation flexibility. An organization's flexibility to respond agilely to new requirements for negotiations and contracting is relevant for adapting to customers and other partners in foreign markets for whom the tactics established for the domestic market do not apply (Bello & Gilliland, 1997). For instance, new markets may require alternative pricing, knowledge about laws, and language or intercultural communication skills. Adapting efficiently and effectively to how business relations with local contracting partners are formed and sustained can thereby be a source of competitive advantage.

H8. Negotiation flexibility is positively related to export performance.

Service capability. Serving the customer with better quality with respect to product access, line breadth, timely and reliable delivery, technical support, and after-sales services requires the capability to deploy the resources to create customer value. This creates higher customer satisfaction and loyalty, lower price sensitivity, and consequently higher profitability (Reichheld & Sasser, 1990). In the export context, past research has also found that service quality facilitates firm performance (Cavusgil & Zou, 1994; Morgan et al., 2004).

H9. Service capability is positively related to export performance.

International entrepreneurship view. One stream of international entrepreneurship research uses firms' postures—especially the entrepreneurial orientation (Covin & Slevin, 1989)—to explain performance differences. Entrepreneurial orientation manifests in the firm's strategy, operations, decisions, and management style regarding new entries with existing or new products and services (Lumpkin & Dess, 1996). The three underlying dimensions are the firm's innovativeness, proactiveness, and risk-taking, which are supposed to enable the firm to better serve customers' needs, become a first-mover, and commit sufficient resources for opportunity exploitation (Covin, Green, & Slevin, 2006). In the context of internationalization, however, the empirical findings on the performance impact of this posture are mixed (e.g., Balabanis & Katsika, 2003; Dimitratos, Lioukas, & Carter, 2004; Frishammar & Anderson, 2009; Jantunen et al., 2005). We subsequently describe how the three dimensions may impact export performance.

Innovativeness. Innovativeness refers to the firm's posture to engage in finding new solutions and R&D activities to generate new products, services, and processes rather than relying on the existing portfolio (Covin & Slevin, 1989). With respect to foreign markets, customers' needs, competition, and regulations may differ from the domestic market and therefore require the firm to adapt existing or innovate new products and services to successfully enter the market and gain a competitive advantage. Thus, innovativeness is supposed to increase export performance.

H10. Innovativeness is positively related to export performance.

Proactiveness. This posture describes the tendency of the firm to constantly search for new opportunities and initiate activities based on anticipated market needs as a pioneer instead of just reacting to competitive moves (Covin & Slevin, 1989). For export activities, this suggests that proactive firms should be more successful as they actively seek for new foreign market opportunities, adapt their portfolio, and enter new markets earlier when competitive pressure is still lower and market shares are easier to gain.

H11. Proactiveness is positively related to export performance.

Risk-taking. Having this posture means taking calculated risks by committing resources to the exploitation of opportunities that are uncertain rather than taking a play-it-safe mentality (Covin & Slevin, 1989). The uncertainty inherent in both customer acceptance and competitors' responses when entering new markets, and the investments necessary to build the infrastructure and execute export activities, requires the firm to take risks when aiming to export successfully.

H12. Risk-taking is positively related to export performance.

Method

Sample description. Representatives of SMEs randomly selected from the Slovenian business register were phoned and informed about the purpose of the study; those expressing their willingness to participate were provided with an electronic survey by email. Only exporting SMEs (> 1% of revenues from export markets) were included into the sample. In total, 99 usable questionnaires were returned, representing a 25% response rate. The participating firms came from various industries, and the respondents were mainly executives (47.5%) or sales and marketing managers (42.4%). Sample characteristics are reported in Table 1.

Measures. Established multi-item measures using Likert-type scales were used for all variables. Introductory statements included instructions of the rating process. Export performance was captured using 14 items from Lages, Lages, and Lages (2005) on 5 dimensions (financial, strategic, goal achievement, satisfaction, contribution to operations), which were aggregated to an overall export performance measure. The performance rating referred to export activities within the previous year. The items were formulated as statements, and the respondents indicated on the scale their level of agreement. Management export experience measured knowledge and intensity of past export activities using four items from Morgan et al. (2004). Management export market information measured managerial competence to gather and analyze information about customers and competitors in the export market based on six items from Morgan et al. (2004). The availability of financial, physical, and superior human resources was assessed using seven items from Morgan et al. (2004) and Hooley et al. (2005). Brand strength in the export market was captured with three items from Zou et al. (2003). Market orientation was assessed with seven items from Hooley et al. (2005) asking for the alignment of strategy and operations with customers and the competitive landscape. Negotiation flexibility was captured with three items from Bello and Gilliland (1997), demonstrating flexibility in adapting and modifying contracts with suppliers and customers. Based on Morgan et al. (2004), three items captured the firm's service capability: product accessibility, technical support, and delivery. Similar to prior studies, the respondents rated all resources and capabilities relative to their competition. For entrepreneurial orientation, Covin and Slevin's (1989) scale was applied to assess innovativeness, proactiveness, and risk-taking with three items each. The scale formulated statements describing the characteristics at the poles of each dimension, and the respondents had to indicate toward which description their organization tends.

Scale properties and benchmarking procedure. Validity and reliability of the scales were assessed before performing further analysis. Unidimensionality was assessed with explorative factor analyses (Hair, Black, Babin, Anderson,

Table 1. Demographics

INDUSTRY (PERCENTAGE)		COMPANY SIZE (EMPLOYEES)		REVENUE (Mio. EUR)	
Machinery and Equipment	17%	⩽ 10 employees	22%	0–1.000	27%
Metal	11%	11–25	22%	1,000–2,000	15%
Information and Telecom	8%	26–100	32%	2,000–10,000	32%
Science and Consultancy	7%	101–250	18%	> 10,000	18%
Textiles	7%	n.a.	5%	n.a.	7%
Chemicals and Pharma	6%				
Rubber and Plastics	5%				
Other	27%	Average Percentage of Employees Abroad		Average Percentage of Revenue from Export	
n.a.	13%		13%		35%

Note: Total sample size: n = 99 firms

Source: Authors' survey

& Tatham, 2006). For each scale, only one factor with eigenvalue > 1 was extracted. The extracted variance was > 60% for all scales except financial resources (57%) and innovativeness (54%); however, in both cases the items still explained more than half of their factor's variance, and the items' loadings with > 0.60 were all above the threshold of 0.40. Regarding export performance, an additional factor analysis at the dimension level only extracted one higher-order factor, which supports that they all reflect overall performance and can be aggregated. Internal consistency reliability was assessed with Cronbach's alpha ranging between 0.72 and 0.92 at satisfactory levels (Hair et al., 2006). Only the scale innovativeness (0.57) fell slightly below the common threshold of 0.60. However, the inter-item correlation of all items still exceeded 0.30, and the elimination of the item "Changes in product or services have been mostly of minor nature vs. changes in product or service lines have usually been quite dramatic" would have reduced the nomological validity of the scale significantly. Furthermore, the Cronbach's alpha is dependent on the number of items and tends to increase with the number of items. Given that innovativeness only has three items, we believe that falling slightly below 0.60 in this reliability indicator is acceptably sensitive to the number of items. Thus, we decided to keep the original three-item solution. The Harman single-factor test (Podsakoff & Organ, 1986) was used to assess common method bias. There was no single factor accounting for the majority of the items' covariance, thereby rejecting any concerns. Means, standard deviations, Cronbach's alpha, and correlations are reported in Table 2, and items, factor loadings, explained variances, are listed in the Appendix.

Table 2. Means, Standard Deviations, Cronbach's Alpha, and Correlation Matrix

Construct	Mean	S.D.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	CA
Company Size	75.60	138.98	*(-)*																(-)
Employees Abroad (%)	12.96	27.53	0.11																(-)
Export Revenue (%)	35.17	33.68	0.23**	-0.04															(-)
Competitive Pressure	5.69	0.75	0.12	0.00	0.03														(0.80)
Management Export Experience	4.37	0.98	0.12	0.24**	0.15	-0.02													(0.86)
Management Export Market Information	4.21	1.11	-0.06	0.16	0.03	0.00	0.40***												(0.86)
Financial Resources	4.11	0.93	-0.09	0.26***	0.07	-0.13	0.34***	0.29***											(0.72)
Physical Resources	4.64	1.14	0.05	0.13	-0.05	0.01	0.34***	0.24**	0.20*										(0.81)
Human Resources	4.96	1.19	-0.03	0.05	-0.01	-0.08	0.17*	0.22**	0.12	0.44***									(0.87)
Brand Strength	4.92	1.31	0.05	0.13	0.20**	-0.02	0.36***	0.31***	0.25**	0.11	0.14								(0.85)
Market Orientation	5.09	0.99	0.05	0.09	0.13	-0.02	0.37***	0.49***	0.29***	0.38***	0.51***	0.33***							(0.91)
Negotiation Flexibility	5.12	1.10	-0.14	0.20**	0.11	-0.04	0.26**	0.22**	0.34***	0.29***	0.40***	0.26***	0.42***						(0.89)
Service Capability	5.14	1.03	0.07	0.12	0.02	-0.05	0.35***	0.17*	0.35***	0.43***	0.28***	0.53***	0.52***	0.34***					(0.83)
Innovativeness	4.05	1.19	0.11	0.11	0.21**	0.04	0.16	0.24**	-0.01	0.14	0.01	0.10	0.25**	-0.03	0.10				(0.57)
Proactiveness	4.01	1.20	0.18*	0.20	0.09	-0.16	0.25**	0.20**	0.14	0.14	0.13	0.42***	0.30***	0.09	0.34***	0.41***			(0.72)
Risk Taking	3.64	1.20	0.04	0.31***	0.03	-0.10	0.04	0.35***	0.13	0.15	-0.01	0.06	0.19*	0.02	0.01	0.45***	0.48***		(0.80)
Export Performance	4.28	1.22	-0.14	0.26**	0.08	-0.06	0.21**	0.24**	0.23**	0.09	0.21**	0.23**	0.15	0.15	0.10	0.04	0.18*	0.23**	(0.91)

Note: S.D. = standard deviation; * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$ (two-tailed); CA = Cronbach's alpha.

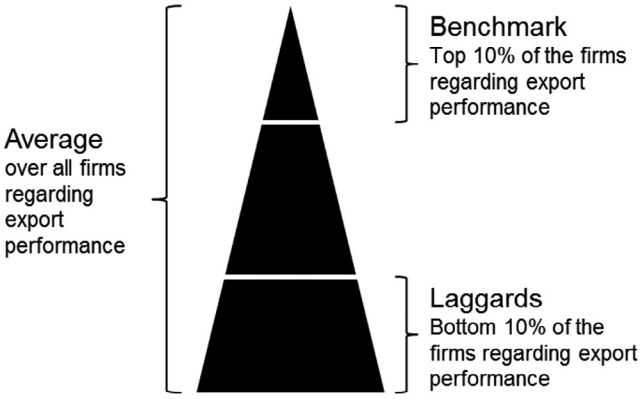
Source: Authors' survey

In this research, we applied a benchmarking methodology to test our hypotheses on the success factors for export performance. Recently, benchmarking has moved from assessing and comparing performance outcomes to the factors (e.g., resources, capabilities) believed to be responsible for achieving superior outcomes (Ralston, Wright, & Kumar, 2001). This helps firms better identify what practices to apply in order to improve their outcomes. Benchmarking is also established in different management areas (e.g., Cooper, Edgett, & Kleinschmidt, 2004; Landry, Jalbert, & Chan, 2003).

Specifically, we organized all participating firms of our sample by their export performance and selected the top 10% to enter the benchmark group. We then aggregated their scores for each scale capturing the resources, capabilities, orientations, and performance. This group-level score reduces the impact of single outliers and indicates general success factors. The procedure was repeated for the bottom 10%—namely, firms with the lowest export performance—to contrast the practices of the top performers (benchmark) with those of the low performers (laggards). Furthermore, the overall average score (average all firms) was calculated to provide a reference point for the entire sample. This approach is also depicted in Figure 1. In order to improve readability, the original 7-point scale was transposed to a scale ranging from 0 to 100. The different performance levels of the three groups for overall export performance and its sub-dimensions are depicted in Figure 2.

As the comparison between the benchmark and the laggard group only shows the differences in practices for the two export performance poles, we also calculated the correlation (Pearson) of the resources, capabilities, and orientations with export performance that draws on the full data set of all firms. This provides us with additional information regarding whether a success factor identified through benchmarking is robust across different performance levels.

Figure 1. Benchmark calculation scheme



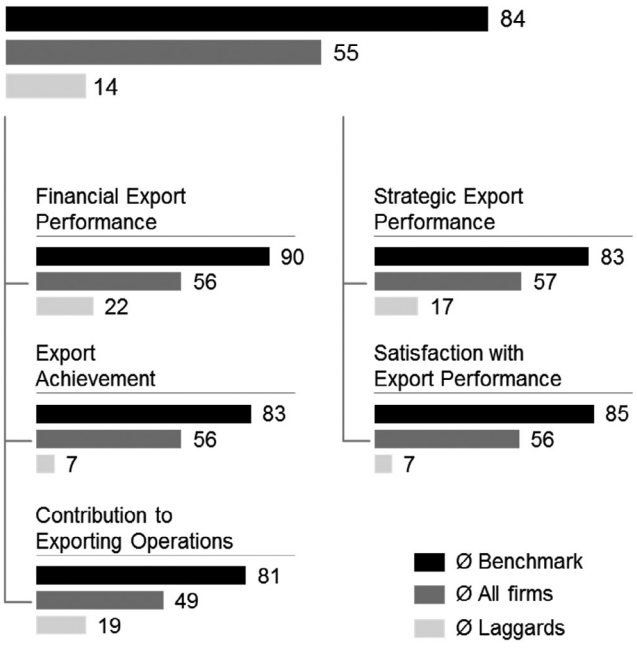
Source: Authors

Results

Regarding the relevance of the resources for the export performance of SMEs, the benchmark results summarized in Figure 3 support most of the proposed hypotheses. The benchmark group scored higher than the laggards with respect to management export experience (Δ = 15), and the correlation analysis considering the entire sample was also significantly positive (r = 0.21; p = 0.02). Thus, hypothesis H1 was supported by the data. Management export market information was also identified as an export success factor. The benchmark group performed better (Δ = 9), and the correlation was positive and significant (r = 0.24; p < 0.01). The data also supported hypotheses H3, H5, and H6. Compared with the laggards, the benchmark group had better financial resources (Δ = 15), superior human resources (Δ = 7), and brand strengths (Δ = 23), and all correlations were positive and significant (r = 0.21–0.24; p < 0.02). However, a lack of physical resources was not related with lower performance because even the benchmark group had a lower score than the laggards (Δ = -7), and the correlation was insignificant. Thus, hypothesis H4 was rejected by the data.

The results on the capabilities and orientations are summarized in Figure 4. With respect to market orientation, the benchmark group performed slightly better than the bottom group (Δ = 4), but the positive correlation coefficient was not significant (r = 0.15; p = 0.07). Regarding negotiation flexibility, the benchmark scores was also higher (Δ = 14), but the correlation was insignificant (r = 0.15; p = 0.07). Thus,

Figure 2. Export performance



Source: Authors' Survey

hypotheses H7 and H8 were rejected by the data. Service capability and a general posture toward innovativeness were also not identified as general success factors. Although the benchmark group scored higher in their service capabilities ($\Delta = 2$) and their innovativeness ($\Delta = 8$), the correlation analysis did not support the proposed positive relation for all performance levels. Hypotheses H9 and H10 were rejected. Finally, proactive and risk-taking postures were supported as export success factors, supporting hypotheses H11 and H12. The benchmark group scores were higher in proactiveness ($\Delta = 22$) and risk-taking ($\Delta = 20$), and the correlations were significantly positive ($r = 0.18$–0.23; $p < 0.05$).

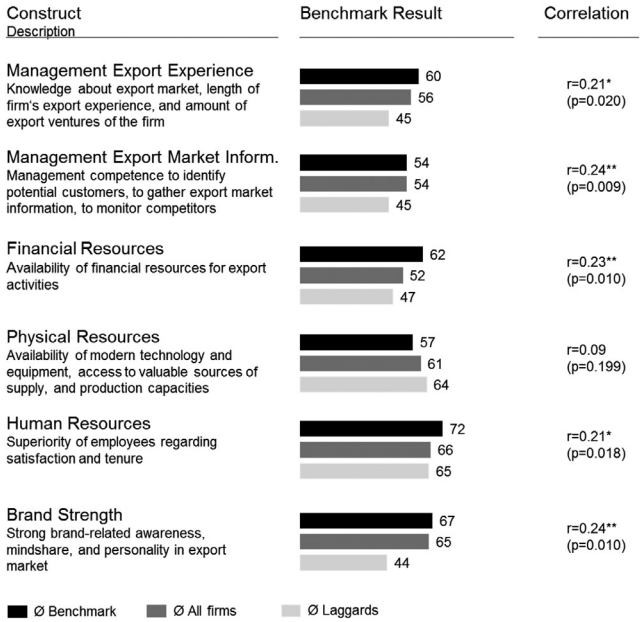
Discussion and Conclusion

This research aimed to identify firm-level resources, capabilities, and orientations relevant for SMEs to achieve superior export performance. The benchmark study empirically supported many of the proposed success factors. We demonstrated that successfully exporting SMEs have the required financial funds, superior human resources, and stronger brands; the management also has broader and longer experience with export activities. Furthermore, market-related aspects play a crucial role for achieving export performance, especially the competence of SMEs' managers to analyze the customers, competitors, and environment. The results further highlighted the advantage of realizing one's export activities in a proactive fashion and taking calculated risks.

However, some investigated factors did not show the expected effect. Regarding physical resources, it might be that the lack of a performance impact was caused by firms operating in different industries. Intensity of production and technology application varied by industries (e.g., service vs. manufacturing firms); thus, their performance impact might be contingent on industry affiliation. With respect to service capabilities, past research has noted that services require a local presence to be delivered and, therefore, cannot be exported (Erramilli & Rao, 1993). This might be the reason why an SME's general service capability does not affect export performance. Benchmark firms perform better than the laggards in terms of their market orientation and negotiation flexibility. However, this effect is not significant over the entire sample. It may be that, in some industries present in the sample, these capabilities are not relevant. This might be the case for commodity products, where prices and conditions are almost fixed, and customers' needs and demands are relatively stable. Finally, the reason for the unexpected absence of an impact of innovativeness on export performance might be that being successful in an export market does not necessarily require innovation in products and technologies in general.

From a theoretical perspective, we highlighted the importance of drawing on multiple theoretical sources when identifying success factors of export performance. Whereas scholars have discussed the lack of theory pluralism in internationalization research (e.g., Penrose, 1959; Spence & Crick, 2006), we identified organizational factors grounded in different theories.

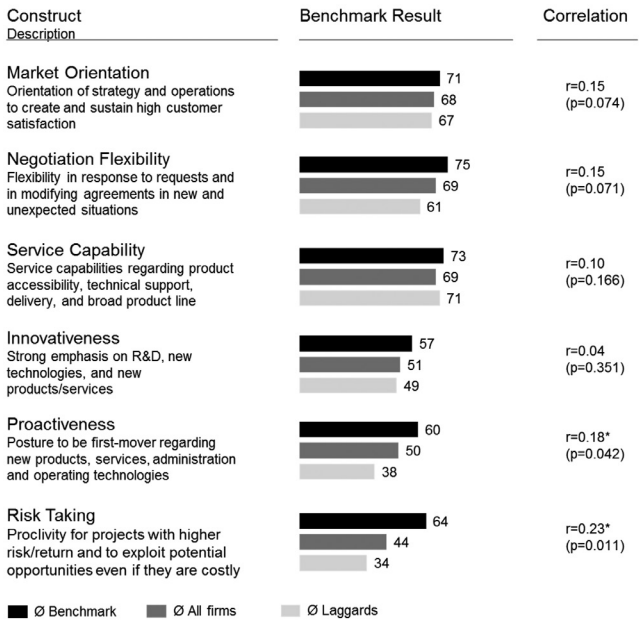
Figure 3. Performance impact of resources



Note: r correlation coefficient (Pearson); p level of significance. (one-tailed) * $p < 0.05$; ** $p < 0.01$.

Source: Authors' survey

Figure 4. Performance impact of capabilities and orientations



Note: r correlation coefficient (Pearson); p level of significance. (one-tailed) * $p < 0.05$; ** $p < 0.01$.

Source: Authors' survey

Regarding the empirical method, we applied the less commonly used benchmarking approach, which fits the purpose of identifying success factors well. The comparison between firms that are more and less successful in their export activities delivers a profound and easy to communicate result on the best practices to follow. To overcome the limitation of benchmarks that typically focus on the small subsamples of best (and worst) performing firms, we provided a complementary correlation analysis that considered all performance levels of the entire sample. Future benchmark studies should also follow this approach.

For managers, the results highlighted their role as organizational designers that need to build and provide the appropriate asset base to successfully venture into export markets. Resources such as a qualified and motivated employee base or a strong brand already indicate the mid- to long-term perspective of these activities. This becomes even clearer when considering the set of measures required to develop a firm-level posture such as proactiveness. Besides building knowledge and adopting tools and methods, this comes along with changes in the organizational culture.

Managers can also use the items provided in the Appendix to benchmark themselves. By assessing the extent to which each item applies to their firm on a scale ranging from 0 to 10 and averaging the scores of the items belonging to each construct, they can calculate their own firm value of each factor, compare it with the benchmark group, and then derive measures in case they fall below the values of the successful reference group.

References

Ahuja, G., & Lampert, C. (2001). Entrepreneurship in the large corporation: A longitudinal study of how established firms create breakthrough inventions. *Strategic Management Journal*, *22*, 521–543. https://doi.org/10.1002/smj.176

Aragon-Sanchez, A., & Sanchez-Marin, G. (2005). Strategic orientation, management characteristics, and performance: A study of Spanish SMEs. *Journal of Small Business Management, 43*(3), 287–308. https://doi.org/10.1111/j.1540-627X.2005.00138.x

Araújo, S., & Gonnard, E. (2011). Selling to foreign markets: a portrait of OECD exporters. *OECD 50 Statistics Brief*, *16*.

Balabanis, G. I., & Katsikea, E. S. (2003). Being an entrepreneurial exporter: Does it pay? *International Business Review*, *12*, 233–252. https://doi.org/10.1016/S0969-5931(02)00098-7

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, *17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Bello, D. C., & Gilliland, D. I. (1997). The effect of output controls, process controls, and flexibility on export channel performance. *Journal of Marketing, 61*(1), 22–38. https://doi.org/10.2307/1252187

Cavusgil, S. T., & Zou, S. (1994). Marketing strategy—Performance relationship: An investigation of the empirical link in export market ventures. *Journal of Marketing*, *58*(1), 1–21. https://doi.org/10.2307/1252247

Cooper, R. G., Edgett, S. J., & Kleinschmidt, E. J. (2004). Benchmarking NPD—Practices I. *Research Technology Management, 47*(1), 31–43.

Covin, J. G., Green, K. M., & Slevin, D. P. (2006). Strategic process effects on the entrepreneurial orientation—Sales growth rate relationship. *Entrepreneurship Theory and Practice, 30*(1), 57–81. https://doi.org/10.1111/j.1540-6520.2006.00110.x

Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, *10*, 75–87. https://doi.org/10.1002/smj.4250100107

Daily, C. M., Certo, T. C., & Dalton, D. R. (2000). International experience in the executive suite: The path to prosperity?. *Strategic Management Journal*, *21*(4), 515–523. https://doi.org/10.1002/(SICI)1097-0266(200004)21:4<515::AID-SMJ92>3.0.CO;2-1

Dhanaraj, C., & Beamish, P. W. (2003). A resource-based approach to the study of export performance. *Journal of Small Business Management*, *41*(3), 242–261. https://doi.org/10.1111/1540-627X.00080

Dimitratos, P., Lioukas, S., & Carter, S. (2004). The relationship between entrepreneurship and international performance: The importance of domestic environment. *International Business Review*, *13*, 19–41. https://doi.org/10.1016/j.ibusrev.2003.08.001

Erramilli, M. K., & Rao, C. P. (1993). Service firms' international entry mode choice: A modified transaction-cost analysis approach. *Journal of Marketing, 57*(3), 19–38. https://doi.org/10.2307/1251852

Evanschitzky, H. (2003). *Erfolg von Dienstleistungsnetzwerken—Ein Netzwerkmarketingansatz.*. Wiesbaden: Deutscher Universitaetsverlag. https://doi.org/10.1007/978-3-322-81636-8

Fahy, J. (2002). A resource-based analysis of sustainable competitive advantage in a global environment. *International Business Review*, *11*, 57–78. https://doi.org/10.1016/S0969-5931(01)00047-6

Frishammar, J., & Andersson, S. (2009). The overestimated role of strategic orientations for international performance in smaller firms. *Journal of International Entrepreneurship*, *7*(1), 57–77. https://doi.org/10.1007/s10843-008-0031-9

Gallup. (2007). Survey of the observatory of European SMEs. *Flash Eurobarometer* [Series No. 196]

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (6th ed.). Upper Saddle River, NJ: Pearson.

Hooley, J. H., Greenley, G. E., Cadogan, J. W., & Fahy, J. (2005). The performance impact of marketing resources. *Journal of Business Research*, *58*(1), 18–27. https://doi.org/10.1016/S0148-2963(03)00109-7

Hutchinson, K., Quinn, B., & Alexander, N. (2005). The internationalization of small to mediumsized retail companies: towards a conceptual framework. *Journal of Marketing Management*, 21(1/2, 149–179. https://doi.org/10.1362/0267257053166857

Jantunen, A., Puumalainen, K., & Saarenketo, S. (2005). Entrepreneurial orientation, dynamic capabilities and international performance. *Journal of International Entrepreneurship*, *3*(3), 223–243. https://doi.org/10.1007/s10843-005-1133-2

Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: Antecedents and consequences. *Journal of Marketing*, *57*(3), 53–70. https://doi.org/10.2307/1251854

Kaleka, A. (2002). Resources and capabilities driving competitive advantage in export markets: Guidelines for industrial exporters. *Industrial Marketing Management*, *31*(3), 273–283. https://doi.org/10.1016/S0019-8501(00)00148-6

Kara, A., Spillan, J. E., & Deshields Jr., O. W. (2005). The effect of market orientation on business performance: A study of small-sized service retailers using MARKOR scale. *Journal of Small Business Management, 43*(2), 105–118. https://doi.org/10.1111/j.1540-627x.2005.00128.x

Knight, G. A., & Cavusgil, S. T. (2004). Innovation, organizational capabilities, and the born-global firm. *Journal of International Business Studies*, *35*(2), 124–141. https://doi.org/10.1057/palgrave.jibs.8400071

Lages, L. F., Lages, C., & Lages, C. R. (2005). Bringing export performance metrics into annual reports: The APEV scale and the PERFEX scorecard. *Journal of International Marketing*, *13*(3), 79–104. https://doi.org/10.1509/jimk.13.3.79

Landry, S., Jalbert, T., & Chan, C. (2003). Benchmarking the accounting and finance functions of Hong Kong firms. *Journal of Business and Economics Research, 1*(9), 19–34.

Ling, Y.-H., & Jaw, B.-S. (2006). The influence of international human capital on global initiatives and financial performance. *International Journal of Human Resource Management*, *17*(3), 379–398. https://doi.org/10.1080/09585190500521227

Lu, J. W., & Beamish, P. W. (2001). The internationalization and performance of SMEs. *Strategic Management Journal*, *22*(6/7), 565–586. https://doi.org/10.1002/smj.184.abs

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review, 21*(1), 135–172. https://doi.org/10.5465/AMR.1996.9602161568

McDougall, P. P., & Oviatt, B. M. (2000). International entrepreneurship: the intersection of two research paths. *Academy of Management Journal*, *43*, 902–908. https://doi.org/10.2307/1556418

Mischensky, C. (1998). *Die Internationalisierung von Unternehmen—Beiträge zu einer strategischen Planungskonzeption unter besonderer Berücksichtigug der Anforderungen mittelständischer Unternehmen* (Unpublished dissertation). Alpen-Adria Universitaet, Klagenfurt.

Morgan, R. E., Kaleka, A., & Katsikeas, C. S. (2004). Antecedents of export venture performance: A theoretical model and empirical assessment. *Journal of Marketing*, *68*(1), 90–108. https://doi.org/10.1509/jmkg.68.1.90.24028

Pelham, A. (1999). Influence on environment, strategy and market orientation on performance in small manufacturing firms. *Journal of Business Research*, *45*(1), 33–46. https://doi.org/10.1016/S0148-2963(98)00026-5

Penrose, E. T. (1959). *The theory of the growth of the firm.* New York: Wiley.

Pett, T. L., & Wolff, J. A. (2011). *SME identity and homogeneity—Are there meaningful differences between micro, small, and medium-sized enterprises?* International Council for Small Business (ICSB) 2011 Conference, Stockholm.

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, *12*(4), 531–544. https://doi.org/10.1177/014920638601200408

Ralston, D., Wright, A., & Kumar, J. (2001). Process benchmarking as a market research tool for strategic planning. *Marketing Intelligence & Planning*, *19*(4), 273–281. https://doi.org/10.1108/EUM0000000005558

Reichheld, F. F., & Sasser, W. E. (1990). Zero defection: Quality comes to services. *Harvard Business Review*, *68*(5), 105–111.

Spence, M., & Crick, D. (2006). A comparative investigation into the internationalization of Canadian and UK high-tech SMEs. *International Marketing Review*, *23*(5), 524–548. https://doi.org/10.1108/02651330610703436

Tauber, E. M. (1988). Brand leverage: Strategy for growth in a cost-control world. *Journal of Advertising Research*, *28*(4), 26–30.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, *18*(7), 509–535. https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z

Westhead, P., Wright, M., & Ucbasaran, D. (2001). The internationalization of new and small firms: A resource-based view. *Journal of Business Venturing*, *16*, 333–358. https://doi.org/10.1016/S0883-9026(99)00063-4

Zou, S., Fang, E., & Zhao, S. (2003). The effect of export marketing capabilities on export performance: An investigation of Chinese exporters. *Journal of International Marketing*, *11*(4), 32–55. https://doi.org/10.1509/jimk.11.4.32.20145

Appendix A. Measures and Scale Properties

*CONSTRUCT (Reference)/*Indicators	**L**	**EV**	**CA**
EXPORT PERFORMANCE (Lages et al., 2005)			
Dimension Financial Export Performance		70.41	0.79
The export activities have been very profitable	0.89		
The export activities have generated a high volume of sales	0.76		
The export activities have achieved rapid growth	0.86		
Dimension Strategic Export Performance		65.41	0.70
The export activities have improved our global competitiveness	0.45		
The export activities have strengthened our strategic position	0.95		
The export activities have significantly increased our global market share	0.93		
Dimension Export Achievement		86.61	0.92
The performance of the export activities have been very satisfactory	0.94		
The export activities have been very successful	0.94		
The export activities have fully met our expectations	0.91		
Dimension Satisfaction with Export Performance		92.67	0.92
Market share in the selected importing market of the export activities	0.96		
Overall export performance	0.96		
Dimension Contribution to Exporting Operations		70.36	0.78
Contribution of the export venture to sales value	0.68		
Contribution of the export venture to sales volume	0.93		
Contribution of the export venture to export profit	0.88		
MANAGEMENT EXPORT EXPERIENCE (Morgan et al., 2004)		70.35	0.86
Knowledge of export venture market	0.80		
Length of firms export experience (years)	0.86		
Number of export ventures in which firm has been involved	0.83		
Past venture performance	0.86		
MANAGEMENT EXPORT MARKET INFORMATION (Morgan et al., 2004)		67.45	0.86
Identification of prospective customers	0.84		
Capturing important marketing information	0.79		
Acquiring export market-related information	0.77		
Analyzing export market-related information	0.84		
Making contacts in the export market	0.84		
Monitoring competitive products in export market	0.85		
FINANCIAL RESOURCES (Morgan et al., 2004)		57.63	0.72
Availability of financial resources to be devoted to export activities (in general)	0.76		
Availability of financial resources to be devoted to this export venture	0.76		
PHYSICAL RESOURCES (Morgan et al., 2004)		73.02	0.81
Use of modern technology and equipment	0.86		
Preferential access to valuable sources of supply	0.84		
Production capacity available	0.86		
HUMAN RESOURCES (Hooley et al., 2005)		88.14	0.87
Levels of employee job satisfaction compared to competitors	0.94		
Levels of employees retention compared to competitors	0.94		
BRAND STRENGTH (Zou et al., 2003)		77.44	0.85

*CONSTRUCT (Reference)/*Indicators	**L**	**EV**	**CA**
Brand awareness (compared to major competitors in export market)	0.89		
Brand's "mindshare" (compared to major competitors in export market)	0.90		
Brand personality (compared to major competitors in export market)	0.85		
MARKET ORIENTATION (Hooley et al., 2005)		65.93	0.91
Our commitment to serving customers is closely monitored	0.66		
Objectives and strategies are driven by creation of customer satisfaction	0.85		
Competitive strategies are based on understanding customer needs	0.85		
Functions are integrated to serve market needs	0.87		
Strategies are driven by increasing value for customers	0.83		
Customer satisfaction is systematically and frequently assessed	0.76		
Managers understand how employees contribute to value for customers	0.84		
NEGOTIATION FLEXIBILITY (Bello & Gilliland, 1997)		82.65	0.89
Flexibility in response to requests for changes is a characteristic of both parties	0.92		
Both parties are open to each other's request to modify a prior agreement	0.92		
When some unexpected situation arises, both parties would rather work out a new deal than hold each other to the original terms	0.89		
SERVICE CAPABILITY (Morgan et al., 2004)		66.60	0.83
Product accessibility	0.84		
Technical support and after-sales service	0.82		
Delivery speed and reliability	0.81		
Product line breath	0.80		
Note: All items measured on 7-point Likert scale; L factor loading; EV extracted variance, CA Cronbach's alpha.			
ENTREPRENEURIAL ORIENTATION (Covin & Slevin, 1989)			
Dimension Innovativeness		54.34	0.57
A strong emphasis on the marketing of tried-and-true products or services vs. a strong emphasis on R&D, technological leadership, and innovations	0.75		
No new lines of products or services vs. many new lines of products or services	0.84		
Changes in product or services have been mostly of minor nature vs. changes in product or service lines have usually been quite dramatic	0.60		
Dimension Proactiveness		65.49	0.72
Typically responds to actions that competitors initiate vs. typically initiates actions to which competitors then respond	0.88		
Is very seldom the first business to introduce new products/services, administrative techniques, operating technologies, etc., vs. is very often the first business to introduce new products/ services, administrative techniques, operating technologies, etc.	0.90		
Typically seeks to avoid competitive clashes, preferring a "live-and-let-live" posture vs. typically adopts a very competitive "undo-the-competitors" posture	0.62		
Dimension Risk-Taking		71.27	0.80
A strong proclivity for low-risk projects (with normal and certain rates of return) vs. a strong proclivity for high-risk projects (with chances of very high returns)	0.84		
Owing to the nature of the environment, it is best to explore it gradually via cautious, incremental behavior vs. owing to the nature if the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives	0.89		
Typically adopts a cautious "wait-and-see" posture in order to minimize the probability of making costly decisions vs. typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities	0.81		
Note: All items measured on 7-point Likert type scale; L factor loading; EV extracted variance, CA Cronbach's alpha.			

Authors

Robert Celec is a researcher and manager of the organization RIS Dvorec Rakičan. He successfully defended his doctoral thesis in the field of SME internationalization at the University of Maribor, Slovenia. He also works as an advisor for enterprises in the field of internationalization, new product and brand development, and project evaluation. His research interests cover innovation management and export marketing, and results have been presented at international conferences.

Dietfried Globocnik is senior scientist at the Alpen-Adria University and the University of Graz. He holds a diploma in business administration and a doctorate in social and economic sciences from the University of Graz. His research interest entails innovation marketing, corporate entrepreneurship, and organizing innovation activities in MNEs. His academic work is published in books and journals such as Journal of Product Innovation Management and European Journal of International Management.

Benchmarking virov, sposobnosti in odnosa podjetij, ki poganjajo izvozni uspeh MSP

Izvleček

Namen tega članka je določiti dejavnike za izvozni uspeh malih in srednje velikih podjetij (MSP). S pomočjo na virih osnovane teorije podjetij, teorije dinamičnih sposobnosti in mednarodne podjetniške teorije smo izluščili ključne prednosti, sposobnosti in odnose na ravni podjetja. Za empirični test predlaganih dejavnikov uspeha s presečnim vzorcem 99 slovenskih MSP je bila uporabljena obširna benchmarking metoda. Rezultati poudarjajo odločilno vlogo sposobnosti vodstva, finančnih in kadrovskih virov, tržne naravnanosti, pogajalskih sposobnosti ter proaktivnega in tveganjskega odnosa za dosego izrednega izvoznega uspeha.

Ključne besede: izvozni uspeh, na virih osnovana teorija podjetij, dinamične sposobnosti, podjetniška naravnanost, MSP, benchmark

Mobile Learning Usage and Preferences of Vocational Secondary School Students: The cases of Austria, the Czech Republic, and Germany

Antun Biloš
Faculty of Economics in Osijek, Josip Juraj Strossmayer University of Osijek, Croatia
abilos@efos.hr

Davorin Turkalj
Faculty of Economics in Osijek, Josip Juraj Strossmayer University of Osijek, Croatia
davorin@efos.hr

Ivan Kelić
Faculty of Economics in Osijek, Josip Juraj Strossmayer University of Osijek, Croatia
ikelic@efos.hr

ORIGINAL SCIENTIFIC PAPER

RECEIVED: SEPTEMBER 2016

REVISED: JANUARY 2017

ACCEPTED: JANUARY 2017

DOI: 10.1515/ngoe-2017-0006

UDK: 37:004.5/.7

JEL: D83

Citation: Biloš, A., Turkalj, D., & Kelić, I. (2017). Mobile Learning Usage and Preferences of Vocational Secondary School Students: The cases of Austria, the Czech Republic, and Germany. *Naše gospodarstvo/Our Economy, 63*(1), 59–69. DOI: 10.1515/ngoe-2017-0006

Abstract

The purpose of this paper is to determine the current status of mobile device usage and mobile learning adoption in vocational education and training (VET) secondary schools in three European Union countries (Austria, the Czech Republic, and Germany). The research focused on exploring students' mobile device usage habits, their attitudes toward education in the context of mobile application support, and preferences regarding mobile learning features. The research confirmed a high level of mobile device usage among secondary school students on a daily basis; smartphones and laptops were the most commonly used devices. The vast majority of participants perceived themselves to be advanced mobile device users, but reported a deficit of ICT-assisted mobile learning experience. However, the majority of respondents with prior ICT-assisted education experience described it as a positive or very positive experience. In addition, study participants tended to agree that mobile learning will play a significant role in education in the future. The paper also explored the reported differences among the students in the three countries and suggested several implications for understanding students' views of mobile learning. The findings provide insights into possibilities of m-learning implementation while creating a framework for m-learning application development in the VET secondary school environment.

Key words: mobile learning, secondary school education, online teaching, student mobile device usage, m-learning, mobile teaching

NG
OE

NAŠE GOSPODARSTVO
OUR ECONOMY

Vol. 63 No. 1 2017

pp. 59–69

Introduction

The global Internet and mobile development of the 21st century are persistently reshaping the social existence by fundamentally affecting the various levels of communication, socialization, and information exchange. Information access and usage have been significantly influenced by the adoption of mobile devices such as portable computers (laptops), mobile phones, tablets, wearables, and similar devices. Such change is affecting the entire user experience across various screens, devices, and channels (Adams, Burkholder, & Hamilton, 2015). Mobile devices are highly individualized communication tools (Bacile, Ye, & Swilley, 2014) that have made global access to digital information possible while enabling its users to initiate engagement with desired content at the time and place of their preference (Fulgoni, 2016). Furthermore, the learning landscape is being transformed by the emerging influence of digital communication and omnipresent network-based applications, rapid advancement in mobile technologies and features (Wu et al., 2012), and growing availability of various mobile applications (or apps, for short) (Hsu, Rice, & Dawley, 2012). The growing changes in mobile technologies are followed by the changing characteristics, needs, and demands of the end-users, including various young target audiences, such as students (McLoughlin & Lee, 2010).

Education systems are heavily influenced by these changes as well. The labor market's increasing knowledge and skills requirements in the modern economy have created various challenges for education systems. These systems operate in constant conflict with the harmonization of curriculum and learning methods created to ensure competitiveness and professional development of its users. The education process is experiencing reforms on all levels to determine both general and specific competences as a result of a dialog between education systems' stakeholders and employers. The potential end result of these combined efforts is an increased mobility and competitiveness within the labor market together with the promotion of lifelong learning as an essential part of participation in the modern, digitally enhanced economy. The initiatives for overcoming these challenges have been created in various European Union programs and international organizations, like UNESCO, which emphasize the strategic importance of mobile technology adoption in education systems' modern learning process. Mobile technology clearly empowers a "here-and-now" type of learning, providing "anytime and anywhere access to information, processes, and communication" (Martin & Ertzberger, 2013, p. 76).

Mobile devices enhanced with social media and wireless connectivity are enabling highly personalized learning opportunities for both students and educators. Moreover, constantly connected mobile devices create opportunities for interaction and collaboration while enabling students to engage in content creation and communication using social media and Web 2.0 tools (Gikas & Grant, 2013). Internet-based and mobile technologies can significantly reduce dependence on fixed locations for work-related activities and education, thereby providing the obvious potential to equally empower the business-oriented and educational processes (Peters, 2007). In addition, the incorporation of student-owned devices within the classroom is becoming an efficient and effective solution for many schools and universities alike (Blackboard, 2012).

Cheon, Lee, Crooks, and Song (2012) argued that the emerging technologies could resolve the technical limitations of mobile devices, such as lower resolution, network speed, and platform comparability, and much improvement has been made in this area over the last few years. Mobile technologies have started to make significant contributions to mobile teaching and mobile learning by providing personalized and customized contextual learning experiences (Brown & Mbati, 2015). With broader implementation on different levels, technology will most likely continue to prove its usefulness in engaging students and empowering education, thereby becoming an invaluable improvement to the classroom experience (McQuiggan, McQuiggan, Sabourin & Kosturko, 2015). Furthermore, the same authors concluded that Internet and mobile technologies offer great opportunities to drastically change education and learning, but only if knowledgeable, creative, and open-minded educators, teachers, and administrators embrace them.

The purpose of this paper is to determine the current status of mobile device usage and mobile learning adoption in vocational education and training (VET) secondary schools based on samples from three European Union countries (i.e., Austria, the Czech Republic, and Germany). The research focused on exploring students' mobile device usage habits, attitudes toward education in the context of mobile application support, and preferences regarding mobile learning features. For the purpose of this research, several research questions were formulated: How often do students go online? Which types of mobile device do students own and use? Which device is considered their primary mobile device? When and how frequently does mobile device usage occur? How do students perceive themselves as mobile device users? Do students have any previous ICT-assisted education experience? How do students perceive their former ICT-assisted education experience? What are the benefits and barriers of mobile learning from the students' point of view? What are students' preferences regarding the types and features of mobile learning software? Are there any significant differences among respondents in the selected countries?

Mobile Learning (m-learning)

With the worldwide popularization of mobile devices over the last decade, interest in the educational use of mobile technologies and mobile devices has been increasing. Various mobile devices provide educational opportunities for students to access course content and interact with both lecturers and student colleagues regardless of their physical location (Cavus & Ibrahim, 2009; Gikas & Grant, 2013; Kukulska-Hulme & Shield, 2008; Richardson & Lenarcic, 2008). The constant change and significant productivity in mobile learning research are characterized by development in mobile technology culture (Hsu & Ching, 2015; Rushby, 2012; Taylor, 2011; Wu et al., 2012). These technological developments have motivated both educators and researchers alike to take a pedagogical view on developing educational applications for various types of mobile devices in order to promote teaching and learning (Kearney, Schuck, Burden, & Aubusson, 2012; Wu et al., 2012). Integrating technology into the education process is an essential method of engaging and interacting with students of the 21st century.

Many definitions of mobile learning (or m-learning in short) have been put forth, but many authors agree on the core concept (Amara, Macedo, Bendella & Santos, 2015; Barreh & Abas, 2015; Chu, Hwang & Tsai, 2010; Hwang & Chang, 2011; Sharples, Corlett, & Westmancott, 2002; Valk, Rashid, & Elder, 2010): M-learning is a specific learning environment that takes advantage of mobile technologies through handheld devices and wireless networks. M-learning can be perceived as an independent part of e-learning (Park, Nam & Cha, 2012). Other researchers have focused more on learners and learning experiences, but the main principles generally remain the same (Barreh & Abas, 2015). However, Gikas and Grant (2013) suggested that m-learning is more than just learning supported by mobile devices; it is a specific learning type that is formal and informal, context-aware, and authentic for the learner. Wong (2012, p. E19) focused on the seamless component of m-learning where a learner can learn in a "variety of scenarios and in which they can switch from one scenario or context to another easily and quickly, with the personal device as a mediator."

M-learning provides numerous benefits from both an educational and technological point of view. The learning process can be personalized and ubiquitous, yet spontaneous and informal (Miangah & Nezarat, 2012) as well as practical and cost-saving (Cheon et al., 2012). Mobile technologies enable students and educators to share information easily, communicate, and coordinate projects (Snell & Snell-Siddle, 2013). Furthermore, m-learning empowers the shift from teacher-led learning to student-led learning (Boticki, Baksa, Seow & Looi, 2015; Land & Zimmerman, 2015; Miangah & Nezarat, 2012), thereby resulting in students willingly using the technology more effectively. Based on the features of m-learning, four types of approaches can be supported by mobile technologies: individualized learning, situated learning, collaborative learning, and informal learning (Cheon et al., 2012). M-learning supports individualized learning by allowing students to learn at their own pace while the situated component embodies the use of mobile devices to learn within a realistic context. Collaborative learning is accomplished when students use mobile devices to easily interact and communicate with other students. Finally, informal learning supports students in learning outside of the classroom at their own convenience (Jones, Scanlon & Clough, 2013). In addition, Peters (2007, p. 1) suggested that m-learning enables the new methods of delivery that are highly suited to the "just enough, just in time, and just for me" demands of modern education environments.

The traditional learning process can be enriched and developed through the usage of mobile devices. Miangah and Nezarat (2012) argued that m-learning is not a substitute for existing learning devices, but an extension for learning in the new environment with new and improved capabilities. Successful personalized educational applications are based on the principle that any software used within the learning process must provide the same level of functionality and usability for all students, regardless of their unique abilities (Grant & Basye, 2014). Furthermore, managing m-learning can allow educators to move from learning delivery to learning management and simultaneously help learners acquire specific skills of immediate value in the knowledge-based economy (Peters, 2007).

One could argue that m-learning adoption is slowly becoming a worldwide accepted practice (Hwang & Wu, 2014). Osaka Jogakuin College in Japan became the first educational institution to provide m-learning devices (tablets) to its students to assist in learning a foreign language (McCarty, 2005). It was soon followed by several similar initiatives worldwide (Hsu, Hwang & Chang, 2013; Lim, Fadzil & Mansor, 2011). Peters (2007) suggested that mobile technologies were in common use in different commercial sectors, but their use exclusively for learning was relatively rare. Several papers have addressed students' attitude toward mobile device usage and their experience with m-learning. In his research, Taylor (2011) concluded that students themselves did not articulate any educational possibilities for mobile technologies. However, more recent articles have found that teenagers/students possessed positive attitudes toward the use of mobile devices for gaming, entertainment, and learning purposes (Kee & Samsudin, 2014; Snell & Snell-Siddle, 2013), although they had little experience in using mobile devices for learning-related activities (Kee & Samsudin, 2014). Researchers have emphasized the need for well-designed learning support of m-learning in order to improve

students' learning achievements (Hwang & Chang, 2011). More specifically, a recent study suggested that mobile notifications and learning analytics could be used to foster self-regulated learning (Tabuenca, Kalz, Drachsler & Specht, 2015).

Students at online universities have started to accept mobile technology as a rather new learning tool while the acceptance of mobile devices has influenced their learning achievement both directly and indirectly (Shin & Kang, 2015). However, according to Barreh and Abas (2015), m-learning in the higher education environment has not become widespread as it is still in the testing stage. Moreover, the research into m-learning has mainly been based on the challenges and opportunities of this technology in education in general and in online distance learning in particular. A research paper by Leinonen, Keune, Veermans, and Toikkanen (2014) indicated the potential for fostering the practice of reflection in classroom learning through the use of mobile apps for audio and visual recordings. In addition, the use of mobile technologies and multimedia increases the interest of students with special educational needs, helping them learn while entertaining them (Fernández-López, Rodríguez-Fórtiz, Rodríguez-Almendros, & Martínez-Segura, 2013). Clearly, there are many initiatives for using m-learning approaches for educational purposes, but the available academic and professional research on this topic is still rather limited, thereby providing an unexplored area for further research activities.

Methodology and Research

This research focused on exploring students' mobile device usage habits, their attitudes toward education in the context of mobile application support, and preferences with regard to mobile learning application features in vocational education and training secondary schools in three European countries as a part of Erasmus+ Mobile Application for Skills Training in EntRepreneurShip (MASTERS) project. Entrepreneurial education and training has been identified as one of the highest priorities by the European Commission within the Europe 2020 strategy (European Commission, 2010). These skills are even more important in the field of VET as it adds an essential qualification to young people's careers. Its main objective is to increase the labor market relevance of VET, promote entrepreneurship education and social entrepreneurship among young people, and enhance digital integration in learning, teaching, training, and youth work at various levels. As a result of this entrepreneurial demand, the Austrian Chamber of Commerce developed a specific program, the Entrepreneurs Skills Certificate (ESC), which was successfully implemented in Austria and transferred to the Czech Republic, Germany, and other European countries.

For the purpose of this research, several research questions were formulated:

- How often do students go online?
- Which types of mobile device do students own and use?
- Which device is considered a primary mobile device?
- When and how frequently does mobile device usage occur?
- How do students perceive themselves as mobile device users?
- Do students have any previous ICT-assisted education experience?
- How do students perceive their former ICT-assisted education experience?
- What are the benefits and barriers of mobile learning from the students' point of view?
- What are students' preferences regarding the types and features of mobile learning software?
- Are there any significant differences among respondents in the selected countries?

The online questionnaire consisted of 25 items divided into 4 sections: introductory welcome page, demography, mobile device usage, and user preferences toward m-learning. The questionnaire mostly consisted of closed-ended questions and several user approximations based on participants' experiences. The questionnaire was originally created in English and translated and revised in German and Czech languages by professional translators. A pilot study was created and conducted with project partners from the three selected countries prior to data collection in order to test the research instrument and avoid any impeding errors or confusion in the questionnaire. Several minor changes and refinements were implemented after the pilot study.

The research data was collected using SurveyGizmo software during January and February 2016 in VET secondary schools in Austria, the Czech Republic, and Germany. The secondary schools that implemented this entrepreneurial education program were able to participate in this research. A purposive sample was used as predefined by the project's proposition. Data were collected during classes in computer labs and supervised by the lecturers in order to ensure adequate introduction to the questionnaire and quality of the collected data. Ultimately, 383 respondents completed an online survey; 346 were valid and analyzed while the remaining 37 were disqualified due to partial responses and otherwise unusable data. The respondents come from three countries—41.3% from the Czech Republic, 31.5% from Austria, and 27.2% from Germany—and were secondary school students aged 14 to 21, with an average respondent age of 17.24 years. Of the 346 respondents, 83.8% were

male and 16.2% were female, which can be attributed to the fact that the selected target group is made up of students of secondary vocational schools for professions usually characterized as male-dominant. Descriptive statistics, ANOVA and chi-square tests were used to analyze the results of an online survey.

Research Results

Survey respondents go online very often regardless of the used device: More than 45% of the students reported using the Internet almost constantly and an additional 45% reported going online several times a day. Consequently, the majority (90.8%) of respondents can be categorized as extensive Internet users. Only 2% of respondents reported using the Internet less than once a week. Almost every respondent (98%) owned at least one type of a mobile device (any type of smartphone, non-smartphone mobile device, tablet, phablet, or laptop computer). Smartphones and laptops were the most commonly used devices, at 93.9% and 73.7%, respectively, while 41% of the respondents owned a tablet. Interestingly enough, respondent user groups of a particular device spent on average more than 5.5 hours a day (with a mean score (M) of M = 5.68 and a standard deviation (SD) of SD = 5.14) using a smartphone, almost 4 hours (M = 3.91, SD = 3.27) using a laptop, and 2.5 hours using a tablet (M = 2.44, SD = 3.7). More than 90% of respondents reported using their mobile devices several times a day or more. In addition, almost three quarters (74.2%) of respondents attributed their smartphone as their single primary mobile device while 18.5% said the same for their portable computers or laptops. Furthermore, using an elaborated 4-level experience scale (novice, intermediate, advanced, and expert), almost 68% of respondents described themselves as advanced mobile device users, and more than 6% perceived themselves as expert mobile device users (Table 1). It should be mentioned that there could be a difference between perceived user type (measured as a self-reporting item) and actual mobile device experience. However, category descriptions were provided to describe and clarify the differences between the categories:

- Novice: I have been using a mobile device for less than 6months and have only a few apps installed. I use my mobile device for calls, texting, and e-mail.
- Intermediate: I have been using a mobile device for more than 6 months. I occasionally download apps when I have a need or when my friends recommend something new.
- Advanced: I have been using a mobile device for 2+ years and have installed and used a variety of different apps. I often install many of the same types of apps to evaluate differences and make recommendations to my friends about the best ones.
- Expert: I have developed my own mobile apps.

Table 1. Mobile Device User Distribution by Perceived User Type

Mobile device user category	Frequency	Percent
Novice	8	2.3%
Intermediate	80	23.1%
Advanced	235	67.9%
Expert	23	6.6%
Total	346	100.0%

Source: Authors' research

Based on reported data, slightly more than one third (33.8%) of the respondents reported having prior experience with some type of ICT-assisted education before. However, the vast majority (76.1%) of the respondents with prior ICT-assisted education experience described it as positive or very positive (measured on a 5-point Likert scale). In addition, 62.4% of all respondents agreed or strongly agreed that mobile learning would play a significant role in education in the future (measured on a 5-point Likert scale).

Most respondents agreed on several benefits of m-learning: easier access to coursework (68.5%), increased knowledge in the field of study (62.7%), and increased communication with other students (50.3%). In contrast, when rating barriers to the use of m-learning, respondents tended to be somewhat neutral (respondents mostly answered with a neutral mid-point on a given 5-point scale). This could be attributed to the fact that they did not have extensive previous experience with ICT-assisted instruction. The respondents also suggested that the most important factors for the usage of m-learning applications were progress report/notifications (M = 3.7, SD = 1.06; based on a 5-point Likert scale) followed by app usage of friends or colleagues (M = 3.33, SD = 1.03) and unlocking new in-app content (M = 3.32, SD = 1.08) (see Table 2).

Respondents were asked to express their preference regarding the features of a potential m-learning application. The features with the highest-ranked scores were the ability to compare the results with colleagues (75.1%), forum or chat (70.5%), and social networking components (64.2%). Furthermore, in terms of preferences regarding a single type of m-learning application, respondents scored game-based apps (27.2%), tutorials (26.3%), best practice/case studies (24%), and quizzes (22.5%) relatively equally.

Table 2. Factors for Using M-learning Applications

	N	Mean		Std. Deviation	Variance
	Statistic	Statistic	Std. Error	Statistic	Statistic
Incentives (stars)	346	3.12	.061	1.134	1.285
Exclusive/bonus content	346	3.07	.056	1.046	1.093
Progress report/notifications:	346	3.70	.057	1.061	1.126
Friends/colleagues start using the app	346	3.33	.055	1.031	1.062
Unlocking new in-app content	346	3.32	.058	1.083	1.173
Valid N (listwise)	346				

Source: Authors' research

Table 3. Difference in Daily Smartphone and Laptop Usage among Students of 3 Observed Countries (ANOVA test)

		Sum of Squares	df	Mean Square	F	Sig.
Smartphone	Between Groups	222.899	2	111.449	4.308	.014
	Within Groups	8278.542	320	25.870		
	Total	8501.441	322			
Portable computer/laptop	Between Groups	593.841	2	296.920	36.584	.000
	Within Groups	1809.889	223	8.116		
	Total	2403.730	225			

Source: Authors' research

Several statistically significant differences can be observed when comparing respondents from the three studied countries. Although Internet usage is very high in general terms, Czech students tended to use the Internet the most (regardless of a particular device), with almost two thirds (64.3%) reporting using the Internet almost constantly (48.9% of German and 17.4% of Austrian respondents responded the same). In order to test the significance of the difference among the three countries, a chi-square test was used. The respondents were initially tested about their frequency of Internet usage using an elaborated 7-point scale of frequency. The variable was recoded into the new variable by condensing the scale to three frequency segments of Internet usage: once a day or less, several times a day, and almost constantly. The chi-square test confirmed the significance of the difference ($\chi 2 = 61.855$, df = 4, $p < 0.01$), suggesting that there is enough evidence to conclude that respondents from three selected countries were not using the Internet at the same frequency.

In order to measure the significance of the observed differences in daily usage of a device, an ANOVA test was used (together with Levene's test for homogeneity of variances and post hoc tests). The ANOVA test showed significant differences in average daily smartphone usage and laptop usage among the respondent groups (see Table 3). German students reported the most daily smartphone usage, with almost 7 hours (M = 6.96), compared to Czech students, who reported using their smartphones about 5 hours daily (M = 4.98). The ANOVA test showed significant differences between the two groups (F = 4.308, df = 2, $p = 0.014$). Levene's test showed that the assumption of homogeneity of variances was met, and the post hoc test (Bonferroni) confirmed the statistical significance of the mean difference between the two groups at the 0.05 level ($p = 0.014$). However, the same post hoc test (Bonferroni) did not show the statistical significance of the mean difference between the Austrian students and their German or Czech colleagues.

On the other hand, Czech students tended to use laptops the most, for an average of more than 5.5 hours a day, compared to fewer than 3 hours a day for both Austrian (M = 2.86) and German (M = 2.13) students. The ANOVA test confirmed the significance of the difference (F = 36.584, df = 2, $p < 0.01$), but it should be noted that Levene's test suggested that the assumption of homogeneity of variances has been violated ($p < 0.001$). Therefore, additional tests of equalities of means were used. Both the Welch and Brown-Forsythe tests suggested that the tested groups were significantly different from each other ($p < 0.001$ for both). Furthermore, the post hoc test where equal variances were not assumed (Dunnett T3) confirmed the statistical significance of the mean difference between both Czech and German ($p < 0.001$) and Czech and Austrian ($p < 0.001$) students. As for the other devices used (non-smartphone, tablet, phablet), the ANOVA test did not show any significant differences among the three selected countries.

Significant differences were also apparent in previous experience with any type of ICT-assisted education. Czech students were the most experienced ones, with almost half of the respondents reporting previous experience, while only 36% of German and 12% of Austrian students reported the same. The chi-square test confirmed the significance of the stated difference ($\chi 2 = 75.899$, df = 4, $p < 0.01$). In addition, Austrian students tended to be the least satisfied with their previous experience although the mean score suggested a neutral attitude (M = 3.15, SD = 1.21; based on a 5-point Likert scale). The ANOVA test confirmed the significant difference between the level of satisfaction between Austrian students and others (F = 6.983, df = 2, $p = 0.001$). Levene's test showed that the assumption of homogeneity of variances was met. The post hoc test (Bonferroni) confirmed the statistical significance of the mean difference between the Austrian and German students ($p = 0.001$) as well as the Austrian and Czech students ($p = 0.004$) at the 0.05 level. However, it should be taken into consideration that Austrian students had the least experience with any type of ICT-assisted education, which might have influenced their reported level of satisfaction. The same post hoc test (Bonferroni) did not show a statistical significance of the mean difference between the German and Czech students.

Although respondents generally agreed that m-learning would play a significant role in education in the future, German students showed a higher level of agreement (M = 4.24, SD = 0.86; based on a 5-point Likert scale) than both the Czech (M = 3.53, SD = 1.01) and Austrian students (M = 3.31, SD = 1.2). The ANOVA test confirmed the difference between the groups (F = 22.086, df = 2, $p < 0.001$), but Levene's test suggested that the assumption of homogeneity of variances was violated ($p = 0.005$). Consequently, both the Welch and Brown-Forsythe tests suggested that the tested groups were significantly different from each other ($p < 0.001$ for both). The post hoc test where equal variances are not assumed (Dunnett T3) confirmed the statistical significance of the mean difference between the German students and their Austrian ($p < 0.001$) and Czech counterparts ($p < 0.001$). However, the same post hoc test (Dunnett T3) did not show statistical significance of the mean difference between the Austrian students and their Czech colleagues.

Most respondents from the three observed countries agreed on several benefits of m-learning, although the Austrian students tended to express a more neutral view (scale neutral mid-point) on the benefits of m-learning. In addition, the German students rated the progress report/notification item among the most important factors for the usage of m-learning applications higher (M = 4.12, SD = 0.91) than their Czech and Austrian colleagues alike (M = 3.59, SD = 0.98 and M = 3.49, SD = 1.18, respectively). The ANOVA test confirmed the significance of the difference (F = 10.757, df = 2, $p < 0.001$), but it should be noted that Levene's test suggested that the assumption of homogeneity of variances was violated. However, additional Welch and Brown-Forsythe tests ($p < 0.001$ for both) suggested that the tested groups were significantly different from each other. The post hoc test where equal variances were not assumed (Dunnett T3) confirmed the statistical significance of the mean difference between the German students and their Austrian ($p < 0.001$) and Czech counterparts ($p < 0.001$). However, the same post hoc test (Dunnett T3) did not show a statistical significance in the mean difference between the Austrian and Czech students.

In contrast to the total score, in terms of preferences regarding the type of m-learning applications, German students preferred tutorials (42.6%), Czech students game-based apps (35%), and their Austrian counterparts best practice/case studies (30.3%). A chi-square test was used to confirm the significance of the difference ($\chi 2 = 25.647$, df = 6, $p < 0.001$).

Conclusion, Limitations, and Further Research Guidelines

The purpose of this paper was to determine the current status of mobile device usage and mobile learning adoption in VET secondary schools in three selected European countries: Austria, the Czech Republic, and Germany. The research focused on exploring students' mobile device usage habits and preferences, attitudes toward education in the context of m-learning, and preferences regarding mobile learning features.

Survey respondents go online very often regardless of the device used: More than 90% (90.8%) of respondents could be categorized as extensive Internet users. The vast majority of respondents (98%) owned at least one type of a mobile device, and more than 90% reported using their mobile devices several times a day or more often. Respondents indicated spending more than 5.5 hours a day on average using a smartphone, almost 4 hours using a laptop, and 2.5 hours using a tablet. In addition, almost three quarters (74.2%) of respondents attributed their smartphone as their single primary mobile device while 18.5% said the same for their portable computers or laptops. Slightly less than three quarters (74.5%) of respondents described themselves as advanced or expert mobile device users. Interestingly enough, only one third reported having previous experience with any type of ICT-assisted education. However, more than three quarters (76.1%) of the respondents with prior ICT-assisted education experience described it as positive or very positive. Most respondents agreed on several benefits of

m-learning: easier access to coursework (68.5%), increased knowledge in the field of study (62.7%), and increased communication with other students (50.3%). In contrast, when rating barriers to the use of m-learning, respondents tended to be rather neutral. Respondents also suggested that the most important factors for the usage of m-learning applications were progress report/notifications followed by app usage of friends or colleagues and unlocking new in-app content.

Several significant differences can be observed when comparing respondents from the three studied countries. Although the Internet usage is high in general, Czech students tended to report using the Internet more frequently than their German and Austrian colleagues. German students led in daily smartphone usage, while the Czech students preferred laptops and reported themselves as being the most experienced group regarding previous ICT-assisted experience. Although respondents generally agreed that m-learning would play a significant role in education in the future, German students showed a significantly higher level of agreement. In contrast to the average reported score, in terms of preferences regarding the type of m-learning applications, German students preferred tutorials, Czech students mostly selected game-based apps, and their Austrian counterparts reported best practice/case studies. The findings provide insights into possibilities of m-learning implementation while creating a framework for m-learning app development in the VET secondary school environment. In addition, this paper provides theoretical and practical implications on m-learning adoption experience.

Finally, several observations and conclusions that can be interpreted in accordance with the main ideas of the literature review. Based on the provided research findings, the learning landscape of education systems is clearly being influenced and transformed by the emerging changes in digital and mobile communication possibilities. Mobile technologies have started to make compelling contributions to mobile learning within the VET secondary schools in the three observed European countries. Similar to several other papers, students stated mostly positive attitudes toward using mobile devices for various activities, including m-learning. However, the research participants had a similarly limited experience in using mobile devices for learning-related activities as reported in other research. This situation suggests a vast space for improvement of the classroom experience empowered with mobile technology used for m-teaching and m-learning alike.

This paper suffers from a number of limitations. Although the three selected countries provided an interesting perspective on the current status of mobile learning, a broader view on mobile device usage and the comprehension of m-learning could be achieved by including a larger number of countries and a broader scope of secondary school types. Furthermore, the self-reporting measurement is a clear limitation of the collected data and could affect several of the derived conclusions. Therefore, future research activities should consider a more objective measurement of mobile device usage and focus on a larger number of secondary schools and secondary school types as well as other target groups. In addition, future research efforts should focus on data comparison between different countries and time-related changes and trends. Finally, the available academic and professional research on this topic is still rather limited, thereby providing an unexplored area for further research activities.

Funding Information

This study is a part of Erasmus+ MASTERS project. The research is conducted with students covered through partner networks in the field of entrepreneurial education. MASTERS addresses several European as well as local objectives to enable young VET students for their future, improve economic situations, and foster educational development through ICT-based innovation. Given this entrepreneurial demand, the Austrian Chamber of Commerce developed a specific program: the Entrepreneurs Skills Certificate (ESC). This program was successfully implemented in Austria and transferred to the Czech Republic, Germany, and other European countries. Transferring unique know-how from one to another European country is the major reason for a transnational project.

References

Adams, L., Burkholder, E., & Hamilton, K. (2015). *Micro-moments: Your guide to winning the shift to mobile, think with Google*. Retrieved from https://www.thinkwithgoogle.com/research-studies/micromoments-guide-pdfdownload.html

Amara, S., Macedo, J., Bendella, F., & Santos, A. (2015). Dynamic group formation in mobile computer supported collaborative learning environment. In *Proceedings of the 7th International Conference on Computer Supported Education CSEDU* (p. 530-539). Lisbon: Institute for Systems and Technologies of Information, Control and Communication. https://doi.org/10.5220/0005438205300539

Bacile, T. J., Ye, C., & Swilley, E. (2014). From firm-controlled to consumer-contributed: Consumer co-production of personal media marketing communication. *Journal of Interactive Marketing, 28*(2) 117–133. https://doi.org/10.1016/j.intmar.2013.12.001

Barreh, K. A., & Abas, Z. W. (2015). A framework for mobile learning for enhancing learning in higher education. *Malaysian Online Journal of Educational Technology*, *3*(3), 1-9.

Blackboard. (2012). *Learning in the 21st century. Mobile devices + social media = personalized learning. Project Tomorrow*. Retrieved from http://www.blackboard.com/resources/markets/k-12/collateral/project-tomorrow/k12_prjct-tmrw_mbl-rpt_2012.pdf

Boticki, I., Baksa, J., Seow, P., & Looi, C. K. (2015). Usage of a mobile social learning platform with virtual badges in a primary school. *Computers & Education, 86*, 120–136. https://doi.org/10.1016/j.compedu.2015.02.015

Brown, T. H., & Mbati, L. S. (2015). Mobile learning: moving past the myths and embracing the opportunities. *The International Review of Research in Open and Distributed Learning, 16*(2). https://doi.org/10.19173/irrodl.v16i2.2071

Cavus, N., & Ibrahim, D. (2009). m-Learning: An experiment in using SMS to support learning new English language words. *British Journal of Educational Technology, 40*(1), 78–91. https://doi.org/10.1111/j.1467-8535.2007.00801.x

Cheon, J., Lee, S., Crooks, S. M., & Song, J. (2012). An investigation of mobile learning readiness in higher education based on the theory of planned behavior. *Computers & Education, 59*(3), 1054–1064. https://doi.org/10.1016/j.compedu.2012.04.015

Chu, H. C., Hwang, G. J., & Tsai, C. C. (2010). A knowledge engineering approach to developing mindtools for context-aware ubiquitous learning. *Computers & Education, 54*(1), 289–297. https://doi.org/10.1016/j.compedu.2009.08.023

European Commission. (2010). *Communication from the Commission Europe 2020 A strategy for smart, sustainable and inclusive growth*. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:EN:PDF

Fernández-López, Á., Rodríguez-Fórtiz, M. J., Rodríguez-Almendros, M. L., & Martínez-Segura, M. J. (2013). Mobile learning technology based on iOS devices to support students with special education needs. *Computers & Education, 61*, 77–90. https://doi.org/10.1016/j.compedu.2012.09.014

Fulgoni, G. M. (2016). In the digital world, not everything that can be measured matters. *Journal of Advertising Research, 56*(3), 9–13. https://doi.org/10.2501/JAR-2016-008

Gikas, J., & Grant, M. M. (2013). Mobile computing devices in higher education: Student perspectives on learning with cellphones, smartphones & social media. *The Internet and Higher Education, 19*, 18–26. https://doi.org/10.1016/j.iheduc.2013.06.002

Grant, P., & Basye, D. (2014). *Personalized learning: A guide for engaging students with technology*. Eugene: International Society for Technology in Education.

Hsu, C. K., Hwang, G. J., & Chang, C. K. (2013). A personalized recommendation-based mobile learning approach to improving the reading performance of EFL students. *Computers & Education, 63*, 327–336. https://doi.org/10.1016/j.compedu.2012.12.004

Hsu, Y. C., & Ching, Y. H. (2015). A review of models and frameworks for designing mobile learning experiences and environments. *Canadian Journal of Learning and Technology*, *41*(3), 1-22. https://doi.org/10.21432/t2v616

Hsu, Y. C., Rice, K., & Dawley, L. (2012). Empowering educators with Google's Android app inventor: An online workshop in mobile app design. *British Journal of Educational Technology, 43*(1), E1–E5. https://doi.org/10.1111/j.1467-8535.2011.01241.x

Hwang, G. J., & Chang, H. F. (2011). A formative assessment-based mobile learning approach to improving the learning attitudes and achievements of students. *Computers & Education, 56*(4), 1023–1031. https://doi.org/10.1016/j.compedu.2010.12.002

Hwang, G. J., & Wu, P. H. (2014). Applications, impacts and trends of mobile technology-enhanced learning: a review of 2008–2012 publications in selected SSCI journals. *International Journal of Mobile Learning and Organisation, 8*(2), 83–95. https://doi.org/10.1504/IJMLO.2014.062346

Jones, A. C., Scanlon, E., & Clough, G. (2013). Mobile learning: Two case studies of supporting inquiry learning in informal and semiformal settings. *Computers & Education, 61*, 21–32. https://doi.org/10.1016/j.compedu.2012.08.008

Kearney, M., Schuck, S., Burden, K., & Aubusson, P. (2012). Viewing mobile learning from a pedagogical perspective. *Research in Learning Technology*, 20. https://doi.org/10.3402/rlt.v20i0.14406

Kee, C. N. L., & Samsudin, Z. (2014). Mobile devices: Toys or learning tools for the 21st century teenagers?. *Turkish Online Journal of Educational Technology–TOJET, 13*(3), 107–122.

Kukulska-Hulme, A., & Shield, L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL, 20*(3), 271–289. https://doi.org/10.1017/S0958344008000335

Land, S. M., & Zimmerman, H. T. (2015). Socio-technical dimensions of an outdoor mobile learning environment: a three-phase design-based research investigation. *Educational Technology Research and Development, 63*(2), 229–255. https://doi.org/10.1007/s11423-015-9369-6

Leinonen, T., Keune, A., Veermans, M., & Toikkanen, T. (2014). Mobile apps for reflection in learning: A design research in K–12 education. *British Journal of Educational Technology*, *47*(1), 1-17.

Lim, T., Fadzil, M., & Mansor, N. (2011). Mobile learning via SMS at Open University Malaysia: Equitable, effective, and sustainable. *The International Review of Research in Open and Distributed Learning, 12*(2), 122–137. https://doi.org/10.19173/irrodl.v12i2.926

Martin, F., & Ertzberger, J. (2013). Here and now mobile learning: An experimental study on the use of mobile technology. *Computers & Education, 68*, 76–85. https://doi.org/10.1016/j.compedu.2013.04.021

McCarty, S. (2005). Spoken Internet to go: Popularization through podcasting. *JALT CALL, 1*(2), 67–74.

McLoughlin, C., & Lee, M. J. (2010). Personalised and self regulated learning in the Web 2.0 era: International exemplars of innovative pedagogy using social software. *Australasian Journal of Educational Technology, 26*(1), 28–43. https://doi.org/10.14742/ajet.1100

McQuiggan, S., McQuiggan, J., Sabourin, J., & Kosturko, L. (2015). *Mobile learning: A handbook for developers, educators, and learners*. Hoboken: John Wiley & Sons. https://doi.org/10.1002/9781118938942

Miangah, T. M., & Nezarat, A. (2012). Mobile-assisted language learning. *International Journal of Distributed and Parallel Systems, 3*(1), 309. https://doi.org/10.5121/ijdps.2012.3126

Park, S. Y., Nam, M. W., & Cha, S. B. (2012). University students' behavioral intention to use mobile learning: Evaluating the technology acceptance model. *British Journal of Educational Technology, 43*(4), 592–605. https://doi.org/10.1111/j.1467-8535.2011.01229.x

Peters, K. (2007). m-Learning: Positioning educators for a mobile, connected future. *The International Review of Research in Open and Distributed Learning, 8*(2). https://doi.org/10.19173/irrodl.v8i2.350

Richardson, J., & Lenarcic, J. (2008). Text messaging as a catalyst for mobile student administration: the trigger experience. *International Journal of Emerging Technologies and Society, 6*(2), 140–155.

Rushby, N. (2012). Editorial: An agenda for mobile learning. *British Journal of Educational Technology, 43*(3), 355–356. https://doi.org/10.1111/j.1467-8535.2012.01313.x

Sharples, M., Corlett, D., & Westmancott, O. (2002). The design and implementation of a mobile learning resource. *Personal and Ubiquitous Computing, 6*, 220–234. https://doi.org/10.1007/s007790200021

Shin, W. S., & Kang, M. (2015). The use of a mobile learning management system at an online university and its effect on learning satisfaction and achievement. *The International Review of Research in Open and Distributed Learning, 16*(3). https://doi.org/10.19173/irrodl.v16i3.1984

Snell, S., & Snell-Siddle, C. (2013). Mobile learning: The effects of gender and age on perceptions of the use of mobile tools. In *The Second International Conference on Informatics Engineering & Information Science* (pp. 274–281). Kuala Lumpur: The Society of Digital Information and Wireless Communication.

Tabuenca, B., Kalz, M., Drachsler, H., & Specht, M. (2015). Time will tell: The role of mobile learning analytics in self-regulated learning. *Computers & Education, 89*, 53–74. https://doi.org/10.1016/j.compedu.2015.08.004

Taylor, C. A. (2011). *The mobile literacy practices of adolescents: an ethnographic study* (Unpublished doctoral dissertation). Monash University, Faculty of Education, Victoria: Australia.

Valk, J. H., Rashid, A. T., & Elder, L. (2010). Using mobile phones to improve educational outcomes: An analysis of evidence from Asia. *The International Review of Research in Open and Distributed Learning, 11*(1), 117–140. https://doi.org/10.19173/irrodl.v11i1.794

Wong, L. H. (2012). A learner-centric view of mobile seamless learning. *British Journal of Educational Technology, 43*(1), E19–E23. https://doi.org/10.1111/j.1467-8535.2011.01245.x

Wu, W., Wu, Y. J., Chen, C., Kao, H., Lin, C., & Huang, S. (2012). Review of trends from mobile learning studies: A meta-analysis. *Computers & Education, 59*(2), 817–827. https://doi.org/10.1016/j.compedu.2012.03.016

Authors

Antun Biloš, Ph.D., is an assistant professor in the Department of Marketing, Faculty of Economics, J. J. Strossmayer University of Osijek, Croatia. His main research and lecturing interests include digital marketing, e-business, e-commerce, and marketing-information systems. He is the author or co-author of 20 scientific papers and 2 books and has participated in various domestic and international scientific and professional conferences. He has been a member of the Croatian Marketing Association (CROMAR) since 2007.

Davorin Turkalj, Ph.D., is an assistant professor at the Faculty of Economics in Osijek, Department of Marketing. His field of scientific and professional study includes digital marketing, multimedia marketing, management of services in a contemporary setting, and information and communication technologies in the service of agricultural marketing. As an author and co-author, he has published 25 scientific papers and 2 editions of e-marketing books. He also holds the position of vice director of the postgraduate program in marketing.

Ivan Kelić, Ph.D., has been employed by the Faculty of Economics in Osijek since 2011 as a teaching and research assistant in the Department of Marketing. Since 2011, he has participated in teaching different classes at the Faculty of Economics in Osijek (Marketing in Tourism, E-marketing, Mobile Marketing, Multimedia Marketing, and Management of Services). He has published 15 scientific papers in the field of implementing new technologies in contemporary business activities.

Uporaba mobilnega učenja in preference dijakov srednjega poklicnega izobraževanja: primeri Avstrije, Češke in Nemčije

Izvleček

Namen članka je ugotoviti trenutno stanje pri uporabi mobilnih naprav in usvojitvi mobilnega učenja v srednjih šolah za poklicno izobraževanje in usposabljanje v treh državah Evropske unije, v Avstriji, Češki republiki in Nemčiji. Raziskava se osredotoča na navade dijakov pri uporabi mobilnih naprav, njihov odnos do izobraževanja v kontekstu podpore mobilnih aplikacij in na preference do značilnosti mobilnega učenja. Rezultati so potrdili, da dijaki vsak dan zelo veliko uporabljajo mobilne naprave, v splošnem največ pametne telefone in prenosne računalnike. Večina udeležencev se ima za napredne uporabnike mobilnih naprav, vendar govorijo tudi o pomanjkljivih izkušnjah z mobilnim učenjem, podprtim z IKT. Večina respondentov, ki že imajo izkušnje z učenjem, podprtim z IKT, je te izkušnje opisala kot pozitivne ali zelo pozitivne. Udeleženci se strinjajo, da bo imelo mobilno učenje v izobraževanju v prihodnosti pomembno vlogo. V prispevku raziskujemo tudi razlike med dijaki treh držav in predlagamo različne implikacije o razumevanju dijaških pogledov na mobilno učenje. Izsledki ponujajo vpogled v možnosti implementacije m-učenja s kreiranjem okvira za razvoj aplikacije m-učenja v srednjih šolah za poklicno izobraževanje in usposabljanje.

Ključne besede: mobilno učenje, srednješolsko izobraževanje, spletno poučevanje, uporaba mobilnih naprav pri dijakih, m-učenje, mobilno poučevanje

NAVODILA AVTORJEM

Revija **Naše gospodarstvo / Our Economy** objavlja znanstvene članke iz vseh področij ekonomije in poslovnih ved. Avtorje vabimo, da v uredništvo revije pošljejo originalne prispevke, ki še niso bili objavljeni oziroma poslani v objavo drugi reviji. Avtorji podeljujejo lastniku revije ekskluzivno pravico za komercialno uporabo članka, ki stopi v veljavo na osnovi sprejetja članka v objavo. Avtorji v celoti odgovarjajo za vsebino prispevka. Objavljamo samo članke, ki dobijo pozitivno oceno naših recenzentov.

Prispevki naj bodo napisani v angleškem jeziku. Na posebni strani navedite ime avtorja, njegov polni habilitacijski in znanstveni naziv ter ustanovo, kjer je zaposlen. Prva stran naj vsebuje naslov, izvleček (maksimalno 650 znakov) in ključne besede, vse troje v slovenskem in angleškem jeziku. Dodajte tudi trimestno kodo JEL klasifikacije, ki jo najdete na https://www.aeaweb.org/econlit/jelCodes.php?view=jel.

Za besedilo članka uporabljajte praviloma pisave Times, Times New Roman CE, SL Dutch in podobne v velikosti od 10 do 12 pik (points). V tabelah in slikah obvezno uporabljajte pisavo brez serifov (Helvetico, Arial, Arial CE, SL Swiss ali podobno). Za poudarke v besedilu uporabljajte poševni tisk, ne krepkega ali podčrtanega tiska.

Morebitne tabele in slike naj bodo oštevilčene ter naslovljene nad, opombe in viri pa pod tabelo oziroma sliko. V tabelah uporabljajte enojne okvirje, debeline pol pike (1/2 point). Sprotne opombe naj bodo oštevilčene in navedene pod tekstom pripadajoče strani. Oštevilčite tudi morebitne enačbe.

Vire v tekstu in v seznamu virov je potrebno urediti skladno z APA standardom – navodila na http://www.apastyle.org/learn/tutorials/basics-tutorial.aspx.

Nekaj osnovnih napotkov:

Navedbe virov v tekstu

Primer 1a: Another graphic way of determining the stationarity of time series is correlogram of autocorrelation function (Gujarati, 1995).

Primer 1b: Another graphic way of determining the stationarity of time series is correlogram of autocorrelation function (Gujarati, 1995, p. 36).

Primer 2a: Engle and Granger (1987) present critical values also for other cointegration tests.

Primer 2b: Engle and Granger (1987, p. 89) present critical values also for other cointegration tests.

Navedbe virov v seznamu virov

Primer 1 – Knjiga: Gujarati, D. N. (1995). *Basic Econometrics*. New York: McGraw-Hill.

Primer 2 – Članek v reviji: Engle, R. F., & Granger, C. W. J. (1987). Co-integration and Error Correction: Representation, Estimation and Testing. *Econometrica*, 55(2), 251-276.

Primer 3 – Poglavje v knjigi, prispevek v zborniku: MacKinnon, J. (1991). Critical Values for Cointegration Tests. In R. F. Engle & C.W. J. Granger, (Eds.), *Long-Run Economic Relationships: Readings in Cointegration* (pp. 191-215). Oxford: University Press.

Primer 4 – Elektronski vir: Esteves, J., Pastor, J. A., & Casanovas, J. (2002). Using the Partial Least Square (PLS): *Method to Establish Critical Success Factors Interdependence in ERP Implementation Projects*. Retrieved from http://erp.ittoolbox.com/doc.asp?i=2321

Prispevek naj ne bo daljši od avtorske pole (30.000 znakov). Stran naj bo velikosti A4, s tricentimetrskimi robovi in oštevilčenimi stranmi. Izpis naj bo enokolonski z 1,5 razmika med vrsticami. Elektronsko verzijo prispevka pošljite v MS Word obliki na e-naslov our.economy@um.si ali nase.gospodarstvo@um.si.

S prispevkom pošljite za avtorja in vse soavtorje še celotni naslov, elektronski naslov in telefonsko številko, preko katere je dosegljiv uredništvu. Dodajte tudi kratek CV (obsega od 500 do 550 znakov, upoštevajoč presledke).

Revija avtorjem ne zaračunava stroškov objave.

INSTRUCTIONS FOR AUTHORS

The journal **Naše gospodarstvo / Our Economy** publishes original scientific articles covering all areas of economics and business. Authors are invited to send original unpublished articles which have not been submitted for publication elsewhere. Authors are completely responsible for the contents of their articles. Only articles receiving a favorable review are published. The authors grant the Journal Owner the exclusive license for commercial use of the article throughout the world, in any form, in any language, for the full term of copyright, effective upon acceptance for publication.

Please write your text in English (American or British usage is accepted, but not a mixture of these). The cover page should include the author's name, academic title or profession, and affiliation. The first page must contain the title, an abstract of no more than 650 characters, and key words, all in English. Add also three-character codes of JEL classification (https://www.aeaweb.org/econlit/jelCodes.php?view=jel).

Manuscripts should be prepared on a word processor in a font such as Times, Times New Roman CE, or SL Dutch in size 10 to 12 points. Tables and figures are to be presented in fonts without serifs (Helvetica, Arial, Arial CE, SL Swiss or similar). Emphasized parts of the text should be in italics, not bold or underlined.

Figures and tables should be numbered with a title above and notes and sources below. Figures should be in ½ point single-line frames. Footnotes should be numbered consecutively and placed at the bottom of the relevant page. Equations should also be numbered.

References in the text and in the list of references should be arranged according to APA style – see http://www.apastyle.org/learn/tutorials/basics-tutorial.aspx.

Some elementary directions:

References in the text

Example 1a: Another graphic way of determining the stationarity of time series is correlogram of autocorrelation function (Gujarati, 1995).

Example 1b: Another graphic way of determining the stationarity of time series is correlogram of autocorrelation function (Gujarati, 1995, p. 36).

Example 2a: Engle and Granger (1987) present critical values also for other cointegration tests.

Example 2b: Engle and Granger (1987, p. 89) present critical values also for other cointegration tests.

References in the list of references

Example 1 – Book: Gujarati, D. N. (1995). *Basic Econometrics*. New York: McGraw-Hill.

Example 2 – Journal article: Engle, R. F., & Granger, C. W. J. (1987). Co-integration and Error Correction: Representation, Estimation and Testing. *Econometrica*, 55(2), 251-276.

Example 3 – Book chapter or article from conference proceedings: MacKinnon, J. (1991). Critical Values for Cointegration Tests. In R. F. Engle & C.W. J. Granger, (Eds.), *Long-Run Economic Relationships: Readings in Cointegration* (pp. 191-215). Oxford: University Press.

Example 4 – Web source: Esteves, J., Pastor, J. A., & Casanovas, J. (2002). Using the Partial Least Square (PLS): *Method to Establish Critical Success Factors Interdependence in ERP Implementation Projects*. Retrieved from http://erp.ittoolbox.com/doc.asp?i=2321

The size of the article should not exceed 30,000 characters and should be prepared on A4 paper with 3 cm margins and numbered pages. The text should be in single column layout, with 1.5 line spacing. Send the electronic version of article in MS Word to the following address: our.economy@um.si or nase.gospodarstvo@um.si.
For the author and co-authors please add their postal address, e-mail address, telephone number as well as their CV (which range from 500 to 550 characters including spaces) in one paragraph.

The journal does not have article processing charges (APCs) nor article submission charges.

NG
OE

LETNIK
VOLUME 63