Montenegrin Journal of Economics

Vol. 16, No. 3 (2020), 123-135

Relationsheep Between Social Business Entrepreneurship and Business Freedom: an Evidence from the Russian

SVETLANA PANIKAROVA[1], MAXIM VLASOV[2] and MIMO DRASKOVIC[3]

[1] Senior Fellow at the Centre of Economic Theory Institute of Economics, Ural Branch of the Russian Academy of Sciences, Professor, Ural Federal University named after the first President of Russia B.N.Yeltsin, Ekaterinburg, Russia, e-mail: panikarova_s@mail.ru
[2] Senior Fellow at the Centre of Economic Theory Institute of Economics, Ural Branch of the Russian Academy of Sciences, Assistant Professor, Ural Federal University named after the first President of Russia B.N.Yeltsin, Ekaterinburg, Russia, e-mail: mvlasov@mail.ru
[3] Associate Professor, University of Montenegro, Maritime Faculty Kotor, e-mail: rookie@t-com.me

ARTICLE INFO

Received February 14, 2020
Revised from March 16, 2020
Accepted May 17, 2020
Available online September 15, 2020

JEL classification:

C3, L3, M13, 0035

DOI: 10.14254/1800-5845/2020.16-3.10

Keywords:

Social Business,
Entrepreneurship,
Business Freedom,
Russian Federation.

ABSTRACT

Purpose: The major concentrating area of our study is to contribute to the existing literature of entrepreneurial activities related to the social business entrepreneurship by considering the business freedom of the entrepreneurs of the Russian Federation, where how Gross National Income per capita and Industry value added per worker influence the business freedom of the social business entrepreneurship in the short-run and long-run. *Design/methodology/approach*: The Vector Error Correction Model (VECM) helps us measuring the short-run and long-run association among business freedom, Gross National Income per capita, and industry value added per worker during years 1995-2018. We apply the VECM for appropriate econometric specification when the endogenous variables are cointegrated. In the VECM, we have differenced the equation and include an error-correction term measuring the deviation of the previous period from long-run equilibrium. *Findings:* While considering log of business freedom index as the dependent variable in VECM, the results show that in the short run log of Gross National Income per capita and the log of industry value added per worker do not influence business freedom indexes. However, the corresponding P-value of the cointegrating equation is statistically significant in the short run at the 1 % significant level. In the long-run, the log of Gross National Income per capita negatively observes the business freedom index. The industry value added per worker has a positive effect on the business freedom index statistically significant at the 1 % level. There is no autocorrelation, the errors are normally distributed, and specification imposes 2-unit moduli. *Research/practical implications*: We believe that our investigation will additionally support and become an encouragement issue for improving business conditions for the established and new social business entrepreneurs in the Russian Federation and other countries as well. Our study will encourage future researchers for further engagement in entrepreneurial activity. *Originality/value:* Empirically, the study will encourage local entrepreneurship by engaging in entrepreneurial activity towards a positive change.

INTRODUCTION

Nowadays, business changes the living standard of the citizens of a country by developing their economic condition from the situation, where they experience a lot of suffering because of the lack of financial and other available resources, even every day a country is introducing Social Business Entrepreneurship. The core aspiration of this study is to demonstrate the prescribed association between Social Business Entrepreneurship and Business Freedom: An Evidence from the Russian Federation. This paper examines the roles of social entrepreneurship in developing investment sectors, especially introducing social business enterprises in the Russian Federation. This article evaluates the contribution of social entrepreneurship in the business scenario considering business freedom, Gross National Income per capita, and industry value added per workers of the Russian Federation. This study focuses on the intellectual capability of social entrepreneurs. This article determines how social entrepreneurs behave towards changing the economy of the Russian Federation, the welfare of social entrepreneurship creates a strong relationship with the society and the human capital of a social entrepreneur impact on business freedom of the country. We examine the short-run and long-run relationship between the social business entrepreneurship and business freedom considering industry value-added per workers and Gross National Income (GNI) per capita of the Russian Federation taking data from World Bank Development Indicators, Human Development Reports, and Economic Data and Statistics on World Economy and Economic Research (Heritage Organization) during the years 1995-2018. Exploring the entrepreneurial activities in favor of business freedom becomes the concentrated area of this paper.

For investigating the short-run and long-run relation between social business entrepreneurship and business freedom regarding the industry value-added per workers and GNI per capita, we employ the Vector Error Correction Model (VECM) under the supervision of the multivariate time series regression models. In this paper, all variables are endogenous. The target variable of this paper is business freedom, while the other two regressors are GNI per capita and industry value added per workers. This study will be the additional support for both entrepreneurship and policymakers to decide the several initiatives fostering the economic growth of the Russian Federation and other countries as well. The rest of the section of this paper is structured as follows. First, we determine the effectiveness of the social business entrepreneurship in influencing the business sectors of the Russian Federation.

Examining the core projects related to the development of the entrepreneurial activities become another essential issue for us to execute a solid explanation describing the real social entrepreneurial business market of the Russian Federation. Second, we focus on the econometric estimation of paper in shaping the short-run and long-term effect of GNI per capita and industry value-added per workers towards the business freedom of the Russian Federation considering our collected datasets. Third, we employ a Vector Error Correction Model determining the short-run and long-run relationship among target variables, business freedom, and other regressors, GNI per capita, and industry value-added per workers with time-series datasets from 1995 to 2018. Finally, we discuss the final output from STATA 14 and EVIEWS Lite Student Version statistical analysis software, recommend some strategic issues for the young researchers and policymakers of the Russian Federation and other countries as well.

1. LITERATURE REVIEW

Zahra and Wright in 2011 and Welter in 2011 have done entrepreneurship research, where they discover if there is a connection between social entrepreneurship and human capital the results that relate to the influential factors are date-conflicting and less well-researched entrepreneurship entry (Zahra and Wright, 2011; Welter, 2011). Ashoka in 2013 has mentioned social entrepreneurs play an indispensable role in developing social and economic issues by acting as change agents for the community while entrepreneurs change only business-face (Ashoka,

2013). Social Entrepreneurs improve systems, look for new opportunities, invent innovative approaches, and change the situation of the society for the better by solving social issues. Thompson in 2002 has noticed social business entrepreneur deals with the solution of social problems and the implementation of them on an extra-leg while business entrepreneur creates entirely new industries. He mentions business entrepreneur cares about the performance of the firm, earnings and return while social business entrepreneur deals with social objectives and profits recovering initial investment to investors, reinvest rest amount in the company, and ensure a positive return to society. Thomson has discussed Social Business Entrepreneurship work for social objectives that include social, cultural, and environmental. It concentrates in voluntary activities and non-profit actions (Thompson, 2002). Social entrepreneurs become available resources for economic development has said by David in 2010. People become the resources to solve social problems but not a passive beneficiary, where assumption focuses on communities and their competence and unleash resources (David, 2010). A report has studied by the Global Entrepreneurship Monitor (GEM) in 2009, where it shows half of the social entrepreneurs' age is between 25 and 44 years, and the highest rate of social entrepreneurs is 25 to 34 years young people, who engage in doing the entrepreneurial activities and ventures, because of focusing social and commercial goals. GEM has found social entrepreneurship ventures associated with the following four categories. First, Pure Social Entrepreneurial Activity helps an individual operating a social organization with social objectives without commercial activities. Second, Pure Commercial Entrepreneurial Activity act as the opposite of pure social entrepreneurial activity. Third, Overlapping Social and Commercial Entrepreneurial Activity has formulated through the combination of both social and commercial objectives. Fourth, Simultaneous Social and Commercial Entrepreneurial Activity is also a combination of the organization but focusing on different entities. GEM has mentioned the policy framework of social entrepreneurship, where it acts as a business model related to the procedures of creating and dealing with social and economic values[1]. The human capital and its role in social entrepreneurship expand the value of socialization and its effects on society because of its well-established structure. It highlights a broader concept and insight and draws attention abilities based on acknowledgment, preferences, context, and seeking-returns of social entrepreneurship activities while investigating human capital and its impact. Baumol in 1990, 1993, and 2005 has highlighted the economy and its impact on social entrepreneurship and its activities, incentives, and institutional structure (Baumol, 1990, 1993, 2005).

Miller in 2012 has confirmed risk that related to the fear of failure and potential loss from entering it, associated with the experiment relevant for entrepreneurship. Renko in 2013 has noticed commercial entrepreneurs face more risk than social one because of the higher risk of failure and value of personal assets. Evans and Jovanovic in 1989 have noticed there are a positive relationship exists between entrepreneurs' assets and self-employed probabilities because of financing and capital constraints, where they estimate a model under liquidity constraints (Miller, 2012). Dess in 1998 has mentioned the ability of social business entrepreneurs. Social business entrepreneurs work for social value by executing a mission statement, looking for potential opportunities to support the mission, and dealing with innovation, adaptation, and learning process continuously. He also notices new industries, markets, and ways of thinking have created by social entrepreneurs. They provide renewable energy, clean water, health-care, technology, education, accommodation, and finance to poor people. Social business entrepreneurs offer products and services at reasonable prices to distribute affordable products to poor communities. Poor people can buy them for a few dollars, and introduce new enterprise, that requires fewer investments than usual business (Dees, Emerson & Economy, P., 1998). Social entrepreneurs, whether men or women, mostly come from the poor communities of developing countries. Dess in 2001 has said it formulates by a combination of social sectors enterprise and commercial entrepreneurship (Dees,

[1] GEM, 2009, Report on Social Entrepreneurship, http://www.gemconsortium.org/docs/376/gem-report-onsocial-entrepreneurship-executive-summary

2001). Seelos and Mair in 2005 and Elkington and Hartigan in 2008 have noticed developing countries have more social entrepreneurship innovations. Social business entrepreneurship designs new business models by considering primary human needs related to food, clothes, accommodation, health facilities, and education at reasonable cost and convenience (Seelos & Mair, 2005; Elkington & Hartigan, 2008). Mair and Martin in 2006 has defined it from two concepts entrepreneurship and social aspect. Martin also compares it with a large tent (Mair&Martin, 2006). Researchers have mentioned research on entrepreneurship have shifted from micro to macro perspectives, a close connection exists between entrepreneurship and economic development on emerging economies, and it varies across countries because of theoretical and empirical research gap in the developing and developed countries. However, exploring the relationship between economic growth and entrepreneurship will have remarkable research value (Bruton, Ahlstrom, and Obloj, 2008). Stephan et al. (2015) have noticed social entrepreneurship contributes to social welfare through its core aspiration that related to higher education, preferences, and motivation.

Most of the clients of social enterprises are from the low-income group of the population, who do not have enough access to the enough demand for services based on the needs. In such cases, consumer and social service producers engage in quasi-market mechanisms because of introducing direct intermediary between them. As a result, the demand for service will manage by the state order based on competitive nature. However, social enterprises experience challenges because of maintaining sustainable development. Social enterprises become the most efficient users of resources provided to solve the problems of helpless groups within the skeleton of state plans. Social business enterprises provide moral and psychological and practical supports, deal with the information relating to the provision of legal, organizational, and medical issues without taking any financial benefits. Social enterprises often provide facilities to others free of charge. However, Social business entrepreneurs improve social protection by making a significant contribution to society, local communities, and the country as well. However, economic stability does not have a notable shock on state funding or donations and subsidies from financial institutions. Developed and developing countries' governments contribute financially to the development of the social entrepreneurship sectors of the country. Emerging market economies significantly influence investment in the social entrepreneurship sector. However, the government and corporations make a significant investment in improving the condition of the social entrepreneurial areas. The mutual benefit and cost comparison of social enterprises highlights the plan of social policy (Moskovskaya and Soboleva, 2016).

2 DATA AND METHODOLOGY

2.1 Data and Data Source

The prime concern of this paper is to determine the relationship between the social business entrepreneurship and business freedom of the Russian Federation. However, we have used time-series data from 1995 to 2018 for conducting the econometric analysis of this paper. We have considered the Business Freedom Index from Heritage Foundation/World Bank, Gross National Income (GNI) per capita constant 2011 US dollars from Human Development Reports of United Nations Development Programme, and Industry (including construction) Value Added Per Workers from the World Bank Development Indicators for the analysis because of the availability of the data. Our collected data becomes stationary after the first difference, meaning the series is I(1), based on Augmented Dickey-Fuller and Phillips-Perron Unit Root Test. At the same time, we employ the Gregory-Hansen Test for Cointegration to identify the structural break of the model and Johansen tests for determining the rank of the cointegration among variables. After performing the Johansen Cointegration, we notice that in our model, we have one cointegrating equation. Therefore, we implement the Vector Error Correction Model (VECM) for econometric analysis determining the

short-run and long-run relationship between the social business entrepreneurs and financial freedom in favor of the Russian Federation.

2.2 Methodology

2.2.1 Vector Autoregressive (VAR) and Vector Error Correction Model (VECM)

Sims (1980) has introduced a prevalent method, which is VAR, for analyzing time-series modeling. In the VAR system, the model contains a set of endogenous variables, where all variables are the dependent variable. Each endogenous variable has expressed as a linear function of p lags of itself, and one reduced-lag of other variables and an error term in the model. Sims (1980) has introduced two variables equation.

$$\mathbf{Y_t} = \boldsymbol{\beta}_{\mathbf{yo}} + \boldsymbol{\beta}_{\mathbf{yy1}}\mathbf{Y_{t-1}} + \cdots + \boldsymbol{\beta}_{\mathbf{yyp}}\mathbf{Y_{t-p}} + \boldsymbol{\beta}_{\mathbf{yx1}}\mathbf{X_{t-1}} + \cdots + \boldsymbol{\beta}_{\mathbf{yxp}}\mathbf{X_{t-p}} + \mathbf{V_t^y} \quad \text{..... (1)}$$

$$\mathbf{X_t} = \boldsymbol{\beta}_{\mathbf{xo}} + \boldsymbol{\beta}_{\mathbf{xy1}}\mathbf{Y_{t-1}} + \cdots + \boldsymbol{\beta}_{\mathbf{xyp}}\mathbf{Y_{t-p}} + \boldsymbol{\beta}_{\mathbf{xx1}}\mathbf{X_{t-1}} + \cdots + \boldsymbol{\beta}_{\mathbf{xxp}}\mathbf{X_{t-p}} + \mathbf{V_t^x} \quad \text{..... (2)}$$

Where, $\boldsymbol{\beta}_{\mathbf{xyp}}$ is the coefficient of y in the equation of x at lag p. Adding one more variable in the system, the third equation will come up with variable $\mathbf{Z_t}$ and p lagged value of z, say $\boldsymbol{\beta}_{\mathbf{xzp}}$. The right-hand side of each equation will add $\boldsymbol{\beta}_{\mathbf{xzp}}$. Researchers employ an Error Correction Model for an appropriate econometric specification if at least one cointegrating equation exists among variables. In the Error Correction Model, researchers have differenced the equation and include an error-correction term measuring the deviation of the previous period from long-run equilibrium.

The Error-correction model requires a new test for cointegration. If there is no cointegration, there is no cointegrated relationship among the series. In such cases, researchers perform only VAR for an appropriate econometric specification. Sims (1980) has introduced Vector Error Correction Model (VECM). The VECM for two variables is in the following way, where the error correction term comes up with only one lagged difference.

$$\Delta\mathbf{Y_t} = \boldsymbol{\beta}_{\mathbf{yo}} + \boldsymbol{\beta}_{\mathbf{yy1}}\Delta\mathbf{Y_{t-1}} + \boldsymbol{\beta}_{\mathbf{yx1}}\Delta\mathbf{X_{t-1}} + \boldsymbol{\lambda}_y(\boldsymbol{y}_{t-1} - \boldsymbol{\alpha}_0 - \boldsymbol{\alpha}_1\boldsymbol{x}_{t-1}) + \mathbf{V_t^y} \quad \text{..... (3)}$$

$$\Delta\mathbf{X_t} = \boldsymbol{\beta}_{\mathbf{xo}} + \boldsymbol{\beta}_{\mathbf{xy1}}\Delta\mathbf{Y_{t-1}} + \boldsymbol{\beta}_{\mathbf{xx1}}\Delta\mathbf{X_{t-1}} + \boldsymbol{\lambda}_x(\boldsymbol{y}_{t-1} - \boldsymbol{\alpha}_0 - \boldsymbol{\alpha}_1\boldsymbol{x}_{t-1}) + \mathbf{V_t^x} \quad \text{..... (4)}$$

Where, the coefficient $\boldsymbol{\lambda}$ shows the cointegration relating to (t-1) period (meaning disequilibrium) that has taken place in period t. Researchers expect the value of the coefficient of $\boldsymbol{\lambda}$ will come up with a negative sign (meaning negative).

2.2.2 Formulating Econometric Equations for this Research Paper

Researchers notice there is a covariance relationship that exists between the variables in Y_t and X_t while estimating VAR model parameters. The covariance takes place among variables when their first two moments are finite and time-invariant. If the variables in Y_t are non-stationary at level, but they are stationary at first difference, then, researchers may use VECM. For the simplicity of this paper, first we execute VAR model with our targeted variables due to estimating the VECM for econometric analysis.

2.2.2.1 Vector Autoregressive (VAR) Model Specification for this Research

$$logbfdix_t = \sigma + \sum_{i=1}^{k} \beta_i\, logbfdix_{t-i} + \sum_{j=1}^{k} \emptyset_j\, loggnipc_{t-j} + \sum_{m=1}^{k} \varphi_m\, logindvapw_{t-m} + u_{1t} \quad .. \quad (5)$$

$$loggnipc_t = a + \sum_{i=1}^{k} \beta_i\, logbfdix_{t-i} + \sum_{j=1}^{k} \emptyset_j\, loggnipc_{t-j} + \sum_{m=1}^{k} \varphi_m\, logindvapw_{t-m} + u_{2t} \quad ... \quad (6)$$

$$logindvapw_t = \vartheta + \sum_{i=1}^{k} \beta_i\, logbfdix_{t-i} + \sum_{j=1}^{k} \emptyset_j\, loggnipc_{t-j} + \sum_{m=1}^{k} \varphi_m\, logindvapw_{t-m} + u_{3t} \quad ... \quad (7)$$

2.2.2.2 Vector Error Correction Model (VECM) Specification from VAR

The conventional VECM is written in the following way.

$$\Delta \mathbf{Y_t} = \boldsymbol{\sigma} + \sum_{i=1}^{k-1} \boldsymbol{\gamma_i}\, \Delta \mathbf{Y_{t-i}} + \sum_{j=1}^{k-1} \boldsymbol{\eta_j}\, \Delta \mathbf{X_{t-j}} + \sum_{m=1}^{k-1} \boldsymbol{\xi_m}\, \Delta \mathbf{R_{t-m}} + \boldsymbol{\lambda} \mathbf{ECT_{t-1}} + \mathbf{u_t} \quad ..... \quad (8)$$

Where, $\mathbf{ECT_{t-1}}$ is the lagged OLS (Ordinary Least Squares) residual obtained from the long-run cointegrating equation, $\mathbf{Y_t} = \boldsymbol{\sigma} + \boldsymbol{\eta_j} \mathbf{X_t} + \boldsymbol{\xi_m} \mathbf{R_t} + \mathbf{u_t}$. Later, it comes up with the cointegrating equation, $\mathbf{ECT_{t-1}} = [\mathbf{Y_{t-1}} - \boldsymbol{\eta_1} \mathbf{X_{t-1}} - \boldsymbol{\xi_1} \mathbf{R_{t-1}}]$. The Error Correction Term (ECT) explains that the previous period's deviation from long-run equilibrium, which is an error, influences short-run movement in the dependent variable. λ is the coefficient of the ECT and the speed of adjustment, which measures the acceleration at which y returns to equilibrium after changes in X and R.

For this paper, we formulate the following equations for determining the short-run and long-run relationship between social business entrepreneurship and financial freedom of the Russian Federation. In a VECM, all variables are endogenous.

$$\Delta logbfdix_t = \sigma + \sum_{i=1}^{k-1} \beta_i\, \Delta logbfdix_{t-i} + \sum_{j=1}^{k-1} \emptyset_j\, \Delta loggnipc_{t-j} + \sum_{m=1}^{k-1} \varphi_m\, \Delta logindvapw_{t-m} + \gamma_1 ECT_{t-1} + u_{1t} \quad ..... \quad (9)$$

$$\Delta loggnipc_t = a + \sum_{i=1}^{k-1} \beta_i\, \Delta logbfdix_{t-i} + \sum_{j=1}^{k-1} \emptyset_j\, \Delta loggnipc_{t-j} + \sum_{m=1}^{k-1} \varphi_m\, \Delta logindvapw_{t-m} + \gamma_2 ECT_{t-1} + u_{2t} \quad ..... \quad (10)$$

$$\Delta logindvapw_t = \vartheta + \sum_{i=1}^{k-1} \beta_i\, \Delta logbfdix_{t-i} + \sum_{j=1}^{k-1} \emptyset_j\, \Delta loggnipc_{t-j} + \sum_{m=1}^{k-1} \varphi_m\, \Delta logindvapw_{t-m} + \gamma_3 ECT_{t-1} + u_{3t} \quad ..... \quad (11)$$

Where, K-1= The lag length is reduced by 1. $\boldsymbol{\beta_i, \emptyset_j, \varphi_m}$ is the short-run dynamic coefficients of the model's adjustment long-run equilibrium. $\boldsymbol{\gamma_i}$ is the speed of adjustment parameter with a negative sign. $\boldsymbol{ECT_{t-1}}$ is the error correction term is the lagged value of the residuals obtained from the cointegrating regression of the dependent variable on the regressors. Contains long-run information derived from the long-run cointegrating relationship.$\boldsymbol{u_{it}}$ = Residuals commonly known as stochastic error terms, where stochastic error terms often called impulses, or innovations or shocks.

3. RESULTS

3.1 Descriptive Statistics

Table 1. Descriptive Statistics BFDIX, GNIPC, and INDVAPW

Variables	*BFDIX = [Business Freedom Index]*	*GNIPC = [Gross National Income (GNI) per capita (2011 PPP$)]*	*INDVAPW = [Industry (including construction), value added per worker (constant 2010 US$)]*
Mean	61.95417	20738.92	19386.42
Standard Deviation	9.821626	4608.918	4969.839
Min	50.7	12769.15	11592
Max	85	26885.38	25036
Variance	96.46433	2.12e+07	2.47e+07
Skewness	0.7870549	- 0.4113201	- 0.3485852
Kurtosis	2.340154	1.724445	1.471448
Observations	24	24	24

Source: Author's Calculation, STATA and EVIEWS

The Mean average of the Business Freedom Index is 61.95417. The deviation from the sample Mean is 9.821626. The minimum value is 50.7, and the highest is 85 in this series. The dispersion among the observations in this series, which is variance, is 96.46433. The Skewness value is 0.7870549, where it measures the degree of asymmetry for this series. Zero is the standard skewness value. So, we can easily conclude that the business freedom index mirrors a normal distribution because skewness values are 0.7870549. The Kurtosis value is 2.340154. The data has a normal distribution, where the kurtosis value must be 3. The kurtosis is 2.340154, which is less than 3. We can conclude that the business freedom index is platykurtic. So, the shape is going to have a flat surface. The Mean of Gross National Income (GNI) per capita is 20738.92, and the standard deviation is 4608.918. The minimum is 12769.15, and the highest value is 26885.38. The diversity is negative. The Skewness value is -0.4113201, which mirrors a normal distribution but negatively skewed while the kurtosis is 1.724445. Skewness reflects a platykurtic kurtosis, which is less than 3. The Mean value of industry value added per worker is 19386.42, and the standard deviation is 4969.839. The minimum is 11592, and the highest is 25036. The variance has a negative value. The Skewness value is negative, which is - 0.3485852. Skewness mirrors a normal distribution, but negatively skewed. The kurtosis is 1.471448, which reflects a platykurtic kurtosis.

3.2 Correlation Matrix

Table 2. Correlation Matrix

VARIABLES	*LOGBFDIX*	*LOGGNIPC*	*LOGINDVAPW*
LOGBFDIX	1.0000		
LOGGNIPC	0.2417 0.2552	1.0000	
LOGINDVAPW	0.1498 0.4849	0.9777* 0.0000	1.0000

Source: Author's Calculation, STATA and EVIEWS

The correlation matrix illustrates there is a strong positive correlation exists between the log of Gross National Income per capita and industry value added per workers at 5 % significant level. The log of the business freedom index has a weak correlation with Gross National Income per capita, where value is 0.2552. The business freedom index has an ordinary association with industry value-added per worker in the log form, where value is 0.4849.

3.3 Optimal Lag Selection and Unit Root Test of the Model

Researchers often consider AIC (Akaike Information Criterion) and (SIBC) Schwartz-Bayesian Information Criterion to choose the optimal lag length of the series. Figure (1) shows the non-stationarity and stationarity of the series at the level and first difference. The figure illustrates the series becomes stationary after taking the first difference. [See Appendix 1]

Table 3. Optimal Lag Selection and ADF and Phillips-Perron Unit Root Test of the Model

		AUGMENTED DICKEY FULLER (ADF)				
VARIABLES	*AIC*	*LEVEL*		*FIRST DIFFERENCE*		*DECISION*
		Intercept	Trend and Intercept	Intercept	Trend and Intercept	
LOGBFDIX	Lag (1) Lag (2)	-1.632885	-3.685736*	-3.888984***	-4.108793**	I (1) Series
LOGGNIPC	Lag (1) Lag (2)	-1.446008	-1.219799	-3.438851**	-3.570700**	I (1) Series
LOGINDVAPW	Lag (1)	-2.070507	-1.203499	-4.568607***	-5.690628***	I (1) Series
		Phillips-Perron UNIT ROOT TEST				
VARIABLES		*LEVEL*		*FIRST DIFFERENCE*		*DECISION*
		Intercept	Trend and Intercept	Intercept	Trend and Intercept	
LOGBFDIX		-2.341818	-3.685736*	-4.079753***	-4.463976***	I (1) Series
LOGGNIPC		-0.857777	-1.212061	-3.387485**	-3.599209*	I (1) Series
LOGINDVAPW		-3.034110*	-0.991582	-4.568607***	-7.659318***	I (1) Series
Note: * p<0.1, ** p<0.05, *** p<0.01						

Source: Author's Calculation, STATA and EVIEWS

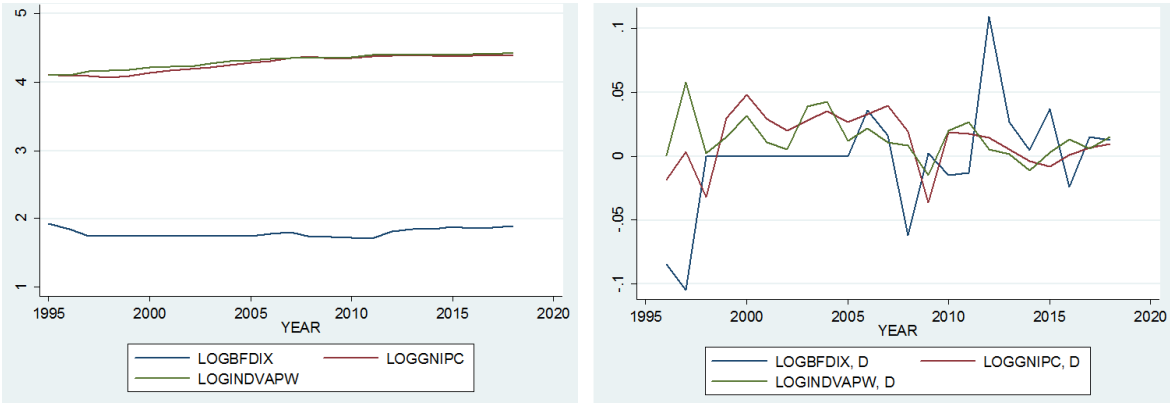

Figure 1. Level and First Differnce of LOGBFDIX, LOGGNIPC, and LOGINDVAPW

Source: Author's Calculation, STATA

3.4 Determination of Structural Break of the Model

If the value of ADF, Zt, and Za are higher than the 5 % critical value, we reject the null hypothesis of there is no breakpoint. If the value of ADF, Zt, and Za are less than the 5 % critical value, we fail to reject the null hypothesis of there is no breakpoint. Hence, in model 1, 2, and 3, the ADF, Zt, and Za are less than the 5 % critical value. We are happy that there is no structural break in our targeted model, which is desirable. [See Appendix 2]

Table 4. Gregory-Hansen Test for Structural Break of the Model

					Asymptotical Critical Values			*Decision at 5 % level*
		Test Statistic	*Breakpoint*	*Date*	*1 %*	*5 %*	*10 %*	
Break (Level)	ADF	-4.64	18	2012	-5.44	-4.92	-4.69	Fail to reject null H_0, there is no break point.
	Zt	-4.75	18	2012	-5.44	-4.92	-4.69	
	Za	-22.96	18	2012	-57.01	-46.98	-42.49	
Break (Trend)	ADF	-4.38	18	2012	-5.80	-5.29	-5.03	Fail to reject null H_0, there is no break point.
	Zt	-4.86	18	2012	-5.80	-5.29	-5.03	
	Za	-21.95	18	2012	-64.77	-53.92	-48.94	
Break (Regime)	ADF	-4.96	18	2012	-5.97	-5.50	-5.23	Fail to reject null H_0, there is no break point.
	Zt	-5.08	18	2012	-5.97	-5.50	-5.23	
	Za	-23.89	18	2012	-68.21	-58.33	-52.85	

Source: Author's Calculation, STATA

3.5 Johansen Trace and Max-Eigen Test for Cointegration Test

Table 5. Johansen Trace and Max-Eigen Test for Cointegration Test with Lags (1)

Rank	*Parms*	*LL*	*Eigen Value*	*Trace Statistic*	*5 % Critical Value*	*Max Statistic*	*5 % Critical Value*	*Decision at 5 % Critical Value*
0	3	166.49082	-	35.3511	29.68	29.0253	20.97	Reject Null H_0
1	8	181.00349	0.71690	6.3258*	15.41	5.2492	14.07	Fail to reject, H_0
2	11	183.62809	0.20406	1.0766	3.76	1.0766	3.76	Fail to reject, H_0
3	12	184.16639	0.04573					
Note: Number of Observations = 23, Lags = 1								

Source: Author's Calculation, STATA

Table 6. Johansen Trace and Max-Eigen Test for Cointegration Test with Lags (4)

Rank	*Parms*	*LL*	*Eigen Value*	*Trace Statistic*	*5 % Critical Value*	*Max Statistic*	*5 % Critical Value*	*Decision at 5 % Critical Value*
0	30	179.48239	-	34.6757	29.68	20.1029	20.97	Reject Null H_0
1	35	189.53383	0.63401	14.5728*	15.41	12.8081	14.07	Fail to reject, H_0
2	38	195.93786	0.47292	1.7648	3.76	1.7648	3.76	Fail to reject, H_0
3	39	196.82024	0.08446					
Note: Number of Observations = 23, Lags = 4								

Source: Author's Calculation, STATA

In Johansen's cointegrating equations, once the value of trace and max statistics is higher than the corresponding critical values at a 5% significance level, we reject the null hypothesis of there is no cointegrating equation. In this regard, we reject the first null hypothesis of no cointegration. It means that we reject the null hypothesis of no cointegration. We conclude there is at least one cointegrating equation among variables in this model. [See Appendix 3 and 4]

3.6 Vector Error Correction Model (VECM)

In STATA 14 output, the results represent the short-run coefficients of endogenous variables. The output places the target variable first, while other regressors are listed just below after the target variable. The row of CE1 shows the adjustments coefficients (the speed of adjustments). The row of Ce1 shows the cointegrating equation from the Johansen Normalized Restriction Imposed. Johansen's Normalized Restriction shows the long-run equation from where the value of the Error Correction Model has obtained. Johansen's Normalized Restriction indicates the long-run relation. The Johansen normalized restriction value for the target variable, which is the log of business freedom index, is 1. The error correction term has generated from this long-run equation. For interpretation of the report of Johansen's normalized restriction imposed, the researchers must reverse the sign of the coefficients.

3.6.1 VECM with Optimal Lag, [Lags (2), Rank (1)]

The logbfdix has positioned as the dependent variable. In this case, we are going to say, in the short run, loggnipc and logindvapw do not cause logbfdix. However, the corresponding P-value, which is 0.001, of the cointegrating equation is statistically significant in the short run at the 1 % significant level. In the long-run, the loggnipc has a negative (sign is positive) effect on the target variable, logbfdix. The logindvapw has a positive (sign is negative) effect on the target variable, logbfdix. The coefficient is statistically significant at the 1 % level.

The cointegrating equation shows the corresponding P-value of loggnipc, which is 0.000, and the logindvapw, which is 0.000. In the long-run, Logpw and loggnipc have asymmetric effects on logbfdix on average ceteris paribus. Even in two lags, there is no autocorrelation, where the P-value of the first lag is 0.06697, and the second lag is 0.73794. In the normality test, the Jarque-Bera test shows the errors are normally distributed in three equations, where the P-value of logbfdix is 0.06251, loggnipc is 0.80004, and logindvapw is 0.84644. Overall, the entire system of VECM is normally distributed because P-value is 0.38785, which is higher than a 5 % significant level. We fail to reject the null hypothesis of normality. [See Appendix 5 and 6]

The cointegrating equation and long-run model is $\mathbf{ECT_{t-1}} = [\mathbf{Y_{t-1}} - \boldsymbol{\eta_1}\mathbf{X_{t-1}} - \boldsymbol{\xi_1}\mathbf{R_{t-1}}]$.

$$\mathbf{ECT_{t-1}} = [\mathbf{1.000logbfdix_{t-1}} + \mathbf{5.879959loggnipc_{t-1}} - \mathbf{7.545918logindvapw_{t-1}} + \mathbf{5.574524}]$$

$$\Delta\mathbf{Y_t} = \boldsymbol{\sigma} + \sum_{i=1}^{k-1} \boldsymbol{\gamma_i}\, \Delta\mathbf{Y_{t-i}} + \sum_{j=1}^{k-1} \boldsymbol{\eta_j}\, \Delta\mathbf{X_{t-j}} + \sum_{m=1}^{k-1} \boldsymbol{\xi_m}\, \Delta\mathbf{R_{t-m}} + \boldsymbol{\lambda}\mathbf{ECT_{t-1}} + \mathbf{u_t}$$

Logbfdix as the target variable:

$$\begin{aligned}\Delta\mathbf{logbfdix_t} = {} & -\mathbf{0.0006819} - \mathbf{0.025315}\Delta\mathbf{logbfdix_{t-i}} \\ & + \mathbf{0.089265}\Delta\mathbf{loggnipc_{t-1}} - \mathbf{.3454636}\Delta\mathbf{logindvapw_{t-1}} \\ & - \mathbf{0.1881318ECT_{t-1}}\end{aligned}$$

The adjustment term (-0.1881) is statistically significant at the 1 % level, suggesting that the previous year's errors or deviation from long-run equilibrium are corrected for within the current year at a convergence speed of 18.81 %. [See Appendix 5 and 6]

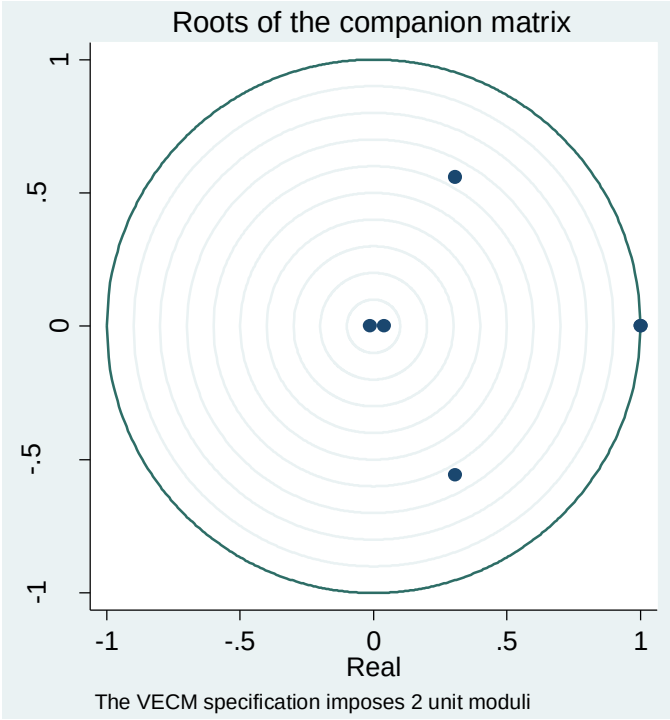

Figure 2. Level and First Differnce of LOGBFDIX, LOGGNIPC, and LOGINDVAPW

Source: Author's Calculation, STATA

Figure (2) shows the VECM specification imposes 2-unit moduli, which is better for the model. At the same time, all values are placing inside the circle. We conclude that we can rely on this model to determine the short-run and long-run relationship between social business entrepreneurship and business freedom considering industry value-added per worker and Gross National Income per capita of the Russian Federation.

CONCLUSION

However, Social Business Entrepreneurship (SBE), a non-loss and non-dividend business, helps the citizens by addressing the created problems of the people in the country, like the Russian Federation. An individual determines the profit of the Social Business reinvesting the initial investment and its earnings in the business. They invest money many times as far as possible to generate more and more financial benefits or values. The person who is known as Social Business Entrepreneur deals with Social Business Entrepreneurial activities meeting social objectives. However, there is no short-run relationship between Social Business Entrepreneurship and Business Freedom. GNI per capita and industry value-added per workers do not have any short-run assassination with business freedom of the social business entrepreneurship. In short run, there is no impact due to economic stability and private and public sector funding opportunity to social business entrepreneurship. However, in the long-run, GNI per capita and industry value-added per workers impact business freedom of social entrepreneurship of the Russian Federation.

At present, a growing number of studies indicate the Russian Federation has experienced a stable stage because of the hostile business nature. Researchers have discovered the impact of entrepreneurial behavior is surprisingly little because of the knowledge gap. As a result, economic structures' transformation and explaining growth in emerging economies become representative issues. Social business or enterprise introduces the capital accumulation of entrepreneurship.

Social Business Entrepreneurship (SBE) brings a better transformation of the economic position through restructuring socio-economic infrastructure. SBE invests capital bringing innovations through business operations with social objectives. Social Business Entrepreneurial capital impacts the knowledge that needs to create the capabilities for entrepreneurial activities associating with institutional, legal, environmental, and social factors. However, it explains the regional economy of the country through operating business with social objectives. Social Business Entrepreneurship generates profits and solves social problems as well at the same time. SBE increases the value for the people by creating innovative ideas, exploring new opportunities, doing something for raising the social benefits, dealing with the accountability, ensuring the use of available resources wisely, and acting as a volunteer at a not-for-profit sector. SBE engages in business activities by considering a positive return to the community, transforming systems, practicing and analyzing the primary causes of poverty, marginalization, the deterioration of the environment, and dealing with the loss of the dignity of humans.

ACKNOWLEDGEMENT

The article has been prepared in accordance with the state assignment for the Institute of Economics of Ural Branch of RAS for 2020.

REFERENCES

Ashoka Innovators for the Public (2013), https://www.ashoka.org/social_entrepreneur

Baumol, W. (1990), "Entrepreneurship: Productive, Unproductive and Destructive", *The Journal of Political Economy*, Vol. 98, No. 5, pp. 893–921.

Baumol, W. (1993), *Entrepreneurship, Management and the Structure of Payoffs*, The MIT Press, London.

Baumol, W. (2005), *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism*, Princeton University Press, Princeton.

Bornstein, D. (2010), *How to Change the World: Social Entrepreneurs and the Power of New Ideas*, *The New Heroes*, http://www.pbs.org/opb/thenewheroes/whatis/

Bruton, G.D., Ahlstrom, D., Obloj, K. (2008), "Entrepreneurship in Emerging Economies: Where Are We Today and Where Should the Research Go in the Future", *Entrepreneurship Theory Practice*, Vol. 32, pp. 1–14.

Compiled from the book of Professor Dr. Yunus "Creating a world without poverty—Social Business and the future of capitalism and Building Social Business".

Dees, J. G., Emerson, J., Economy, P. (Eds.) (2001), *Enterprising Nonprofits: A toolkit for Social Entrepreneurs*, John Wiley & Sons, NY.

Dees, J. G. (1998), "Enterprising Non-profits", *Harvard Business Review,* Vol. 76, No. 1, pp. 55-67.

Dickey, D. A. Fuller, W. A. (1979). "Distribution of the Estimators for Autoregressive Time Series with a Unit Root." *Journal of the American Statistical Association*, Vol. 74(366), pp. 427-31.

Economic Data and Statistics on World Economy and Economic Research (Heritage Organization), *Business Freedom Index*, https://www.heritage.org/index/explore?view=by-region-countryyear&u=637155314358413828 [Accessed 15 January 2020].

Elkington, J., Hartigan, P. (2008), *The Power of Unreasonable People: How Social Entrepreneurs Create Markets that Change the World*, Harvard Business Press, Boston, MA.

Engle, R.F., Granger, C. (1987), "Cointegration and Error Correction, Representation, Estimation and Testing", *Econometrics*, Vol. 55, pp. 251-276.

Gregory, A., Hansen, B. (1996), "Residual-based Tests for Cointegration in Models with Regime Shifts". *Journal of Econometrics*, Vol. 10, pp. 321-335.

Hamilton, J.D., (1994), *Time series analysis*, Princeton University Press, Princeton, NJ.

Human Development Reports, The United Nations Development Programme, *Gross National Income per capita*,http://hdr.undp.org/en/data [Accessed 15 January 2020].

Johansen, S., Juselius, K. (1990), "Maximum Likelihood Estimation and Inference on Cointegration with Applications to the Demand for Money", *Oxford Bulletin of Economics and Statistics*. Vol. 55, No. 2, pp. 169-210.

Johansen, S., (1991), "Estimation and hypothesis testing of cointegration vectors in Gaussian vector autoregressive models", *Econometrica*, Vol. 59, No. 6, pp. 1551-1580.

Johansen, S., Juselius, K. (1992), "Testing structural hypothesis in a multivariate cointegration analysis of the PPP and the UPI for UK*", Journals of Econometrics*, Vol. 53, No. 1, pp. 211-244.

Johansen, S., (1995), *Likelihood-based Inference in Cointegrated Vector Autoregressive Models*, Oxford University Press.

Mair, J., Martin, I. (2006), "Social entrepreneurship research: A source of explanation, prediction and delight", *Journal of World Business*, Vol. 41, pp. 36-44.

Miller, T.L., Grimes, M.G., McMullen, J.S., Vogus, T.J. (2012), "Venturing for others with heart and head: how compassion encourages social entrepreneurship", *Academic Management Review*, Vol. 37, No. 4, pp. 616–640.

Moskovskaya, A.A., Soboleva, I.V. (2016), "Social entrepreneurship in the system of social policy: International experience and prospects of Russia", *Studies on Russian Economic Development*, Vol. 27, No. 6, pp. 683–688. doi: 10.1134/s1075700716060113

Phillips, P. C., Perron, P. (1988), "Testing for a unit root in time series regression", *Biometrika*, Vol. 75, pp. 335-346.

Sims, C.A. (1990), "Macroeconomics and Reality", *Econometrica,* Vol. 48, No. 1, pp. 1-48.

Stephan, U., Patterson, M., Kelly, C., Mair, J. (2016), "Organizations driving positive social change: a review and an integrative framework of change processes", *Journal of Management*, http://dx.doi.org/10.1177/0149206316633268

Thompson, J.L. (2002), "The World of the Social Entrepreneur", *The International Journal of Public Sector Management*, Vol. 15, No. 4/5, p. 412-421.

Seelos, C., Mair, J. (2005), "Social Entrepreneurship: Creating new business models to serve the poor", *Business Horizons*, Vol. 48, pp. 241-246.

Welter, F. (2011), "Contextualizing entrepreneurship—conceptual challenges and ways forward. Enterp", Theory Pract. Vol. 35, No. 1, pp. 165–184.

World Bank, World Bank Development Indicators. Industry (including construction) Value Added Per Worker.https://databank.worldbank.org/source/worlddevelopmentindicators/Type/TABLE/preview/on# [Accessed 15 January 2020].

Zahra, S.A., Wright, M. (2011), "Entrepreneurship's next act. Acad.", *Management Perspec*tive, Vol. 25, No. 4, pp. 67–83.