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Founder and
publisher: International College Suan Sunandha Rajabhat University,
Nakhonpathom Education Center
111/5 Moo 2 Tambon Klongyong Phutthamonthon,
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Editorial
office: International College Suan Sunandha Rajabhat University, Office 402, floor 4,
Nakhonpathom Education Center, 111/5 Moo 2 Tambon Klongyong Phutthamonthon,
Nakhonpathom, 73170, Thailand
Tel.: 66 (0) 34964946 Fax: 66 (0) 34964945 Watsapp: 66814393123
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CROSS-REGIONAL INTERACTIONS AS A SOURCE FOR INNOVATIVE REFORMATION (THE CASE OF RUSSIA)

Elena V. Kozonogova

Perm National Research Polytechnic University, Perm, Russia

The processes of Soviet Union disintegration back in the 1990s have negatively influenced the Russian Federation's economic environment. According to some experts, the total volume of cross-regional economic relations became 4 times lower. There was practically a split of the economy into the export sector and the sector working for the domestic market solely. Under such developmental conditions, achievement of sustainable economic growth, the rise of the country's competitiveness and its transfer to the innovative model of development directly depends on successful overcoming of the current autarkic tendencies. This requires the reform of cross-regional relations' system aimed at efficient use of territories' competitive advantages, in the interests of both standalone regions and the state as a whole. Solution of all the related problems belongs to the competence of federal and regional authorities interested in transition of Russian industries into the truly innovative ones.

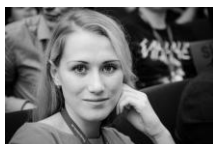
Keywords: cross-regional interaction; cluster; innovative development; Russian Federation

Introduction

Innovative development today belongs to the most topical problems, both for science and for public authorities in any country. This, relatively new, type of development is impossible without territorial integration which is to provide free movement of production, investment and labour resources between regions of a country.

In Russia, formation of the full-fledged cross-regional integration is complicated by significant distances between the administrative territories and insufficient development of transport communications inside the country. This leads to serious cross-regional differences in terms of production, scientific and natural potentials. Besides, a significant share of the already formed production and trade relations inside the country and also with the former republics of the USSR have been distorted during the 1990s as a result of rapid and not always thought through transition to market economy.

Elena V. Kozonogova



Post graduate student of Perm National Research Polytechnic University, Perm, Russia (since 2014). Her scientific interests are mathematical modelling in economics, clusters, innovative development. Since 2011 she published more than 20 articles in Russian federal and international journals; participated in more than 10 International scientific – practical conferences.

E-mail: elenaa.semenovaa@gmail.com

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Consequently, Russian economy is characterized by rather distinct interregional heterogeneity and disbalances in its spacial development, both socioeconomic and innovative. This conclusion is additionally proved by vast empirical data, available from both Russian and foreign studies.

Most of the researchers in this field are unanimous in the statement that cross-regional differentiation in Russia does not only exist – it actually leads to a range of rather negative externalities. Agreeing with most of the ideas of the “new economic geography” here, we think that inequality in the territories’ development levels within market economy would be impossible to smooth fully. At the same time, artificial smoothing of per capita incomes between the regions as performed by federal authorities through resources redistribution may lead to lower rates of economic development of the country as a whole.

Therefore, externalities from cross-regional differentiation should be more positive. And this would be possible provided cross-regional cooperation effects dominate over the effects from cross-regional competition. This would enable the widening of spacial borders for economic activity in some regions by means of the others. In this case, cross-regional differentiation will become not only the resource increasing the welfare level in particular regions, but would also be the catalyst of innovative development for the national economy overall.

Theoretical and practical importance of reforming the cross-regional relations’ system which is an integral element of innovative development of the regions and the country has determined our choice of the objective and the subject matter for this research.

Background

The means of cross-regional economic interaction were formed during a long period of time, in parallel to social division of labour and the development of production and trade relations. Therefore, considerable attention of scientists, since Adam Smith with his theory of absolute and relative advantages to the present time, is paid to the problems of studying the nature, forms, advantages and effects of cross-territorial interaction and cooperation of economic subjects. Analysis of the contemporary academic literature on this subject matter has revealed that the problems of cross-regional interaction are considered by analysts either in the context of globalization when economic subjects cooperate with each other with the aim to win in the international competition (Torre et al., 2005; Ovcharenko, 2001; Etzioni, 1965) or in the light of inequality observed in regional development (Pyke & Sengenberger, 1992; Song, 2007; Plikhun & Kiselev, 2009). These problems are also often examined in the frames of “center-periphery” theory, the theory of growth poles and development centers, and the theory of territorial industrial engineering.

A great number of published works concerning this problem are studying the levels’ correlation between the cross-regional interaction and the innovative activity (Audretsch, 1999; Fritsch, 2003; Grotz & Braun, 1997). Thereupon, it should be mentioned that as the development of new directions and instruments of innovative policy realization progresses, research on such directions in the cross-regional interaction starts to cover also the theory of production localization (Krugman, 1993; Moreno et al., 2005; Woodward Douglas, 2012), the benchmarking of territories (Atkinson & Andex, 2008; Groenendijk, 2010; Huggins, 2008), territories’ intelligent specialization (Reid & Miedzinski, 2014; McCann & Ortega-Argilés, 2011).

Despite the obvious research results already achieved in the field of cross-regional interaction and its influence on economic development, scientific achievements connected with evaluation of such interaction effects have been still incomplete.

It is necessary to mention here that in scientific works the description of cross-regional interaction effects is presented, as a rule, on the basis of interdisciplinary analysis: the institutional economic theory, the theory of communication, theory of complex systems, synergetics and even logistics. For example, Russian sociologist A.E Shastitko (2009) considers cross-regional interaction, namely clusters, following the logics of contemporary institutional economic theory. This author notes that special interdependence which allows deriving particular rent appears between the participants of a cluster when technical independence is combined with the factual one.

L. Leidsdorf (2008) describes the effects of three agents of development interaction (representatives of science, business and government) from the standpoint of the theory of communication. In his opinion, interaction of these three agents lowers the level of uncertainty in the process of decision-making and allows creating new knowledge right along.

A.A. Bogdanov (2003) examines the effects of interaction from the standpoint of system analysis. When several components are combined into an organized system, it happens so that the addition of their activities (the so-called “positive demonstration”) is providing a considerable effect while “the opposition” (the negative impacts from the opposing activities of the combined components) is not yet formed.

After the analysis of Russian and foreign scientists’ results, the authors have concluded that the considered approaches to the evaluation of cross-regional clusters’ efficiency do not fully adequately take into account the influence of clusters on territories’ development. Moreover, the existing methods do not allow applying these indicators as universal ones with regard to the economic systems’ differences in the levels of their development.

Theoretical and methodological grounds for this study have been shaped by numerous works in the fields of geopolitics, production forces allocation, network economy, industrial regions’ development and clusters. The information and empirical basis for this research consists of Russian legislation and regulatory acts; information & analytical databases available online on the site of the Federal Service for Public Statistics of Russian Federation; the results of the sociological surveys; other materials published in Russian and foreign research sources; media sources.

Several key approaches are suggested for application in this study.

First of all, the methodology developed within institutional evolutionary economic theory. It would enable defining the regularities in formation and development of the institutes needed for the functioning of cluster structures as the leading form of cooperation between economic subjects.

The second approach is based on the ideology of hierarchical analysis of territorial economic systems. Within the framework of the hierarchical approach we study the processes taking place at various levels of the economy. This approach also includes the analysis of the hierarchical structure of the participants and their interconnection within particular regions. It also covers the determination of opportunities for their cross-regional efficient cooperation.

Thirdly, we aim at application of mathematical statistics methods (including correlation and regression analysis, grouping/clustering method and cluster analysis).

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Applying these three methodological approaches to the analysis of the effectiveness of cross-regional clusters would increase the soundness of our conclusions and would also provide a chance to pay attention to those aspects which remain uncovered/understudied in case if only one of these approaches is applied.

Importance of Cross-regional Interaction

Economic development of any country would be impossible without inter-territorial integration. The latter concerns both inter-state integration and integration of the regions within one country. It is the integration realized through interaction and cooperation of economic subjects that provides free migration of manufacturing, investment and labour resources.

Inter-regional cooperation allows strengthening cultural and business connections and optimizing infrastructure placement on the basis of regional cooperation. It makes possible to eliminate excessive financial expenditures connected with creation and functioning of the regional duplicating economic structures and unjustified inter-regional competition; to pool resources and needs of territories aimed at realization of large-scale investment projects, and to distribute effective experience in the field of innovative development.

Formation of regional interaction in the RF is complicated by considerable distances between territories and by poor development of transport infrastructure. Due to these factors, Russian economy is characterized by great inequality of spatial development, both socioeconomic and innovative one (Akhmetova, 2014). Extensive empirical data confirms this conclusion. Thus, according to the National Bureau of Economic Research results, the difference between GRP level per head in the richest and the poorest regions of Russia is 25-fold (Gennaioli, 2013).

According to the state statistics, at the end of 2014 only five regions in Russia provided about 40% of the country's GRP. Sharp inter-regional differentiation in the socio-economic and innovative development inevitably leads to continuous increase in the number of regions where the income level per head is lower than the country's average.

Mass concentration of resources in the developed territories and stagnation of poor ones have become the result of such a situation. Returning to the problem of inter-state integration it should be noted that development of foreign economic relations of Russian regions does not always promote the growth of inter-regional relations. It is preconditioned by commodity composition of Russian imports and exports. As A.G. Granberg (2004) mentioned, "The growth of the world market influence on Russian economy has become one of the main reasons of inter-regional relations' weakening. Domestic commodity producers were intensively driven out of the home market by imports. And this process was promoted by the reduction of customs tariffs and cancellation of the most nontariff import restrictions. As Russian export primarily consists of initial processing stage products (fuel, raw materials) while import consists of highly processed products (first of all, consumer goods), foreign trade growth hardly concerns domestic inter-branch industrial communication, and, consequently, inter-regional relations".

For these and other reasons, the structure of regional economies is a significant factor of inter-regional cooperation. Therefore, development of inter-regional cooperation acts as an important factor of enhancement and quality of economic growth in the light of transition to the innovative model of the RF development.

Following the logic of the Triple Helix model, the representatives of industrial enterprises, scientific community and public authorities are believed to be the subjects of cooperation in economic systems. Taking into account this classification, it is necessary to also mention that the same subjects are considered to be the participants of inter-regional cooperation. The exclusive distinction is that these subjects belong to different territories. At the same time, they have common interests and needs.

The following general directions of inter-regional cooperation are distinguished by scientists:

- motivation of business connections between economic organizations;
- development of advanced technologies in the sphere of national security;
- association of production and research aimed at conducting research and development activities;
- founding of the objects for the development industrial and social infrastructure;
- education of engineering and technical manpower;
- mobilization of investment and commercialization of research.

The so-called “innovative landscape” appears in the process of economic subjects’ cooperation. Its specific character makes it possible to reduce every participant’s costs directed on such operations as information interchange, the search for contractors and/or partners, funding of the project, products and services promotion, etc. (Basov & Minina, 2014).

Hierarchy establishment and innovative landscape localization lead to formation of a production complex denominated as a cluster.

Clusters as the Instrument of Interaction

The term “cluster” involves such meanings as swarm, bunch, accumulation, group, and is used in many fields of science and technology.

Clusters are known as geographic agglomerations of companies, suppliers, service providers, and associated institutions in a particular field (Porter, 2007).

It should be mentioned that only in the 1990s clusters started being treated as “applied key factors”. To a large extent this happened thanks to the works of Michael Porter. But the very idea of enterprises’ cooperation aimed at cost reduction and competitiveness improvement was originated back in the middle of the 19th century. It became the basis for localization theory presented by I. von Thünen (1896) in 1826. Later, it was developed further by A. Marshall (1920) in his description of industrial regions of the Great Britain in 1850, as well as by A. Weber (1929), in his industrial location theory in 1929.

All over the world scientists made profound analysis of economic relations in the frames of producers’ cooperation. At that, despite different denominations, such as clusters, blocks of development, industrial units, territorial-production complexes, scientific-production associations, etc., in the frames of these formations economic subjects act as the elements of the single territorial innovative system.

Cluster structures are convenient for the state as the required element of any cluster is a special management company responsible for the joint results. Federal state structures cooperate according to the “one window” principle: firstly, with this managing company regarding organizational issues; secondly, with regional authorities with respect to legal problems; thirdly, with organizations regarding financial matters. Thus, the realization of

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national innovation and industrial policy on every level of economy, from macrolevel to microlevel, is provided.

In theory, cluster structures can be formed on the different levels of economy (Tab. 1).

Table 1 - Value chain approach at different levels of analysis

(Source: Soshnikova, L.A., 1999)

Level of analysis	Cluster concept	Focus of analysis
National (macro)	Industry groups' linkages in overall economic structure	Patterns of specialization in national/regional economy Innovation and technology upgrade needs in mega-clusters
Branch or industry (meso)	Inter- and intra-industry linkages at different stages of production chain of a single end product	Industry benchmarking and SWOT (strengths, weaknesses, opportunities, threats) analysis Innovation needs
Firm (micro)	Specialized suppliers around one or a few core enterprises (inter-firm) linkages	Strategic business development needs Value chain analysis and chain management Need for collaborative innovation projects

It is necessary to mention that industrial clusters in the USA, Australia, and also in some states of Europe and Asia have already served as the instruments of regional and local development for more than 30 years (Faskhutdinov, 2014).

M. Porter argued that clusters tend to be geographically concentrated. At that, E. Feser (1998) noted the possibility of developing interaction and cooperation between the enterprises located far from each other. He defines two core dimensions of the cluster concept: economic and geographic one.

Geographical proximity of actors becomes an insignificant condition for efficient functioning of clusters. Moreover, estimating alternative variants of cost reduction through saving on different types of expenses (transport, production, experimental stage, etc.), enterprises will cooperate but not necessarily with the actors located next door.

Still, at present, cluster initiatives are realized in most countries, including Russia, in the borders of certain regions.

The history of innovative clusters' formation in Russia started relatively late, back in 2012, when the Ministry of Economic Development announced the first competition of pilot programs aimed at development of innovative territorial clusters. According to the results of double-step estimation, 25 regional programs were then selected from the total number of 94 tenders, and the List of innovative territorial clusters was approved (Gokhberg & Shadrin, 2013). According to the RF Government Regulation as of 31.07.2015 No 779 "On industrial clusters and specialized organizations of industrial clusters", these clusters became the pilot ones. Mechanisms and principles of governmental support for cluster initiatives were practised on their example; standard requirements to clusters and the systems of their management were then developed.

At the moment, 26 territorial innovative and 17 industrial clusters situated in 22 regions of the country have financial support in Russia.

The following specific features of Russian clusters should be mentioned here. First of all, Russian innovative systems are defined by scientists as highly closed ones. It means that

principally non-public knowledge is used by organizations in creating innovations. Such an approach was peculiar to the earliest models of innovative development (Akerman, 2011).

Indeed, the majority of the currently existing clusters in Russia are not expected to disseminate information on their activities and/or to use online instruments for involving new members, to inform about the results of conducted research and prospects for future development. Besides, territorial innovative clusters are usually based on the already existing relations between science and business. As a rule, such cooperation takes place when they develop certain technologies for production of goods meeting well-marked demands of the industry.

Thereby, cluster structures often act as an instrument for attracting government financing for complex long-range cost-based and science-intensive projects.

The circle of participants, their functions and expected results are clearly determined by the program of the government support of clusters in Russia which forms the institutional base of cluster cooperation. Modification of the behaviour, from regions' competition to regions' cooperation, along with the change of institutional environment for inter-regional cooperation depends, in the first place, on the state authorities.

We accept the widespread opinion that "combination of cooperation and competition is the characteristic feature of industrial-innovative clusters' development" (Kucherenko, 2013).

However, while competition is the result of opposition between the actors' interests, cooperation appears as a result of combination and coincidence in the needs and actions.

If we single out the key industries (they form "the core" of a cluster), the related branches (they are denominated as additional with respect to the key industries) and then the servicing industries, we will see that cooperation is more typical for the first ones while the second and the third industries are usually facing strong competition and minimal cooperation.

The Concept of Competitiveness Growth through Cross-Regional Clusters

In the field of cross-regional interaction, regions participating in tenders for federal financing compete with each other. This is preconditioned by the lack of common interests which brings every region to stand apart from the projects of other contenders. This tendency leads to the situation in which state financial support for cluster development is given to the territories with the highest level of industrial and scientific-and-technical potential. This fact has been already confirmed in our previous research (Yolokhova et al., 2016).

Because industry clusters, by definition, are not ubiquitous, the industry cluster policy would seem to imply at least the acceptance of a potential worsening of regional economic disparities (Feser, 1998).

Everything mentioned above is the reason for the existing differentiation between Russia's regions. For instance, according to the Rosstat data, in December 2016 the most developed region (Tyumen region) was doing 25 times better than the poorest region (the Ingush Republic) by GRP per head and the purchasing power parity. In 2014 this gap reduced to 9.2. The problem of asymmetric development in the regions of Russia is still very acute and it is still explained, firstly, by the dynamics of outstripping development in some regions and, secondly, by the phenomenon of preferential regime (Akhmetova, 2016;

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Mironov, 2010). Establishment of such a regime is principally connected with power policy. It is practically impossible for some regions to switch to another group without a cardinal change in the existing conditions.

However, there are still examples of successful cooperation between the regions in realization of joint initiatives and external funding for the regional level projects. Such experience makes it possible to expand the scope of territories in realization of the government programs supporting innovative projects. The example of this is the competition announced by the Ministry of Education of Russia with the aim to give government support for developing cooperation between Russian higher schools and the organizations that implement high-tech projects. Many participants of this competition have been offered cross-regional projects in 2015. Such projects determine the special character of mutual relations among economic subjects located in different regions.

Special character of classic cluster relations consists in territorial proximity of partners, and this fact is the reason for objective restrictions. Producers are in need of new customers as well as suppliers of equipment, materials and technologies outside their own region. Scientific and education establishments are in need of new scientific instruments, advanced research knowledge, joint projects and exchange of experience. And the fact that researchers are in need of new, potential customers and of service promotion is no less important. Regional authorities should go beyond the limits of territorial clusters as well, though to a lesser extent. This often depends on the demands of a federal supervising body which determines the format of financed projects.

The listed above factors predetermine the necessity of transition from cluster projects' realization in the frames of one region to cross-regional clusters.

Under cross-regional clusters we mean such mutual relations which take place among economic subjects from different territories in the frames of realizing such joint projects which could not be realized by any of these participants individually.

On the one hand, emergence of cross-regional clusters can be explained by the deficit of local knowledge, scientific and manufacturing equipment, raw material and goods in the frames of one territory. On the other hand, such clusters boost the potential of every actor in the process of their innovative projects' realization. One of the key features of cross-regional clusters is wide application of ICT, including international communication which fully meets the principle of "open innovations". Introduction of the latest technologies in communication and information exchange intensifies the interaction of economic relations' subjects in real-time mode.

Thus appears the necessity for creating the appropriate institutional and legal conditions for coordination of cross-regional innovative projects. It should be mentioned that there are general institutional problems in the development of cross-regional interaction among the subjects of cluster structures in Russia:

- the lack of structural reconstruction algorithm for the Russian industrial sector;
- problems with innovative activity results' application, including the problems of external economic marketing;
- problems of public involvement in discussion and achievement of expert consensus, first of all, in the most sophisticated fields (robotics, artificial intelligence, progressive biomaterials, additive technologies);
- problems of long-term investments' mobilization into innovative infrastructure and projects.

Solutions of the problems listed above may expand the boundaries of clusters' activity through stimulation of cross-regional association and cooperation. But development of such interaction is complicated by the lack of integrated legislative and methodological approaches to the regulation of innovative processes in the regions. Besides, research in the field of cross-regional clusters' efficiency has been incomplete and mostly local so far. As a result, the positive influence of cross-regional clusters on the territories' development is often underestimated.

Standardized Analysis of Cross-Regional Clusters' Efficiency

On the basis of generalization and classification of the methods used for analyzing clusters' efficiency in the process of their operation we propose the standardized analysis of cross-regional clusters' efficiency.

Under the efficiency of cross-regional clusters we understand here qualitative and quantitative changes in the regions' activity indicators, the indicators of branch operation as well as of target groups in cross-regional clusters (entrepreneurial structures, power bodies, social organizations and population).

The proposed procedure of determination and analysis for the efficiency of cross-regional clusters' operation includes 7 stages divided into three groups as follows:

- 1st group (Stages 1 and 2) – Algorithm of clusters' identification;
- 2nd group (Stages 3-5) – Algorithm of clusters' analysis;
- 3rd group (Stages 6-7) – Algorithm of clusters' efficiency evaluation.

Stage 1. Grouping of territories according to the level of their clusterization potential

In the previous works (Yolokhova et al., 2016) the authors have already developed the algorithm of cluster potential calculation for revealing the types of regions, stemming from Etzkowitz-Leydesdorff (2000) "triple helix" concept. This concept was used for calculating the regions' cluster potential on the basis of three indices: "Index of quality of life and infrastructure development" (X), "Index of industrial development" (Y), "Index of education level and technological development" (Z). The suggested system is correlated with the elements of "triple helix" in the following way: "Index of quality of life and infrastructure development" – "Power", "Index of industrial development" – "Business", "Index of education level and technological development" – "Science". These indices demonstrate whether the region is ready for clusterization, i.e., how efficient is the budget funding of cluster structures' development on a territory.

Every index is calculated on the basis of relevant statistical data. Selection of indicators' group for every index and further calculation of the integral indices is carried out in 5 steps.

Step 1. Groups of indicators are singled out to fully characterize each of the three indices and their multicollinearity control is carried out.

Appraisal of the calculation algorithm was made by the authors for the regions of Russia on basis of 2013 statistics. There were four indicators selected characterizing index X, one indicator for index Y and then five indicators for index Z (Tab. 2). All of them were recommended for the calculation of the integral indices.

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Table 2 - System of indices characterizing the cluster potential
(Source: authors calculations)

Integral Indices	Statistical indicators
1. Index of the quality of life and infrastructure (X)	Total area of living space per head on average
	Population size per one hospital bed
	Density of public hard-surface roads
	Pollutant emissions from stationary sources
2. Index of production potential (Y)	Volume of factory shipments (works, services) by type of economic activity “Processing production”
3. Index of scientific, technical and educational potential (Z)	Headcount of staff involved in research and development activities
	Number of students enrolled for undergraduate studies
	Internal research and development costs
	Number of university teachers
	Volume of innovative goods, works and services in the total volume of performed work

Step 2. Evaluation of the asymmetry characterizing the degree of distribution asymmetry with respect to the county's average value of indicator is carried out for every indicator.

At that, if the resulting distribution is asymmetric (the value of asymmetry indicator is more than 0,5), in order to flatten the influence of “spikes” (extreme values) on the value of the calculated index, the value of the indicator is transformed according to the formula:

$$\bar{x}_{ij} = \sqrt[k]{x_{ij}},$$

where \bar{x}_{ij} – the transformed value of i-indicator in j-region;

x_{ij} – the datum value of i-indicator in j-region;

k – the degree of asymmetry (takes on values from 2 to 4 against the asymmetry ratio).

Step 3. For uniformity and comparability all the indicators are normalized by means of linear transformation:

$$\bar{\bar{x}}_{ij} = \frac{\bar{x}_{ij} - \bar{x}_{i_min}}{\bar{x}_{i_max} - \bar{x}_{i_min}},$$

where $\bar{\bar{x}}_{ij}$ – the normalized value of i-indicator in j-region;

\bar{x}_{i_min} – the minimum value of i-indicator in Russia;

\bar{x}_{i_max} – the maximum value of i-indicator in Russia.

Step 4. For every region we have then calculated the indices, characterizing cluster potential of a region as the arithmetic mean of normalized values for the corresponding groups of indicators.

Cluster potential (CP) of a region is calculated using the formula:

$$CP = \frac{X + Y + Z}{3}$$

Thus, for every region three indices are being calculated. These indices characterize the level of power, science and business development, and on the basis of their values we can later calculate the value of the region's cluster potential.

		Quality of life and infrastructure (X)								
		L			M			H		
Production potential (Y)	L	LLL	LLM	LLH	MLL	MLM	MLH	HLLN	HLM	HLH
	M	LML	LMM	LMH	MML	MMM	MMH	HML	HMM	HMH
	H	LHL	LHM	LHH	MHL	MHM	MHH	HHL	HHM	HHH
		L	M	H	L	M	H	L	M	H
		Scientific, technical and education potential (Z)								

Figure 1 - Matrix of maturity degree of the territory's clusterization potential
(Source: author's own suggestion)

The obtained indices could be applied in two directions. Firstly, they may be used for grouping territories according to the level of their clusterization potential. Well-known algorithms of mathematical clusterization (hierarchical clusterization, the algorithms of squared error, selection of connected components, Kohonen maps, etc.) are used for grouping. Secondly, they may be used for comparison of territories in terms of life quality and infrastructure development, industrial potential, technological and educational potential and then also for determination of the vectors for their further growth. Every territory is assessed in its X-Y-Z dimensions of maturity, arranged in a matrix form (see Fig. 2). For example, a territory under the number N has high level of quality life but low level of production, and also low technological and education potentials. Thus, this territory N is located on the HLL point.

In the process of results' interpretation, we can define the set of vectors for further development and interaction of territories. Thus, for the territory N in the example above the natural line of development would be to increase its production and also to strengthen its technological and education potentials. Such an increase would be possible to achieve in the process of integration with the territory located at HMM. It should be mentioned here that when territories are chosen for cooperation, the intensity of the already existing cross-regional flows of goods and services, funds, cash assets, etc are first of all evaluated.

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Thus, the first stage defines the territories' strongest advantages needed for the creation of cross-regional clusters.

Stage 2. Determination of specialization capacities of enterprises-participants in the cross-regional clusters

Step 1. Determination of the top-priority branches and types of activity in the studied territories.

These are defined on the basis of territories' strategic documents, including long-term development strategies and medium-term development forecasts.

Step 2. Analysis of specialization in the corresponding branches and types of activity on every territory.

To determine the degree of specialization for any branch or type of activity, it is necessary to calculate the rate of specialization, LQ. Branches interrelated in a cluster are usually using the common labour market where special skills are formed. The rate of specialization (LQ) is determined as the ratio of employment: the share of the employed in the territory's industry (E_{ij}) in the total volume of employment on the studied territory (E_i) in comparison with the share of employed in the same branch of the national industry (E_j) and the total volume of national employment (E):

$$LQ_{ij} = \frac{E_{ij} / E_i}{E_j / E} .$$

Table 3 - Matrix of coefficients for branches' specialization on territories

(Sources: author's own suggestion)

Branch	Territory 1	Territory 2	...	Territory N
Branch 1	LQ11	LQ12	...	LQ1N
Branch 2	LQ21	LQ22	...	LQ2N
...
Branch K	LQM1	LQM2	...	LQMN

The value of $LQ > 1$ shows higher (than the national average) level of a region's specialization in this branch. This can be interpreted as the indicator of the existing competitive advantages in the examined branch. If in this situation the average annual job growth rate is positive, the examined branch shows dynamic progress and thus is able to attract new human resources (IPA, 1997).

Thus, according to the calculation results, the matrix of the coefficients of branches' specialization can be filled (Tab. 3).

Step 3. Definition of specialization branch for further cross-regional cluster creation

Tab. 4 presents the total information about the existing branches of specialization in the priority-driven spheres of economy on the analyzed territories. The table is being filled in the following way:

if $LQ_{ij} > 1$, then in the appropriate cell of table we put “+”, in the opposite situation we input “-”.

Table 4 - Priority-driven spheres of economy by the types of activity on the analyzed territories

(Sources: author's own suggestion)

Branch	Territory 1	Territory 2	...	Territory N
Branch 1	+	+	...	-
Branch 2	+	+	...	+
...
Branch K	-	-	...	+

Further, on the basis of expert appraisal, we can define the branch of specialization for a newly created cross-regional cluster. There could be several branches of specialization in one cluster, actually. In this case, there appears the opportunity to create a cross-regional cluster including several branches of specialization — or several clusters.

Stage 3. Definition of target groups in a cross-regional cluster

Definition of target groups in a cluster will be carried out according to the procedure developed by M. Porter (2000). Firstly, the core of a cluster is defined, from which technological chains of interrelated enterprises are driven in a vertical direction. On a horizontal direction, industries which use common with the core production factors, technologies and deliveries are identified. Secondly, special groups within the cluster are determined to provide specialized practices, technology, information, capital and infrastructure — everything that would later form the competitive advantages of a cluster. Thirdly, governmental and other legal structures influencing the behaviour of cluster's participants are identified. They would be responsible for formulating rules, principles and incentives which influence the character and the intensity of local competition.

Stage 4. Definition of key parameters and of the integral indicator of cluster's efficient functioning on the basis of expert appraisal

Experts who are representing the local scientific community, business managers and the official authorities are the important source of information about prospects and problems of regional industrial development.

The very first step in the process of experts' polling is deciding on the set of parameters characterizing the efficiency of cross-regional cluster functioning. On the second step, these parameters are grouped into blocks and then the selected experts are asked to range this collection of parameters by blocks. At the third step the most significant indicators in every block are selected. On the fourth step the numerical score is applied: the experts assign weights to all the indicators in every block and estimate the degree of their influence on the success of cluster's functioning.

On the fifth step, the integral index for every block of indicators is calculated by means of summation of all the weighted estimates. On the sixth step the integral indicator of cross-

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regional cluster functioning is determined as the root of corresponding degree from the product of integral indices for every block of indicators.

Considering the subjectivity of expert appraisal as such and in order to analyze the results in more detail, we can then also apply such methods of mathematical statistics as generalized estimator, analysis of hierarchies and the method of experts' consensus degree determination.

Stage 5. Identification of key parameters and of the integral indicator of efficient cluster functioning on the basis of statistics and legal documents

Step 1. Determining the combination of indicators for evaluation of cross-regional cluster's efficiency.

The problem of indicators combination for evaluation of clusters' effectiveness in a continuous way is rather debatable. Andersson singles out such indicators as: the number of firms in a cluster, employment, production rate (efficiency), export volume, the number of innovative projects in a cluster, profits and also changes of these indicators in the course of time.

Naumov V.A. (2006), Kostyukevich D.V. (2009) propose to use the following characteristics as the key criteria: production structure of a cluster, its resource potential, investment activity, economic indices.

T.V. Zadorova (2009) applies only four indicators for evaluation of clusters' efficiency: cluster's share in industrial production of a region, cluster's share in the total number of employed people, the index of labour productivity at the enterprises of a cluster, cluster's share in the export structure of its region.

To evaluate the efficiency of a cross-regional cluster the authors propose the system of factors and indicators developed on the basis of factor analysis application (Soshnikova, 1999).

Table 5 - Factors and indicators of cross-regional cluster's efficiency evaluation

(Sources: author's own suggestion)

Name of the factor	Indicators
Factor of cross-regional cluster significance (S)	1. Indicators "coefficient of localization", "size", "focus" calculated on the basis of employment statistics 2. Indicators "coefficient of localization", "size", "focus" calculated on the basis of factory shipments statistics (the volume of executed works and rendered services) 3. The indicator of uniqueness
Factor of interdependence of cross-regional cluster's participants (I)	1. Number of connections among cluster's participants 2. Indicator of cross-regional cluster's localization potential
Factor of economic effectiveness of a cross-regional cluster (EE)	1. Average monthly wage of personnel in the cross-regional cluster 2. Profits 3. Investment in fixed assets

Tab. 5 presents these factors and indicators in detail.

Before the beginning of this factor analysis all the indicators are standardized.

Step 2. Calculation of the integral indicator of cross-regional cluster effectiveness.

The integral indicator of cross-regional cluster effectiveness (CCE – further for cross-regional cluster effectiveness) is equal to the cube root of the product of estimation factors' value (Table 5). The factors' values are calculated in the process of factor analysis:

$$CCE = \sqrt[3]{S * I * EE}$$

Stage 6. Analytical estimation of effectiveness of cross-regional cluster's functioning

The integral indicators obtained at the 5th stage show the effectiveness of cross-regional functioning. The level of integral indicator is estimated by experts. Also, its value is compared with the calculated value of the previous period, and then the effectiveness growth is estimated. The indicator of effectiveness could be also compared with the industry's average one.

Estimation of the influence of cross-regional cluster's operation on the indicators of territories' development (GRP, GRP growth, the index of industrial production, investment in fixed capital, etc.) could be carried out by means of mathematical statistics, namely, correlation-regressive analysis and variance analysis.

Stage 7. Monitoring of corrective actions' implementation and receiving feedback from cluster participants

Among the advantages of the proposed procedure we could mention the following ones:

- this procedure may be used for both for the cluster located on the territory of one particular region and also the one on the territory of several regions;
- the set of indicators used for calculating the integral indicator takes into account special features of regions' activity, specific industries and those directly of cluster's participants.

Solutions and Recommendations

As it has been shown in our research, in cross-regional clusters there arise unformalized situations which are difficult to define by means of mathematics. Application of analytical methods is also insufficient for their description. Besides, processes taking place in clusters are usually long-continued ones. Therefore, methods of system dynamics are essential for cluster modeling. They make it possible to create simulation models of cross-regional clusters aimed at predicting effects of managerial decisions directed at region's development. Analysis of output data for cross-regional cluster simulation modeling allows, first of all, making qualitative conclusions which describe the dynamics of its development and then quantitative conclusions which make it possible to predict the changes in economic, social and financial indicators of regional development.

The general directions of cross-regional relations' development could be the following:

- development of innovative infrastructure;
- conducting market studies aimed at defining the potential and the prospects of cross-regional exports;
- creation of the system of goods marketing in the regions of the Russian Federation by intensification of fair trade representation;
- creation of a data ware system for the subjects of cross-regional markets.

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Future Research Directions

At the next stage of research the authors are planning to simulate the cross-regional interaction on the basis of statistics on Russian regions. The methods of system dynamics will be used as the main instrument of this simulation. Cross-regional clusters will be considered as complex dynamic systems. Computer modeling would help with behaviour simulation of cross-regional clusters as complex dynamic systems. Such modeling methods will make it possible to visualize the specific problems and prospects of development. Variation of simulation model parameters will allow estimating results and effects generated in the process of managerial decision-making in the specific periods of time as well as revealing promptly critical situations and suggesting necessary corrections.

Experiments with the models of cross-regional clusters will make it possible not only to reveal the influence of its functioning on social and economic conditions of different territories but also to predict the possible negative effects and to choose appropriate managerial decisions.

Conclusion

Cross-regional cooperation and interaction would always lead to some competitive advantages, and this, in turn, will create incentives for economic activity growth on the territories of other, related subjects.

The conducted research shows that high cross-regional differentiation inevitably leads to the enlarged number of decelerating territories and intensification of cross-regional contradictions. This fact makes it considerably difficult to pursue a common policy of social-economic transformations in the majority of developing countries including Russia.

In Russia, one of the general directions of reformation in the field of innovative development is the support for clusters' establishment. However, regulatory control carried out by Russia's public authorities does not provide the requirements for the development of mutual advantageous ties among the regions of Russia.

In this work we, firstly, have explained the significance of cross-regional interaction for innovative economic development; secondly, we have defined the problems being the obstacles for the development of the mentioned interaction; thirdly, we have formulated the concept of country's competitiveness growth at the expense of cross-regional clusters; fourthly, we have developed and put forward the analysis procedure for cross-regional clusters' effectiveness. Thanks to cross-regional cooperation and interaction the competitive advantages of one subject will create incentives for economic activity growth on the territory of other subjects. And this process will promote the transition of Russian Federation's economy to the innovative mode of development.

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CYCLICAL FLUCTUATIONS IN THE ECONOMIES OF V4 COUNTRIES

Eleonóra Matoušková

University of Economics in Bratislava, Bratislava, Slovak Republic

The Visegrad Four (V4) countries, which include Slovak Republic, Czech Republic, Poland and Hungary, are trying to catch up with the economic development and living standards of their more developed neighbours. The brake on this are economic recessions that regularly occur within market economies. The objective of this article is to assess the economic development in the V4 countries, in particular on the basis of development in the main macroeconomic indicator, which is GDP. All these countries went through two recessions in the 2008-2020 period. The first was the recession caused by the spillover of the global financial and economic crisis from the USA to Europe and thus to the V4 countries. During this crisis, the largest decrease was recorded in Hungary and in Slovak Republic. The second, and even stronger, economic crisis affecting the entire world economy and hence the V4 countries too is the current crisis caused by the coronavirus pandemic and the measures taken to prevent its further spread. The highest decrease in GDP is projected in Slovak Republic (at -10.3%) and the lowest in Poland (at -4.3%).

Keywords: economic cycle, recession, Visegrad Four

Introduction

Economic development can be understood as the development of qualitative moments and concrete historical forms of the economic system. This is a broader category than economic growth, which deals with the monitoring of quantitative aspects (Varadzin, 2004). According to (Czesaný & Johnson, 2012), economic growth is generally characterized by the phases of expansion (recovery) and contraction (slump) of economic activity. In contemporary economies, however, this is mostly about acceleration and reduction of the GDP growth rate. In other words, the economy continues to grow, but at a variable rate and oscillates around its potential product. A potential product expresses the highest and long-term sustainable product of a given economy, making optimal use of all the available production factors, without creating imbalances or further tensions in the economy.



Eleonóra Matoušková

Ing., PhD., Assistant Professor, Department of Economic Theory,
University of Economics in Bratislava, Slovak Republic
Research interests: business cycles, economic policy, heterodox economics.

E-mail: eleonora.matouskova@euba.sk

The aim of the article is to assess the development of the economies of the Visegrad Four countries (Slovak Republic, Czech Republic, Poland and Hungary), mainly on the basis of development of their basic macroeconomic indicator which is GDP. The period under study is 2008 to 2020.

Literature review

Traditionally, an economic cycle is understood as fluctuations in real GDP around the long-term upward trend in potential product development (Matoušková, 2015). In the real world, there will be constant changes due to shifts in consumer preferences and demand, available resources, technological knowledge, etc. We should therefore expect prices and output will fluctuate and consider the absence of fluctuations to be unusual (Rothbard, 1993). In the history of modern capitalism, the crisis is the norm, not the exception. However, this does not mean that all crises are the same (Roubini & Mihm, 2011).

Maxton (2012) argues that economic growth should be seen as a happy consequence of activity, not as its intention. According to him, we also need to review the concepts of progress. Western economies have become obsessed with growth. Progress in society is measured by how economies grow, i.e., in monetary value. How economies grow depends largely on the consumption of societies. This is how we got to a rather strange point: without more consumption there is no more growth and without growth there is no progress.

In 1920, an institution for international business cycle research was founded – the National Bureau of Economic Research, or NBER, based in New York. The NBER became an internationally respected center for business cycle research. The scientists at NBER (and also others) have discovered that many economic and financial indicators could be grouped as “leading” the cycles, others as “coincident” with them, and still others as “lagging”. A leading indicator, for instance, would tend to rise somewhat before general activity picked up – and fall somewhat before activity leveled off (Tvede, 2006).

Economic cycle in the Visegrad Four countries during 2004-2012

According to Cassidy (2009), the global financial crisis was a failure of monetary policy and economic analysis. Since the late 1990s, the Fed has stubbornly refused to acknowledge the dangers that speculative bubbles pose and has adopted a stance of non-intervention. The refusal to puncture stock market and credit bubbles was due to the fact that the Fed did not want to face attacks for causing an economic downturn. It believed that the economy was a self-repairing mechanism and that it would recover rapidly from any speculative crash.

At the time of the outbreak of the global financial and economic crisis, Slovakia's economy had been achieving positive economic growth for several years and the domestic banking sector was also reporting stability. However, economies of the main trading partners of Slovak companies have been put into recession. There was an external demand shock, which also affected the very open Slovak economy. In some way or another, almost two thirds of Slovak businesses were affected by the economic recession. Similarly, the consequences of the global financial and economic crisis have affected other Visegrad Four countries, to a greater or lesser extent.

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Anti-crisis measures taken in the V4 countries (mainly in Slovakia, Hungary and Czech Republic) were little effective as can be seen in the GDP development chart. The fall in GDP was greatest in Hungary, where the value of the product fell by -6.5% year-on-year in 2009. In Slovakia, the economy has contracted by -5% in the same year, and in Czech Republic — by 4.5%.

The situation was better in Poland as this country managed to maintain moderate GDP growth even in 2008 and 2009, the years when the global financial and economic crisis was the strongest in the other V4 countries. Reasons for more favourable development of Poland's economy can be found in labour productivity growth which has been positively influenced by the increasing rate of foreign investments. Also, in the course of 2008, the contribution of capital to the growth of private investment and hence to aggregate demand continued to increase. Another reason why Polish economy maintained positive GDP values was an explicit anti-global policy.

A reason for maintaining the positive rate of economic growth, even in the years of the strongest manifestations of the economic crisis in other V4 countries, has been the fact that Poland is a large economy and therefore not as dependent on foreign demand as the much smaller economies of Slovakia, Hungary and Czech Republic. The impact of the global financial and economic crisis on Poland's economy was therefore the weakest, as compared to other V4 countries. The employment rate in Poland remained almost unchanged in 2008 and then in the following years. Interestingly, it reached its peak of 65% in 2008 and was the only one among the V4 countries which did not start to decline even during the economic crisis. For this very reason, Poland's employment rate then exceeded the one in Hungary.

Economic development in the other three V4 countries was much more unfavourable. Slovakia, Hungary and Czech Republic experienced a rapid and significant decline in GDP and the economies fell into recession. The economic slump in all these countries reached its trough in 2009. More specifically, Slovakia's economy which in the pre-crisis years achieved high rates of economic growth (over 10% in 2007) fell into negative figures due to its high dependence on exports of its products. This high decrease in exports in 2009 was reflected in the economic downturn of Slovak economy in a very short time. On average, for all V4 countries, the export rate decreased by 11.05%, with the highest decrease being in Slovak Republic (16.3%).

It can be concluded that the economic crisis had the worst impact on Slovak economy because it had high growth rates before the onset of the global financial and economic crisis – from around 5% in 2004 to over 10% in 2007. Spillover of the economic crisis from the USA to Europe, namely to the economies of Slovakia's most important trading partners, has put the brakes on favourable economic development, not only in terms of GDP growth, but also in the field of employment. The employment rate in Slovakia had been increasing since 2004, reaching 68.5% in 2008. After the onset of the economic recession, it began to decrease, reaching 65% in 2010. The decline in employment in times of the economic recession can also be seen in Hungary and Czech Republic too.

Hungary's economy contracted the most among the studied economies in 2009, by 6.8%. This decline was not only due to the effects of the global economic crisis on Hungarian economy, but also due to the previous stagnation or recession of Hungarian economy caused by the problematic situation with the state's fiscal policy. In the pre-crisis period, Czech economy grew at a rate of economic growth ranging from 4.5% to around 7%, and similarly to Slovakia's economy, it was affected by the global financial and economic crisis due to a

fall in exports, although the amplitude of the economic cycle was not so great as compared to Slovakia.

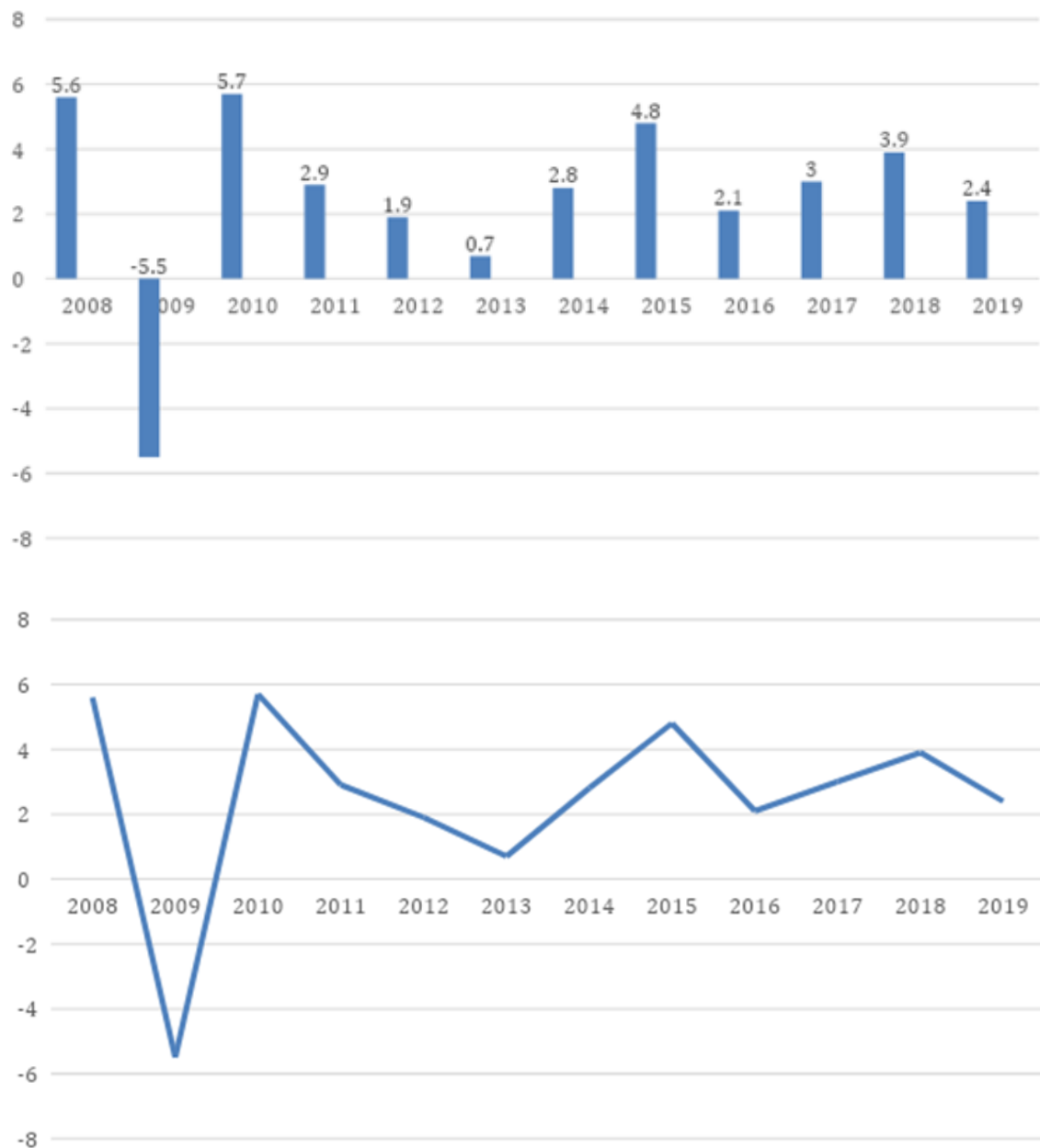


Figure 1 - Real GDP growth rate in Slovak Republic, percentage change to previous year
(Source: made by the author according <http://ec.europa.eu/eurostat>)

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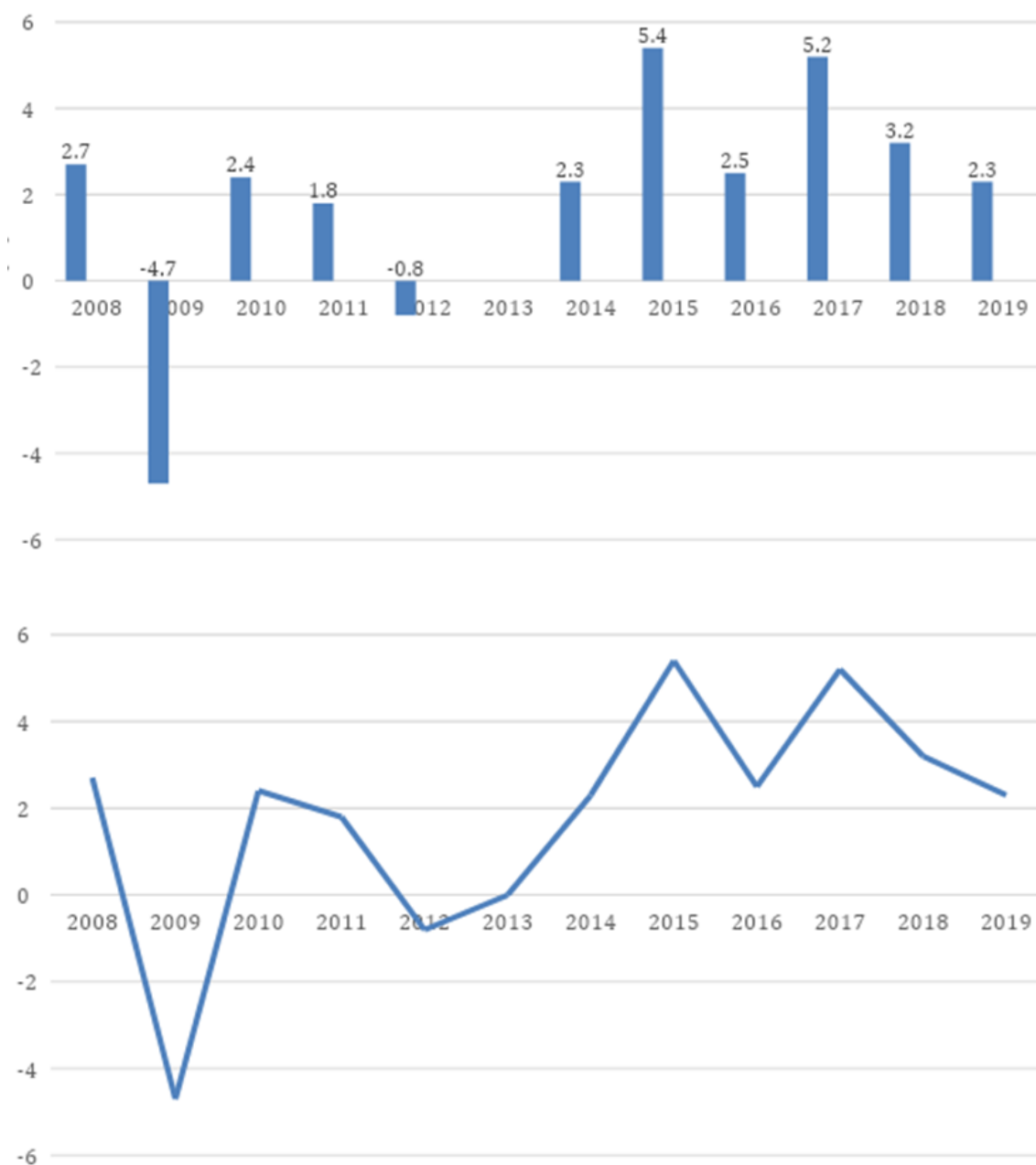


Figure 2 - Real GDP growth in Czech Republic, Percentage change to previous year
(Source: made by the author according <http://ec.europa.eu/eurostat>)

Czech Republic (as well as Hungary and Poland with their currencies) had the possibility to use the flexible exchange rate of Czech krona in the times of crisis. Slovakia, which adopted euro in 2009 and is one of the countries with a fixed exchange rate, could not benefit from the exchange rate flexibility and thus maintain the competitiveness of its products and the level of exports. The decrease in the employment rate in the countries with flexible exchange rates was much smaller than in Slovakia.

The European Central Bank began raising interest rates in the early 2011, even as the euro area economy was in recession, so there was no significant inflationary threat. Also, despite the ongoing economic recession in several countries, the OECD has called for

monetary and fiscal tightening. At the end of 2009, both financial markets and the world economy stabilized and the need for rescue actions was no longer so urgent. Then came the Greek debt crisis, which created the need for fiscal responsibility (Krugman, 2012). This was negatively reflected in the return of recession in the economies of Czech Republic and Hungary in 2012 and in the slowdown of the recovery in Slovak Republic and Poland in 2012-2013.

Economic cycle in the Visegrad Four countries during 2013-2020

In the aftermath of the global financial crisis, economic growth resumed in Slovak Republic, but it was no longer at the pre-crisis levels. In the period 2003-2008, Slovak economy was the leader within the V4 countries in terms of economic growth rates. This was also repeated just after the recession, i.e., in the years 2010-2012. Since then, Slovak economy has not had such a position. The growth incentives that have driven the economy in the past have been exhausted, mainly the inflow of foreign direct investments (Frank & Morvay, 2020).

After 2014, the unemployment rate in Slovak Republic fell significantly. It fell to 5.8% in 2019. A new problem has emerged – the problem of labor shortages. The problem of labor shortages appeared in Slovakia later than in other V4 countries and was also more moderate. In Slovak Republic, labor reserves were available in the form of previously high unemployment. Labor productivity has lost its growth dynamics. But labor scarcity has pushed for an increase in labor costs.

The slowdown in the growth of Slovak economy occurred even before the coronacrisis. This was the expected cyclical slowdown, predicted back in 2018 already. Within the V4 countries, the slowdown was most obvious in Slovak Republic. The slowdown in the growth of Slovak economy was accompanied by a slowdown throughout the EU-28 though. Thus, the dynamics of foreign demand for goods from Slovak Republic decreased (Morvay, 2019).

A significant turning point came in 2020 due to the coronavirus pandemic. The current economic depression is primarily a supply shock (limitation of production due to labor force losses). Secondary is the demand shock (the lack of income of the labor forces leads to a drop in demand). The onset of the current economic depression was stronger than in the global financial crisis in 2009, and different types of economic activities are not affected equally (Morvay, 2019). Industrial production, exports and imports are significantly more affected than, for example, the construction sector. It can be expected that Slovak economy will be among those European economies that will be more affected by the economic depression, despite the relatively good epidemiological situation in the country.

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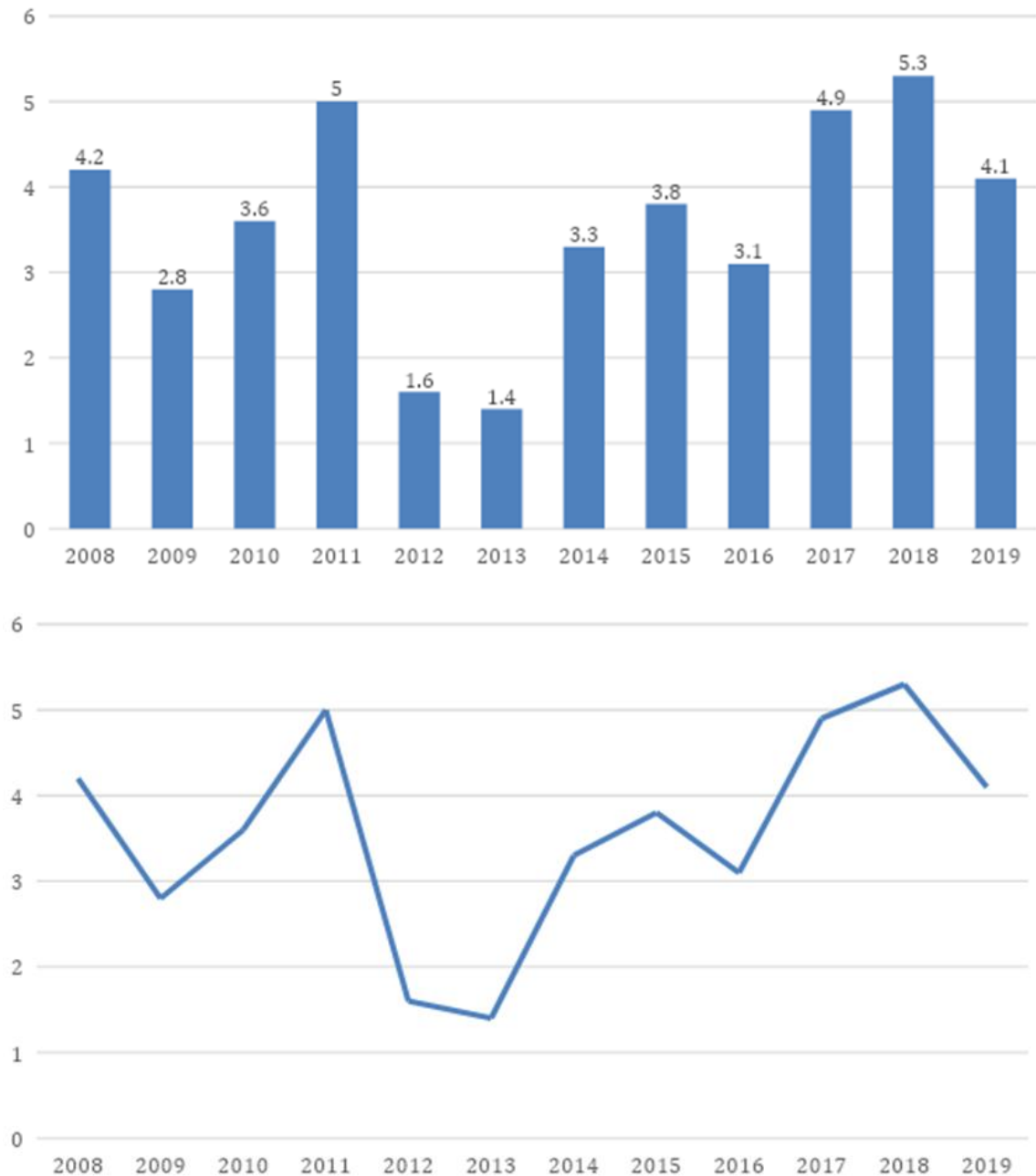


Figure 3 - Real GDP growth rate in Poland, percentage change to the previous year
(Source: made by the author according <http://ec.europa.eu/eurostat>)

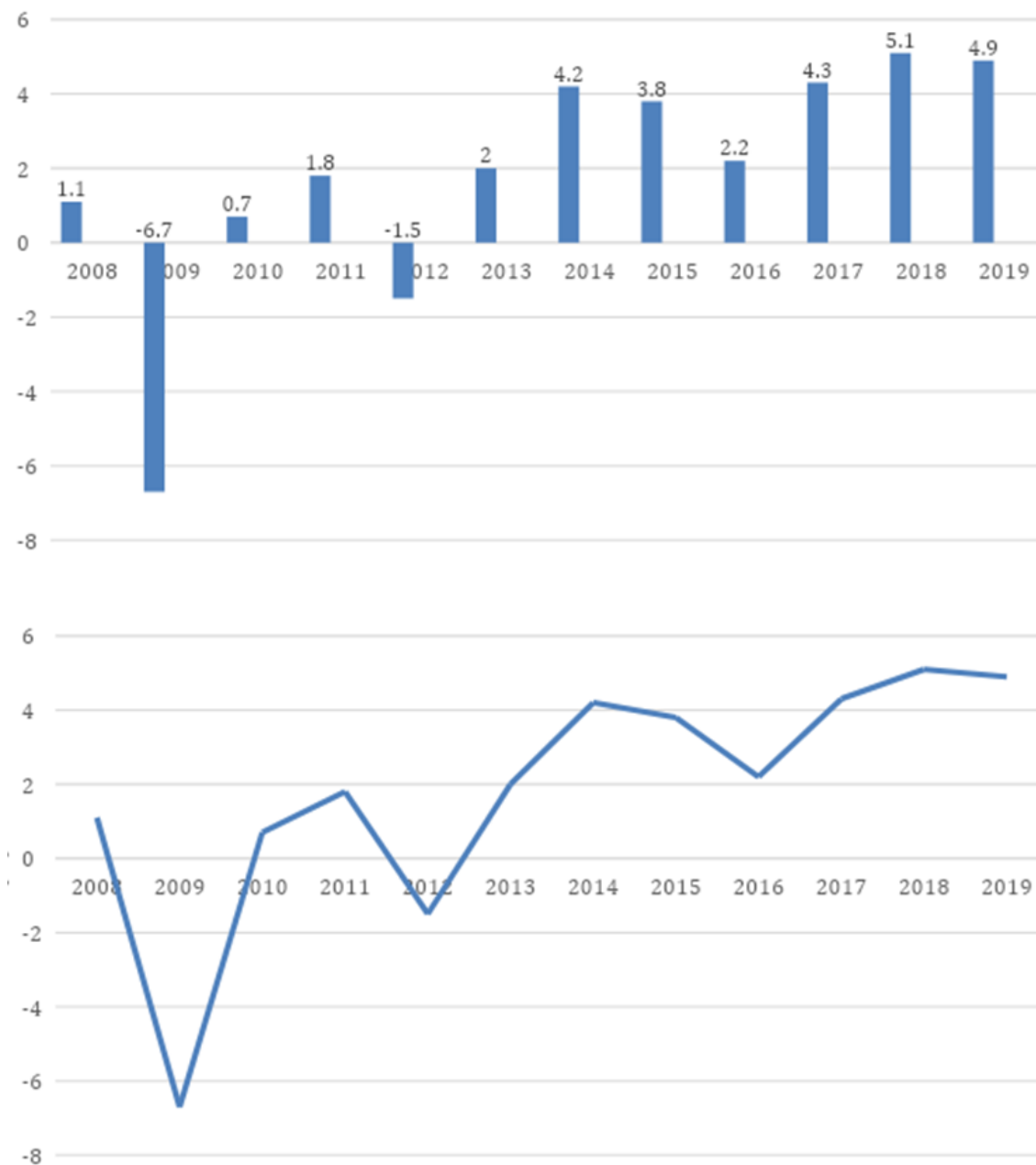


Figure 4 - Real GDP growth in Hungary, percentage change to the previous year
(Source: made by the author according <http://ec.europa.eu/eurostat>)

Due to the pandemic situation in Slovak economy, the year-on-year indicator (in the 2nd quarter of 2020) of GDP decreased by -12%. Employment decreased by -2.5% and the unemployment rate was 6.6%. The GDP is now projected to fall by -10.3% in 2020 overall.

In Czech Republic, the real GDP is projected to decline year-on-year at -8.2%. In the 2nd quarter of 2020, GDP fell by -11%, year-on-year. The unemployment rate stood at 2.7% in July 2020. It has increased, although Czech Republic has long been characterized by very low levels of the unemployment rate. Czech economy recorded its worst ever results in the

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2nd quarter of 2020. The negative year-on-year development of GDP was caused mainly due to a significant decline in foreign demand, lower household consumption and lower investment activity. Significantly negative impact on macroeconomic development has had developments in industry, transport, accommodation and hospitality. Employment rate fell by -2.1%.

In Poland, GDP is expected to fall by -4.3%. It is the lowest indicator throughout the EU, actually. Even during the global financial crisis, Poland was the only EU country that managed to maintain economic growth.

In Hungary, the coronacrisis has hit both services and industry. The key reason (as in many other countries, actually) was directly related to the tough measures taken to prevent the spread of the coronavirus. In year-on-year comparison, Hungarian GDP decreased by -13.6% in the second quarter of 2020. The European Commission expects Hungary's GDP to fall by 6-7% in 2020.

Conclusion

During the period 2008-2020, the economies of all Visegrad Four countries went through a similar economic cycle. All these economies were affected by two recessions, each of which had a different cause. In 2008-2009, the countries went into recession as a result of the spillover of the global financial and economic crisis from the USA to the EU and from the EU to individual V4 countries. Slovakia, in particular, experienced a major slump in the economy, as it was at a very high growth rate (approaching 10%) before the recession broke. The economies have recovered in a relatively short period of time, but Slovakia was far from its pre-crisis level. Even in 2012, the economies of Czech Republic and Hungary were still in a mild recession, with the tightening of fiscal measures in the context of the deepening of the EU debt crisis. Of the V4 countries, only Poland did not get into negative numbers during this crisis and economic growth was “only” reduced from 4.2% to 2.8% in 2009 and from 5% to 1.4% in 2013.

The second crisis during the reporting period occurred in 2020, triggered by the coronavirus pandemic and the measures taken to prevent its spread. This is a crisis caused by external, non-economic reasons. It first became apparent on the supply side due to labour constraints in several sectors of the economy. Consequently, it also became apparent on the demand side, as redundancies and work restrictions reduced the incomes of many households. It is forecasted to become the biggest crisis since the Great Depression back in the 1930s. The problem remains that the pandemic continues to persist and it is not possible to predict with certainty when it will finally end. This remains a major risk for further economic development, not only in the economies of the V4 countries, but throughout the global economy.

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EMIGRATION, REMITTANCES AND ECONOMIC GROWTH IN THE BALTIC STATES: A REGIONAL PERSPECTIVE

Magdaléna Přívarová

University of Economics in Bratislava, Bratislava, Slovak Republic

The Baltic States have been facing higher emigration flows since joining the EU in 2004. While integrating to the EU, this region has faced many economic and political issues, which revealed the weaknesses of their economic policies, financial systems and social security systems. Even though after the EU accession in 2004 the Baltic economies have demonstrated rapid economic growth, still their financial performance under the economic crisis has evidently shown their weaknesses. The Baltic States is a crucial example of the regions where the current emigration has drawn the attention of the policy-makers seeking to reduce the possible negative effects from the emigration of young and well-skilled workers. Here, we have employed fixed effects and OLS estimation methods to conduct our research analysis. Our regression analysis has demonstrated that remittances positively and significantly contribute to the economic growth of the Baltic. However, we also need to emphasize the importance of further analysis of the geography of remittances to the region, especially under the conditions of Brexit, given the fact that for many years a large share of remittances the Baltics were receiving from the United Kingdom. The effects of Brexit on the remittances flows from the United Kingdom to the Baltics will definitely take place in the future, thus, shifts in emigration flows and remittances should be in the focus of future research.

Keywords: emigration; remittances; economic growth; Baltic states; Brexit

Introduction

Emigration from the Baltics has increased considerably over the past decades, a phenomenon that has enhanced radically since the Baltic countries joined the EU back in 2004. Emigration of population is reflected in very high negative net migration rates and thus results in substantial depopulation. Very fast economic growth following the EU accession resulted in dropping emigration rates to a certain extent though. However, since 2008 the emigration rates have been increasing again. Lithuania, in particular, has faced the highest



Magdaléna Přívarová

Prof. Dr., Professor at the Department of Economics, University of Economics in Bratislava, Bratislava, Slovak Republic.

Research interests: international migration; EU labor market; international regulation of labor migration.

E-mail: magdalena.privarova@euba.sk

negative net migration within all the EU countries in 2008, and in Latvia the negative net migration almost tripled between 2007 and 2008. The intention to leave the region is strongly related to economic decline and rising unemployment in it. The OECD data show that young men are more likely to emigrate in case of unemployment that occurs in the Baltic countries. Thus, the negative effect of emigration can be partially counteracted via the inflow of remittances and foreign investments.

The paper is structured as follows: in the next section, we have conducted literature review on the impacts of remittances on economic growth, emigration and remittances in the Baltics and the geography of remittances in the region in question. Then we have provided the research design. In the next section, we present the research results and the final section contains conclusion and discussion.

Literature review

Impacts of remittances on economic growth

According to the [Encyclopedia of Geography \(2010\)](#), remittances are “an important geographic phenomenon due to the sheer volume and extent of monetary flow from more affluent to poorer nations and the fact that they are disproportionately received by poorer members of these developing countries”. Earlier studies on the effects of remittances on economic growth have shown that they often triggered economic growth. The direct effect of remittances on economic growth depends on the share allocated to productive investments. Therefore, a substantial body of the literature on remittances investigates their alternative destinations and the fundamental factors. As it is basically accepted, most of the money is spent on household consumption, housing, healthcare and the like (OCSE, 2006), even though the tendency to save seems to be higher for remittances than for domestic money (Cingolani & Vietti, 2019; Fajnzylber & Lopez, 2008). Households' decisions to invest is determined by the money that will remain available after their basic needs are satisfied, but it also depends on the conditions of the local economic environment, especially tax policy, the financial market, interest rates, etc. (Maimbo & Ratha, 2005).

Even if remittances are not used for investments but for consumption only, they can also trigger economic growth through higher production volume and employment rate. This indirect “multiplier effect” can produce 2-3 additional units of GDP for each unit of remittance inflow (Karpestam, 2012).

Meyer & Shera (2017) researched the influence of remittances on economic growth in Bulgaria Albania, Bosnia Herzegovina, Moldova, Macedonia and Romania in the period of 1999–2013 and found out that remittances positively affect economic growth, an increase in remittances by one unit increases GDP by 0.293%.

Cismas et al. (2019) have researched the impact of remittances on economic growth in Romania during 1996-2017 and concluded that the inflow of remittances that got to the country via official channels did not have significant influence on economic growth, however the inflow of remittances that enter the country via informal channels had a much higher impact.

El-Hamma (2019) has researched the effects of remittances on economic growth in 14 Middle East and North Africa (MENA) countries during 1982-2016. The author has tested the hypothesis that “the effect of remittances on economic growth varies depending on the level of financial development and institutional environment in recipient countries”. The

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results of their research have revealed that remittances trigger economic growth in the countries with a developed financial system and a strong institutional environment.

Similar research on the effects of remittances on economic growth in developing countries during 1990-2014 was conducted by Devasagayam et al. (2016) and it supported the same conclusions. The latter research has shown that remittances trigger economic growth only in “more open” economies due to the fact that remittances alone are not sufficient for growth. The extent of their effect on economic growth is determined by the quality of domestic institutions and the macroeconomic environment in the receiving countries. Unlike “less open” economies, “more open” economies are characterized by better financial markets and institutions and also by higher ability to turn remittances into profitable investments which, in turn, induce the rate of economic growth. Positive impact of remittances on economic growth in the MENA countries during 1977-2014 has been also documented by Devasagayam et al. (2016).

Studies aimed at researching the effect of remittances on GDP in European countries have also supported the results on the considered positive effect of remittances on economic growth. In particular, Comes et al. (2018) have researched the impact of remittances and FDI on economic growth in the Central and Eastern European countries during 2010-2016 and shown there is a positive impact of both remittances and FDI on economic growth in the analyzed countries.

However, a similar research and on the same region conducted by Gjini (2013) has shown that remittances negatively affected economic growth of the CEE countries during 1996-2010. In particular, this author has recorded that an increase in remittances by 10% decreases the output by about 0.9%. The author has emphasized that the key concern of the CEE countries after the collapse of communism systems has been to develop the policies to increase their standard of living up to the level of Western European countries. Economic growth achieved after 1991 by the CEE countries has been remarkable. However, the determinants that have affected such an economic growth in the region vary from capital investments to foreign direct investment, foreign aid, institutional factors, labor surplus, technological changes, trade, research and development, etc.

Research of Gapen et al. (2009) has shown that remittances “do not seem to make a positive contribution to economic growth...Perhaps the most persuasive evidence in support of this finding is the lack of a single example of a remittances success story: a country in which remittances-led growth contributed significantly to its development...But no nation can credibly claim that remittances have funded or catalyzed significant economic development”.

Different conclusions can be drawn; however, most of them claim that remittances might be a significant contributor to economic growth provided they are used for investments in more open economies with developed financial institutions and other infrastructure. We assume a significant influence of remittances for economic growth of the Baltics based on high emigration flows since joining the EU in 2004. In the next part of our paper, we will be dealing in more detail with the relationship between emigration and remittances in the region in question.

Emigration and remittances in the Baltics

While integrating to the EU, the Baltics have faced many economic and political problems which revealed the weaknesses of their economic policies, financial systems and

social security systems (Kerikmäe et al., 2018). Although the Baltic economies have shown rapid economic growth since joining the EU in 2004, the fundamentals of Baltic economies have remained unstable and the financial and economic crisis has clearly shown their major weaknesses.

In particular, cheap foreign capital was used mostly for consumption, not for investment (Poissonnier et al., 2017).

The Baltics are an obvious example of the countries where the current emigration has drawn the attention of policy-makers seeking to minimize the potential negative effects from the emigration of young and skilled workers (Hazans, 2016, 2019). Latvia and Lithuania in particular have experienced high population outflows after joining the EU and during the 2008 crisis especially (OECD, 2013). These outflows which have disproportionately involved young population, have worsened the demographic situation of the Baltic states which are currently facing the problem of a rapidly aging population (Włodarska-Frykowska, 2018).

According to the research of the European Commission on the movement of skilled labour, none of the three Baltic states has a comprehensible, strategic approach to attracting return migrants from other countries. Thus, the negative effect of emigration can be partially counteracted only via the inflow of remittances and foreign investments.

Despite the fact that the issue of emigration in the region since 2004 has been recognized, there are, however, not many studies on the effects of remittances on economic growth in this region. According to some studies, remittances in the Baltics have been used by the local households for buying real estate, other goods and services. Around 63% of migrants in the Baltics have used remittances simply for everyday needs (Hazans, 2003). At the same time, there is a positive role of remittances in increasing the standards of living in Estonia. Here the households have faced less financial difficulties if their family members were sending remittances (Hazans & Philips, 2009).

Rausser et al. (2018) have investigated the effect of remittances in the Baltics and found out they had a high and positive impact on economic development in the region during 2005-2015. However, minimum wages in Latvia and Lithuania appeared to be more significant factors of economic development in the region rather than remittances.

Kumar & Stauvermann (2014) have explored the effects of remittances on the output per worker in Lithuania during 1980–2012 and found out an unidirectional causation from remittances to output per worker in the country.

In our paper, we have analyzed the effect of remittances on economic growth of the Baltics as a region. It should be noted that the volume of remittances to the Baltics has been declining during the recent years. In Estonia, a decreasing trend of remittances can be observed since 2013 (see Fig. 1), in Latvia – since 2010 (Fig. 2) and in Lithuania – since 2014 (Fig. 3).

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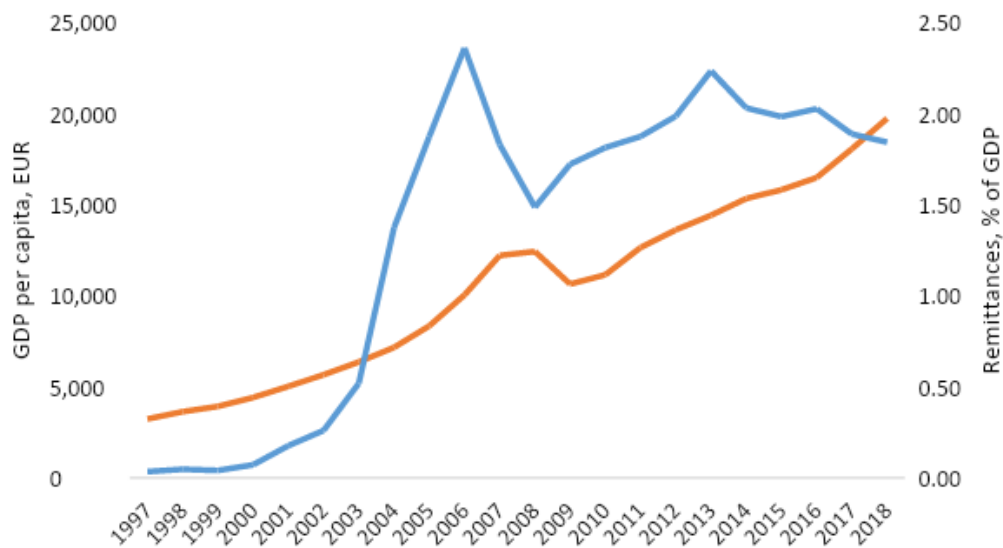


Figure 1 - GDP per capita and remittances in Estonia, 1997-2018
(Source: created by the author based on the World Bank Data, 2018b)

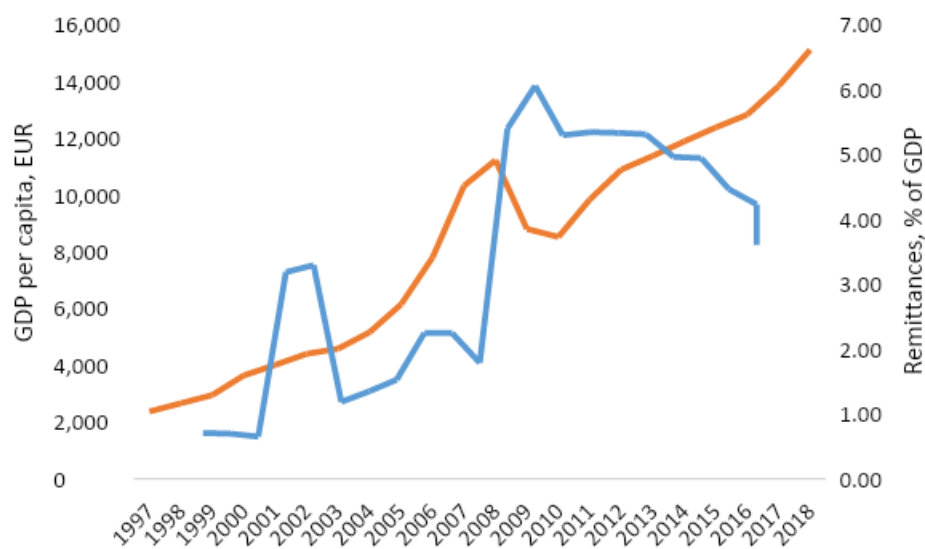


Figure 2 - GDP per capita and remittances in Latvia, 1997-2018
(Source: created by the author based on the World Bank Data, 2018b)

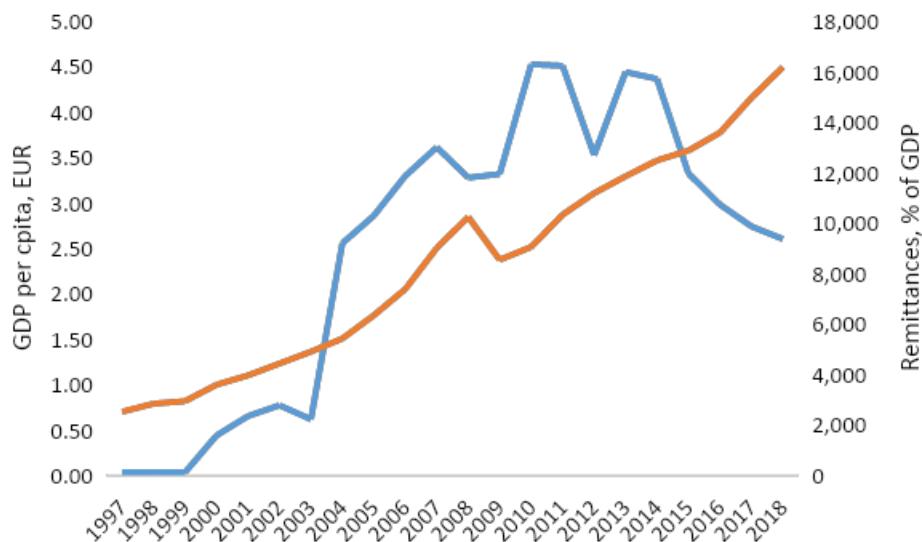


Figure 3 - GDP per capita and remittances in Lithuania, 1997-2018
(Source: constructed by author based on World Bank, 2018b)

Given the opposite GDP growth and remittances in all the Baltic countries in the recent years, our research will contribute to literature by revealing whether remittances are a significant factor of economic growth in the region in question. In the next section, we consider the historical geography of remittances in the Baltic and the Brexit as a significant factor affecting remittances flows in the region.

Geography of remittances in the Baltic

When considering the effects of remittances on Baltic economics, their geography should be emphasized. According to the available World Bank data for 2010-2017 on the bilateral remittances flows (World Bank, 2017), the countries from which the highest shares of remittances have been sent to all three Baltic countries used to be Germany, Russia, Ukraine, United Kingdom and the United States. However, at the same time, the Baltic countries differ from each other by the geography of sending countries. In particular, according to the latest data, higher volume of remittances than to other Baltic states are sent to Latvia from Australia and Canada, while Estonia receives higher remittance flows than Lithuania and Latvia from Finland. Lithuania experiences much higher remittances from Russia, the United Kingdom, the United States, Germany, Ireland, Norway, Spain and Poland.

According to the latest available World Bank data on remittances (World Bank, 2017), the share of remittances from the United Kingdom in their total amount to Estonia was 5%, to Latvia – 21% and to Lithuania – 22.8%. As the United Kingdom is a major remittance source for the Baltic Region, the Brexit will have a significant impact on emigration flows, i.e., on the geographical redistribution of remittances in the region and, consequently, on their contribution to economic growth.

It is not known so far how remittances flows will be changed. Brexit will most probably create a significant financial and political gap. The power in the EU bloc will move towards Germany and France. However, answers to other questions are not so clear. In particular, questions about the future directions of the EU development will arise when the

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loss of the largest member of the region outside the euro area shifts the focus more to the euro area members and creates a huge gap in the EU budget.

Other Member States are working to adapt their internal EU policies and are now developing new regional groups and coalitions to influence the EU's orientation towards a stronger Franco-German partnership.

Currently, the Northern member states are developing stronger cooperation among themselves within the EU. In particular, Nordic cooperation continues, involving the three Baltic States known as the North-Baltic Six (NB6) (Hilmarsson, 2019). Another notable effort to strengthen cooperation is the Dutch-led New Hanseatic League (Lewicki et al., 2019), which brought together the finance ministers of the Nordic and Baltic countries, the Netherlands and Ireland.

The above changes in power and in the development of cooperation between the Member States will undoubtedly bring about changes in migration flows and the amount of remittances in the Baltic. However, these changes can only be monitored after a certain period of time. Historical data available thus far may shed light on the impact of remittances on economic growth in the Baltic before Brexit. In the section below, we present a research design framework of the paper.

Table 1 - Description of variables
(Source: author calculation)

Variable	Description	Unit of measure	Source	Expected sign of the influence on savings
l_GDP_per_cap: dependent variable	Logarithm of GDP per capita	Current prices, EUR per capita	Eurostat, 2020b	
Remittances_perc	Remittances in the receiving countries	% of GDP	World Bank, 2018b	+
Gross_fixed_cap_form_perc	Logarithm of gross fixed capital formation	% of GDP	World Bank, 2020	+
Unempl_perc	Logarithm of the number of unemployed people	% of active population aged 20-64	Eurostat, 2019	-
FDI_inflow_perc	Foreign direct investment, net inflows	% of GDP	World Bank, 2018a	+
REER	Real effective exchange rate	Index	Eurostat, 2020a	-/+
Crisis	Crisis 2008	Dummy variable (0,1)		-

Research design

Hypothesis and model specification

We have tested the following hypothesis:

H₀: Remittances had a positive influence on economic growth in the Baltics during 2010-2017.

When exploring the effect of remittances on economic growth, other authors have used data on both GDP per capita (Abduvaliev & Bustillo, 2019; Comes et al., 2018; Gjini, 2013; Mehedintu et al., 2019 and GDP per capita growth (Cismaş et al., 2019; El Hamma, 2019; Ghosh Dastidar, 2017; Meyer & Shera, 2017).

Based on the above theoretical background and empirical findings, we developed a regression model to assess the impact of remittances on economic growth in the Baltics, along with other macroeconomic determinants as control variables (Tab. 1) during the period of 1997 — 2018. Our time frame is limited due to data availability.

$$l_GDP_per_cap = a_0 + a_1 Remittances_perc + a_2 Gross_fixed_cap_form_perc + a_3 Unempl_perc + a_4 FDI_inflow_perc + a_5 REER + a_6 Crisis + U_i \quad (1)$$

Results

Regression analysis was performed using fixed effects and OLS estimation methods. Summary statistics are given in Tab. 2. The results of the regression analysis are shown in Table 3. Tests for capturing different groups, heteroscedasticity and error distribution are shown in Table 4.

Table 2. Summary statistics

Source: calculated by the author

Variable	Mean	Median	S.D.	Min	Max
l_GDP_per_cap	8.958	9.106	0.5805	7.766	9.89
Remittances_perc	2.386	2.029	1.688	0.02729	6.044
Gross_fixed_cap_form_perc	24.73	23.86	5.015	16.91	36.82
Unempl_perc	10.78	10.85	3.704	4.200	19.30
FDI_inflow_perc	5.098	4.227	3.990	-3.104	22.18
REER	94.86	96.95	10.16	64.89	114.2
Crisis	0.04545	0.0000	0.2099	0.0000	1.000

In our basic model, we have included six determinants of economic growth which are: remittances, gross fixed capital formation, unemployment rate, FDI inflows, the real exchange rate and a dummy variable in times of crisis (Barcenilla et al., 2019; Chinnakum et al., 2013; de la Fuente-Mella et al., 2019; Fadejeva & Melihovs, 2008; Goliuk, 2017; Norkus, 2016; Rusu & Roman, 2018; Yazdi, 2019; Yucel, 2014).

We made two modifications to the basic fixed effects model 1 (model 2 and model 3). A test to capture the different groups has shown in all three cases estimating the fixed effects was the correct method of estimation. However, Wald's heteroskedasticity test for the

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baseline model 1 and the modified model 2 showed that heteroskedasticity was present in there. Remittances appeared significant in all the three fixed-effect models. The last modified fixed effects, Model 3, does not demonstrate any heteroskedasticity and residual error. As expected, remittances had a positive impact on economic growth in the Baltics during 1997-2018.

Table 3 - Regression results
(Source: calculated by the author)

Independent variables	Model 1 Baseline model Fixed effects	Model 2 Modified model Fixed effects	Model 3 Modified model Fixed effects	Model 4 Baseline model OLS RBS	Model 5 Modified model OLS RBS
Const	6.15*** (0.53)	5.91*** (0.31)	8.88*** (0.13)	5.13*** (0.6)	5.07*** (0.43)
Remittances_perc	0.12*** (0.02)	0.12*** (0.02)	0.29*** (0.02)	0.05*** (0.01)	0.05*** (0.01)
Gross_fixed_cap_form_p erc	-0.00 (0.00)			-0.00 (0.00)	
Unempl_perc	-0.04*** (0.00)	-0.04*** (0.00)	-0.05*** (0.01)	-0.04*** (0.01)	-0.04*** (0.00)
FDI_inflow_perc	0.00 (0.00)			0.02** (0.00)	0.02*** (0.00)
REER	0.03*** (0.00)	0.03*** (0.00)		0.04*** (0.00)	0.04*** (0.00)
Crisis	-0.16 (0.11)			-0.18*** (0.06)	-0.18*** (0.06)
	66	66	66	66	66
Number of countries	3	3	3	3	3
LSDV R-squared	0.91	0.91	0.76		
Within R-squared	0.91	0.9	0.75		
R-squared					0.88
Adjusted R-squared					0.87

Note: Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

The OLS estimation (base model 4 and adjusted model 5) shows that the impact of remittances, together with the unemployment rate, FDI inflows, the real exchange rate and the dummy variable on the crisis, appeared to be in line with our expectations. Our results show similar effects within and between impacts in terms of the impact of remittances on economic growth of the Baltic countries.

Conclusion and discussion

Here we have tested the hypothesis that remittances had a positive impact on economic growth in the Baltic during 1997-2018, using fixed effects and OLS estimation methods. Multiple regression analysis was used to examine the relationship between remittances and economic growth. In addition to the data on remittances, we have used the variables such as gross fixed capital formation, unemployment rate, FDI inflows, real exchange rate and the dummy variable on crisis in 2008. Tests for different group captures, heteroscedasticity, error

distribution were used to test the quality of the regression model. Our regression analysis has shown that remittances make a positive and significant contribution to the economic growth in the Baltic countries.

Table 4 - Tests for differing group intercepts, heteroscedasticity, error distribution
(Source: calculated by the author)

Tests/Models	Model 1 Baseline model Fixed effects	Model 2 Modified model Fixed effects	Model 3 Modified model Fixed effects	Model 4 Baseline model OLS RBS	Model 5 Modified model OLS RBS
Tests for capturing different groups	10.02 (0.00)	14.55 (0.00)	22.42 (0.00)		
Wald test for heteroscedasticity	9.18 (0.02)	11.38 (0.00)	1.39 (0.7)		
Test statistics for normality of residual test	3.86 (0.14)	4.07 (0.13)	3.21 (0.19)	3.87 0.14	4.19 (0.12)
White's test for heteroscedasticity				28.68 (0.19)	18.38 (0.36)

Note: p-value in parentheses

RBS – robust standard errors

We emphasize the importance of analyzing the geography of remittances, especially under Brexit conditions, given the high share of remittances that arrive in the Baltics from the United Kingdom. The contribution of further studies should therefore focus on examining the effects of Brexit on remittances flows from the United Kingdom to the Baltics. Furthermore, the effects of the coronavirus pandemic should be examined to see if the loss of remittances from senders who have been severely affected by the virus can cause an economic downturn in the Baltics and when these negative effects can be mitigated.

We also emphasize that remittances can increase economic growth if they are used for investment purposes. This study has been focused on the relationship between remittances and economic growth, and it is therefore useful for further research to examine how remittances are then used in the Baltics.

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EMIGRATION, REMITTANCES AND ECONOMIC GROWTH

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THE IMPACT OF ECONOMIC SITUATION IN THE COUNTRIES RECEIVING MIGRANTS ON REMITTANCES FLOWS

Andrej Přivara

University of Economics in Bratislava, Bratislava, Slovak Republic

The studies on remittances focus mainly on their effects on the stability of households' incomes and/or consumption patterns. The purpose of the current paper is to highlight that the volatility of remittances can have the opposite effect. We believe that the conjuncture of the countries that receive migrants also determines their money transfers and their changes are then transmitted to the economy of the migrants' country of origin, thus increasing the instability in the latter. We believe that the volatility of remittances is higher under specific conditions, namely, when they represent a substantial part of household income and when migrants are highly concentrated in one or several countries only. Otherwise, even if one of the recipient countries is experiencing temporary economic issues, flows will be less affected since the other host countries may not be affected by such a downturn in their economy. Diversification of the diaspora is therefore crucial for the stability of remittances since the more is the number of host countries, the less likely is a sudden decline in remittances in the event of a recession in one of those countries.

Keywords: remittances; migration; volatility; labor migrants

Introduction

According to the definition presented in the Manual of Balance of Payments of the International Monetary Fund, workers' remittances commonly known as "remittances" or "migrant transfers" are transfers of goods or financial flows made by migrants who are living and working in another country, in favor of the residents of their former country of residence (IMF, 2010).

The remittances represent an important source of external finance for many developing economies. Increasing steadily for several years, these resources represent the second source of financing for developing countries after foreign direct investments (FDI) and before official development assistance (ODA). Many economists believe that the particularity of these flows is their stability. They claim that, unlike FDI, which increases during growth phases and decreases during economic depressions, remittances are less subject to economic



Andrej Přivara

PhD, Assistant Professor, Department of Social Development and Labour, University of Economics in Bratislava, Slovak Republic

Research interests: international migration, EU labor market, international regulation of labor migration.

E-mail: andrej.privara@euba.sk

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conditions and have been increasing steadily since the 1990s, despite multiple recessions and crises that the world has seen.

Table 1 - Remittances and other flows to developing countries (in bln USD)
(Source: International Monetary Fund; UNCTAD: World Investment Report 2019. New York, 2019)

	1995	2004	2015	2019
Remittances	102	160	601	706
IDE	107	166	765	721
APD	59	79	131	152

The growth of these transfers is taking place due to many factors. First, the increase in the number of immigrants in the majority receiving countries has been associated with an increase in remittances. Secondly, the drop in transaction costs has undoubtedly served as an instrument to convert a large part of informal flows into official transfers. In this context, it must be said that the data in Tab. 1 concerns only the flows passing through formal circuits. In reality, it is difficult to know the exact volume and frequency of these flows, as many labour emigrants are using informal channels to send money back home. It is estimated that unofficial transfers represent at least 1.5 times of the official flows.

The current paper aims to answer the following research questions:

Are remittances really a stable source of income for the migrants' countries of origin?
Are their flows not determined by the development of the economic situation in the countries receiving migrants?

Literature review

Economic literature provides many different answers regarding the impact of remittances on income stabilization and, therefore, on household consumption patterns. The authors generally agree that remittances tend to stabilize household consumption as such (Combes & Ebeke, 2011), and this eventually results in less fluctuating GDP (Hakura., 2009). Such behavior can be explained by the altruistic motives of labour migrants who are thus showing their efforts to share the benefits from migration with their relatives who have remained in their country of origin. According to (Ratha, 2005), remittances intended for household consumption are the most stable ones since they are sent for altruistic reasons and are therefore less subject to strategic reconsiderations.

Ratha also suggests that the stabilizing potential is particularly important during the periods of recession in the countries where household income is highly dependent on remittances (Ratha, 2005, p. 161). This factor often encourages other workers to migrate too. However, this statement must be tempered because emigration is not only the result of unfavorable economic conditions in the migrants' country of origin.

The amount of remittances is not only explained by the economic situation of the migrant's country of origin since their income is often predetermined by the conditions in a host country. In other words, remittances are strongly correlated with the economic activity of the receiving countries of migrants, as shown by Ahmed (2012) on the example of the Middle East countries: sending remittances is heavily constrained by oil production, as foreign workers are employed mainly in this industry. As a result, a drop in oil or production

prices directly affects the income of migrants and the amount of money they send back to their countries of origin. It is clear from this that rather the economic situation in a host country determines the migrants' decision about the volume of remittances rather than the conditions in their country of origin. Thus, an economic crisis affecting the volume of production in a host country of migrants can have a significant impact on the level of remittances, as it was the case during the 2008 recession.

The economic situation of a host country is less critical when remittances are sent to support households following a natural disaster in the migrant's country of origin, which is thus exposed to an external shock. In this case, the economic cycle of a host country does not matter because a natural disaster causes damage limited to a relatively small geographical area. The research results, therefore, come towards a near consensus on the remittances for this type of events. The stabilizing role of remittances in the event of a natural disaster is confirmed by the research studies carried out by Amudeo-Dorantes (2010) and Combes & Ebeke (2011).

It turns out that the countercyclical nature, often attributed to remittances, requires that the migrant's host country and the country of origin are not in crisis at the same time, because the volume of remittances sent largely depends on the business cycle. However, the process of globalization including more and more developing countries tends to synchronize their economic cycles with those of economically developed countries (welcoming an impartial share of migrants). We consider this to be an important fact which calls attention to the question of the countercyclical aspect of remittances. This phenomenon, observed during the last global economic and financial crisis and rarely highlighted in literature (Koser, 2009, p. 9), contrasts with the effects of previous crises on migration. Indeed, the crises observed since the post-war period have generally affected only certain geographical areas and not the world economy. Thus, crises affecting a group of countries have been beneficial for other countries (Koser, 2009, p. 8).

The concentration of the diaspora and the instability of the host country as the main determinants of volatility in remittances

Most of the studies we cited above are based on the assumption that remittances are beneficial for the country of origin because they stabilize household consumption and economic growth, due to their countercyclical nature and the altruistic behavior of migrants. However, these same works note that the effects of remittances are not that simple: there is a certain threshold beyond which their stabilizing effect decreases. Combes & Ebeke state in their study that the level of remittances must be very high to destabilize consumption. They explain the relatively high value of the threshold by the fact that consumption is less volatile than income, which is consistent with the theory of permanent income.

There are countries whose economic activity and household consumption are largely dependent on remittances. This is particularly the case in a large number of countries of the former USSR, where remittances sometimes reach more than 20% of GDP. Under these circumstances, it is not surprising to note that the income of migrant households (and therefore their consumption) depends to a large extent on the volume of remittances. This exposes these households to changes in the amounts transferred, which are determined by the circumstances of the countries receiving migrants.

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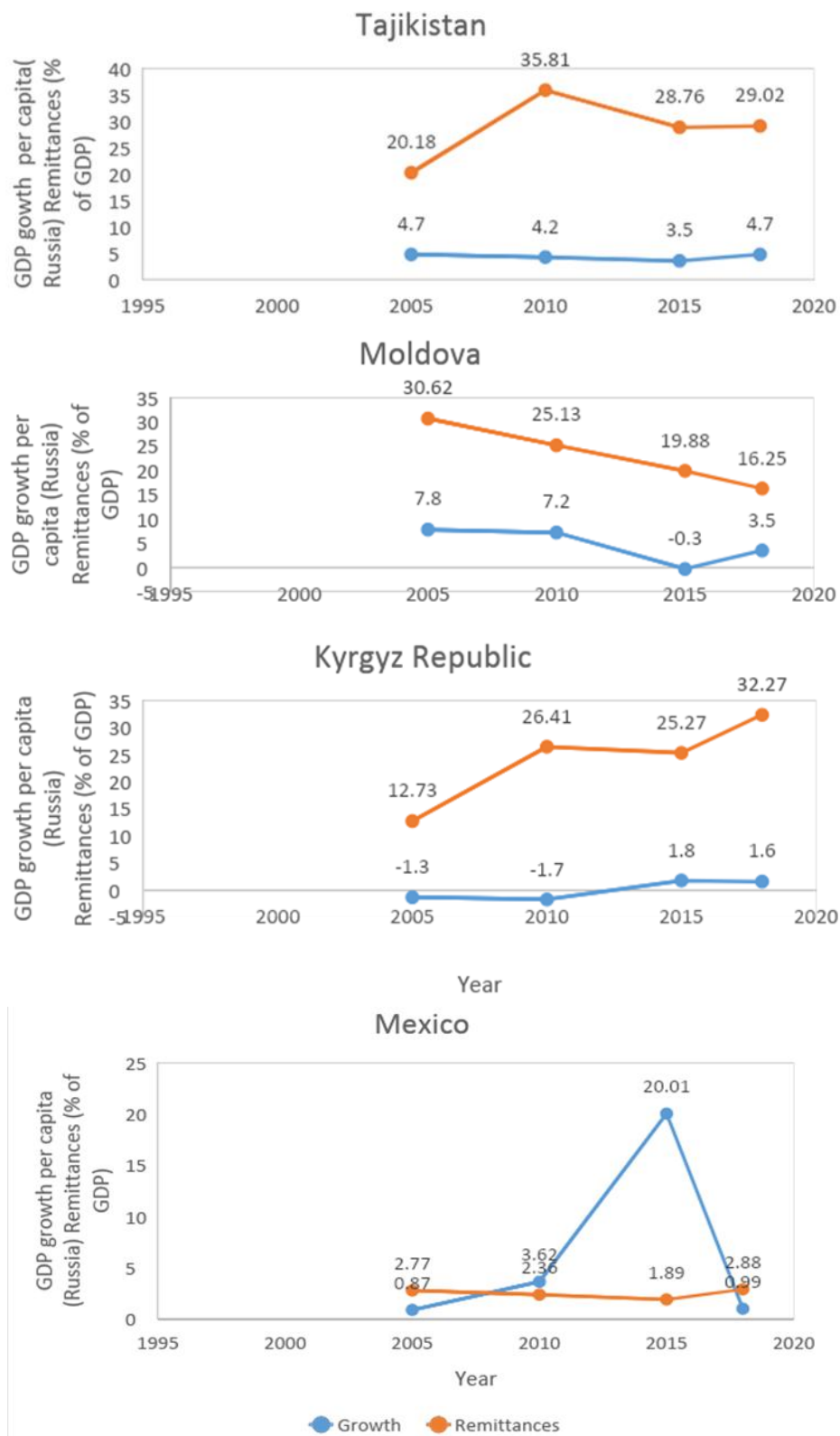


Figure 1 - Correlation between remittances and economic growth in the main destination country of migrants

To illustrate, we present the example of 3 countries of the former USSR, whose emigrants go mainly to Russian Federation, as well as the example of Mexico, whose emigrants work mainly in the USA (see Fig. 1).

Table 2 - Correlation between remittances and economic growth in the main migrant destination country

(Source: made by the author based on data from Source: Migrations and Remittances Factbook 2019)

Tajikistan	2005	2010	2015	2018
GDP growth per capita (Russia)	4.7	4.2	3.5	4.7
Remittances	20.18	35.81	28.76	29.02

Moldova	2005	2010	2015	2018
GDP growth per capita (Russia)	7.8	7.2	.03	3.5
Remittances (% of GDP)	30.62	25.13	19.88	16.25

Kyrgyz Republic	2005	2010	2015	2018
GDP growth per capita (Russia)	-1.3	-1.7	1.8	1.6
Remittances (% of GDP)	12.73	26.41	25.27	32.27

Mexico	2005	2010	2015	2018
GDP growth per capita (Russia)	0.87	3.62	2.01	0.99
Remittances (% of GDP)	2.77	2.36	1.89	2.88

Households' dependence on remittances can affect the whole economy, as those countries are used to support consumption, investment, and even monetary stability using the remittances as an important source of foreign currency inflow. The origin of remittances is decisive, as it conditions their macroeconomic impacts in the migrant's country of origin. Indeed, diaspora concentration has a significant effect on the stability of remittances: when migrants are concentrated in a small number of countries, economic change in one of these countries strongly affects the amount of money sent.

To simplify our reasoning, consider a country that receives large volumes of remittances and whose diaspora is located in a single host country. It is clear that the dependence on remittances is strong in this case since it is the conjuncture of a single country that will determine the income of migrants and therefore their ability to send money to their country of origin.

Suppose now that the diaspora of the same country is equally distributed among ten different host countries: the instability of a country will have a much smaller impact on remittances because their origin is much more diverse than in the first case.

For a migrant to be able to send remittances to his country of origin — whatever his motives are — it is necessary that he can exercise an activity generating an income in the

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host country. Thus, it is not so much the motivations of the migrant as the economic cycle of a host country that influences the value of remittances.

We believe that the economy of the receiving countries also determines their monetary transfers and that their changes are transmitted to the economy of the country of origin of the migrants, thus increasing its instability. Such an approach takes into account two fundamental dimensions: the effect of the economic situation of host countries on remittances and the concentration of migrants in these countries.

If household income is largely made up of remittances, there is a risk that their instability will spread to the economy through consumption and/or investment. Indirectly, a country characterized by a dependence on remittances also depends on the economic situation of the country where its migrant workers are settled. On the other hand, it is clear that if the instability of host countries has repercussions on remittances, without having clear macroeconomic consequences for the country of origin of the migrant, then we can't speak of direct dependence. This is a fairly common case when the received remittances, while not being negligible, also are not vital for the economy or households.

Although they are subject to the economic cycle of the countries in which emigrants work, their fluctuations do not have the same consequences as in the case of dependency, as defined above. Likewise, a concentrated diaspora does not necessarily mean dependence if remittances account for only a small share of GDP, as in the case of Mexico, where, for example, they are subject to the economic cycle of the countries in which the emigrants work, their fluctuations do not have the same consequences as in the case of dependency, as defined above.

Conclusion

Studies on remittances mainly focus on their impact on the stability of household income and/or consumption. The purpose of our article is to highlight that the volatility of remittances can have completely opposite effects. This volatility was not taken into account since in most cases the authors study remittances in relation to the GDP of the migrant's country of origin.

Economic literature has long viewed remittances as a very stable source of capital relative to foreign direct investment and official development assistance (Ratha, 2005; Frankel, 2009).

However, the 2008-2009 economic crisis has shown that remittances are mainly determined by the economic situation of the countries from which they come from: for the first time, the World Bank statistics have recorded a drop in remittances to developing countries.

These circumstances show that remittances are sensitive to the economic conditions of host countries, but the effects of their potential instability have not been examined in literature.

However, if remittances are a source of economic growth for the benefiting countries, the positive impacts will likely result in undesirable effects during the periods of high instability, especially for the countries whose economies and households depend on this source.

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SERVICE QUALITY IMPROVEMENT FOR SENIOR TOURISTS AT HOTELS AND RESORTS IN THE PERCEPTION OF SERVICE PROVIDERS: NAKHON RATCHASIMA, THAILAND

Thanasit Suksutdhi

Suan Sunandha Rajabhat University, Bangkok, Thailand

This research aims to investigate the perceptions of service quality improvement among the senior tourists staying in hotels and resorts of the Nakhon Ratchasima province. This qualitative research uses Parasuraman, Zeithaml and Berry's (1990) service quality model as a theoretical conceptual framework. The in-depth interview method was applied to collect data from five hotel and resort providers in Nakhon Ratchasima province of Thailand. Findings of the content analysis show that hotel and resort managers place great importance on all five dimensions of service quality: 1) Tangible assets, 2) Reliability, 3) Responsiveness, 4) Assurance, and 5) Empathy. Importantly, managers value front-line employees and safety because these are the key factors in attracting senior tourists to hotels and resorts. The findings of this study can be used as guidelines in further improvement of service quality which will benefit the hotel and resort operators as well as government agencies responsible for tourism and hospitality service development.

Keywords: tourist perceptions; service quality; senior tourists; hotel managers; hotels & resorts; Thailand

Introduction

Advances in medical studies and public healthcare development have reduced the mortality rates across many countries and have also increased life expectancy, thus affecting the structure of population which is now stepping towards the so-called aging society. In Thailand in particular, the National Statistical Office (2019) showed that this country has been stepping into the category of aging societies since 2005 and thus the Office predicted that the share of Thai population aged 60+ will increase up to 15.7% by 2030. Such an



Thanasit Suksutdhi

Master of Arts in Cultural Management (International Program), Chulalongkorn University, Bangkok, Thailand.

Bachelor of Arts in Tourism Industry, Nakhon Ratchasima Rajabhat Institute, Thailand.

Lecturer in Hotel Management (Restaurant Business Major), International College, Suan Sunandha Rajabhat University, Thailand.

Research interests: restaurant management, marketing in hospitality and restaurant business.

E-mail: tanasisit.su@ssru.ac.th

increase in the number of elderly consumers affects businesses across all sectors and sizes and makes them feel the need to be ready for corresponding changes.

After retirement, most of the elders are well-equipped with time and finances, both allowing them to spend their lives being engaged in various activities, especially leisure activities such as travelling. Therefore, we can surely state that the elders are a large group of quality tourists (Nella & Christou, 2016).

The growth in the number of elderly tourists causes many hotels and travel companies to prepare special products for this prosperous target segment, known as "senior tourism" (Nikitina & Vorontsova, 2015). Accordingly, the future of tourism and hotel industries strongly depends on identification of quality and variety of the services and products that are supposed to meet the needs of senior citizens. This will help tourism and hotel businesses prolong the tourism period, handle seasonality issues, increase job opportunities in the sector, and tackle other tourism management issues (Nella & Christou, 2016).

Accommodation that is meeting special needs of senior tourists has thus become a priority for the tourism-related service industries, especially hotel businesses which directly contribute to tourists' traveling experiences. However, little empirical evidence has been presented to date on the evaluation of service quality in the hotel industry, especially from the perspective of service providers in Thailand. This research aims to investigate the hotels and resorts providers' perceptions of the service quality improvement for senior tourists in Nakhon Ratchasima, one of Thailand's most popular destinations, known as the gateway to the Northeast region (Tourism Authority of Thailand, 2019).

Literature Review

Senior Tourism

The exponential increase in the number of senior citizens globally has made them more demanding consumers. This rather promising tourist segment is approaching one fifth of the general population (Alén et al., 2012). Senior tourists group is composed of retired or not yet retired people, 55 years old or more, with different income levels who are mentally and physically self-sufficient and have enough time and financial resources for non-seasonal travel to various destination points (Alén et al., 2012).

The research shows that both external conditions (e.g., societal progress, time, health personal finance, attractions, facilities, activities, safety and security, cleanliness, etc.) as well as internal desires (novelty and knowledge seeking, rest and relaxation, well-being, escaping from routine, social and personal reward) motivate senior tourists, especially Asian ones (first of all Chinese, Taiwanese and Japanese), to visit various destinations (Jang & Wu, 2006; Hsu et al., 2007; Sangpikul, 2008). Service providers in tourism-related industries need to tailor their offerings in response to different needs, values and concerns of senior tourists (Cleaver et al., 2000). Lack of interactions between tourists and service providers at the managerial level (with hotel managers) causes misunderstanding of tourists' needs, values and expectations (Tsang & Qu, 2000). Therefore, it is critical for managers and service providers to understand the needs and expectations so that they can provide quality products and services that meet such expectations (Luk & Layton, 2002).

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Service Quality Model

Many recent research studies on service quality have been adopting the framework of Parasuraman et al. (1990) service quality model which has five dimensions:

1. Reliability: the ability to provide the promised service to the client;
2. Assurance: the ability to build confidence by demonstrating knowledge and skills of service provision in response to clients' needs;
3. Responsiveness: the ability to provide attentive servicing and prompt reaction;
4. Empathy: the ability to attend service recipients thoroughly and provide attentive service considering the best interests of the serviced clients;
5. Tangibles: these include physical assets, personnel, facilities and environment in various locations, equipment, tools, documents and so on.

Service quality is importantly affecting the satisfaction level among the customers of hotel businesses (Thanakitputimed, 2016), especially senior travelers because of their special needs for extra care and safety facilities (Viwatkamolwat et al., 2017; Thammasane, 2012).

Research Method and Data Analysis

Using Parasuraman's et al. (1990) service quality model, this qualitative research investigates the hotel managers' perceptions of service quality improvement for senior tourists. An in-depth interview method was used to collect data from five senior hotel and resort managers in Nakhon Ratchasima province (Thailand).

Following Bengtsson's (2016) suggestions, this research has also employed qualitative content analysis to systematically analyze the obtained data in order to find meanings, themes or concepts of the managers' perceptions regarding service quality improvement in the hotel under their management and our investigation.

Findings

In total, five senior managers of hotels and resorts in Nakhon Ratchasima province were participating in the interviews. The findings show that all the managers place importance on the improvement of service quality in five dimensions: 1) Tangible, 2) Reliability, 3) Responsiveness, 4) Assurance, and 5) Empathy. Below we describe the obtained findings in more detail, divided into these five dimensions.

4.1) Tangible improvement

Hotel and resort managers in Nakhon Ratchasima province have given great importance to the development and improvement of service quality in terms of tangible assets to support senior tourists and make a good impression on them. Most of the hotels are decorated in a modern style focusing on exotics and creativity. The hotels have also tried to convey more Thai culture in their decoration. Facilities in a hotel must be fully completed, so that the elderly can use all the facilities easily and conveniently. The findings also emphasize that managers are concerned about cleanliness, modesty and attire of their frontline service staff so that to make a great impression on the customers during their stay.

4.2) Reliability improvement

The image of a hotel is top priority in terms of reliability in the managers' perception. Since the vast majority of the elderly visitors are always concerned about safety, hotels and resorts must have a good image in what is known as zero crime level. Services provided by

hotel staff is another factor that matters the most. It is very crucial that employees can serve customers accurately and can solve any emerging visitors' problems promptly. Only then the elderly customers will have trust in the hotel staff. This will improve visitors' perception of the hotels' reliability.

4.3) Responsiveness improvement

All the managers agreed that prompt response to the needs of elderly customers is a critical factor because it leads to repeated visits by senior tourists. Elderly customers want special care and on-time service. Therefore, hotels should always have a sufficient number of employees to meet these needs. The employees must have a service-oriented mindset as well as sufficient knowledge and skills for problem-solving. They must be both reliable and enthusiastic while responding to customers' needs. For example, multiple channels of rooms' reservation should be available to customers.

4.4) Assurance improvement

Most of the surveyed hotel managers focus on security because this factor will always give customers peace in mind. The feeling of security and safety is especially important for senior tourists because they need to be assured that once staying in this hotel, there will be absolute security throughout the stay. A hotel security system must fully comply with the world standards. Examples: the hotel must have security officers, there must be CCTV cameras working and so on.

4.5) Empathy improvement

Finally, the findings show that empathy is a relative challenge in part of service improvement in the perceptions of hotel and resort managers. Most of them value their employees because they have direct interactions with customers and thus, are an intermediary to impress customers, apart from the hotel/resort itself. Hotel employees must understand different needs of senior visitors and be able to serve these needs accordingly. They must pay attention to their manner of their greeting and manner of communication overall. Also, they must treat all the visitors equally and must not discriminate anyone.

Discussion and Conclusion

The findings of this qualitative research show that managers in the hotel business are aware of the potential of senior tourism considerably and thus are interested in continuous improvement of service quality to better serve this target group of tourists specifically. This finding is similar to the findings of Nella & Christou's (2016) study on the extending tourism marketing in the senior tourism segment. Similar to previous research on the perceptions of managers in service quality (Tsang & Qu, 2000), this research demonstrates that the five dimensions of Parasuraman's et al. (1990) service quality model can provide the insightful information on the service providers' perspective of service quality improvement.

Unlike the findings of Tsang & Qu's (2000) study on service quality of the hotel industry in China, this research shows that the hotel and resort managers in Nakhon Ratchasima province understand very well the needs and expectations of senior tourists and thus put efforts to improve their service quality to match these needs and expectations. The managers place great importance on improving hotel facilities, assurance of both safety and security, staff reliability, responsiveness and empathy to better serve senior tourists. These findings are in accordance with the past research studies carried out by (Jang & Wu, 2006; Hsu et al., 2007; Sangpikul, 2008) which have been showing that rest and relaxation,

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facilities, activities and safety, and then also cleanliness are important factors that motivate senior tourists to travel and stay in hotels. Service providers need to satisfy senior consumers' needs, values and concerns.

These research findings could be beneficial for service providers working in the hotel industry (also known as hospitality). The hotel staff can also use these results to improve their service efficiency, especially knowledge and skills to perform their work correctly and accurately. Private and government agencies (e.g., various institutes of skills' development, universities and colleges) can use this information derived from the hotel managers' perceptions to develop knowledge and skills of workers so that to match the requirements of the today's hotel industry.

On a final note, it would be also important to mention that the results of this research may not be easily generalizable because the data used here are limited to the hotel and resort managers in Nakhon Ratchasima province of Thailand. Further studies in similar areas are required to provide more information regarding the perceptions of the hotels and resorts managers.

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HOW EFFECTIVE ARE ESL GAMES COMPARED TO TRADITIONAL LEARNING

Robert Heathfield

Suan Sunandha Rajabhat University, Bangkok, Thailand

The aim of this research was to discover the effectiveness of educational games in acquiring vocabulary and conversation skills while learning English as a second language (ESL) in Thai context. The study sought to examine how games and activities aided ESL learners in retaining vocabulary and engaging in role play activities. Educational games enable learners to acquire vocabulary and the relevant context subconsciously while they are engaged in seemingly non-academic activities. The result of using games and activities in the classroom is the creation of a playful atmosphere which makes the teaching-learning process more engaging and thus also makes the learning experience more enjoyable for both the learner and the teacher. The data was collected from six ESL classes totaling 160 learners from the SSRUIC Airline Business major. Evaluation checklist and survey questionnaires were selected as the research tools. The analysis of the data collected revealed that games could indeed accustom learners with new words and phrases and thus aid in deep-seated retention of vocabulary in a better, faster and more engaging way in comparison to memorization or standard textbook study. Games also help develop learners' communicative abilities. Most of the learners interviewed recognized that the game-based methods have their advantages and benefits in terms of improving vocabulary and conversation skills. However, to overcome certain limitations, the researcher suggests further study in this direction.

Keywords: educational games; language games; vocabulary; ESL; Thailand

Introduction

Vocabulary, phrasal verbs and conversation skills are vital in everyday English as well as in academic communication. Their value is clearly seen even at the outset of the learning process for learners of English as a second language. In this context, vocabulary and conversation skills are some of the fundamental aspects of language ability as they reflect how well learners can perform in the four major areas of communication — listening, speaking, reading and writing. The language capability of learners can be enhanced by developing their vocabulary and conversation skills (Ellis, 1997). The importance of



Robert Heathfield

Master of Arts

Lecturer in International College, Suan Sunandha Rajabhat University, Thailand.

Research interests: education technologies, linguistic, cooperative learning

E-mail: rober.he@ssru.ac.th

vocabulary retention is crucial as vocabulary learning is often considered an arduous and tedious process. There are many varied approaches that have been introduced over the years to help ESL learners develop and learn vocabulary and acquire conversation skills, i.e., watching English-speaking TV channels or films with subtitles, listening to English music, reading books or newspapers, watching vlogs on YouTube, using phone applications, playing web-based and mobile games, etc. Using games as a teaching and learning method is very popular in many countries around the world.

Although, it seems that within Thai education system, vocabulary and conversation skills, teaching and learning belong to the most neglected areas of the ESL process. Inadequate knowledge of sentence structures and vocabulary is considered as one of the major problems in learning the language. Teachers mostly teach Grammar formulas to be memorized thus teaching English without using even a single language activity. As a result, learners understandably get bored and lose interest in the learning process as such. As memorization is the main learning method, motivation decreases in the classroom.

This study explores the effectiveness of using games as a vocabulary and conversation skills teaching technique in the classroom in SSRUIC. This interesting method can be used for facilitating vocabulary retention in other environments too.

Research Questions

This research aims to look for answers to the following questions:

1. How does the use of language games affect the retention of vocabulary and conversation skills?
2. Do games enable learners to progress more quickly in applying words in various contexts?
3. Does the use of games and activities have any effect on class discipline?

Significance of the Study

This study should be useful for ESL teachers in general and also for learners at every level, age and ability. In particular, it helps with understanding the importance of using games while teaching new words and having basic conversations with/among ESL learners. The study should also help them become accustomed with a number of methods for English language teaching and classroom strategies and inspire them to initiate a variety of activities according to the requirements of their learners. This can ensure effective classroom management as well as increase learners motivation levels during the classroom learning process (Davies & Pearse, 2000).

Literature Review

There is a plethora of research and teaching resources that show that games and activities are an essential part of learning English as a second language. “If language structure makes up the skeleton of language, then it is vocabulary that provides the vital organs and flesh,” (Lewis, 2006). Sometimes it can be difficult to comprehend a sentence spoken with some grammatical mistakes, it is almost impossible to convey anything without

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accurate vocabulary and so we see the importance of vocabulary over the favored grammar (Dolati & Mikaili, 2011).

“Game has its potential as an educational tool for literary training; and can motivate and engage learners especially the quiet and passive ones in the whole learning process” (Huyen & Nga, 2003).

Vocabulary-learning language games help and encourage ESL learners as they sustain their interest. Games result in fun and motivation for learners making them learn new items effortlessly. Some games can be quite informative and enlightening too. Educational language games play a vital role in learning basic language skills. Games are a “form of play governed by rules.” However, they can be relished only if they are entertaining (Byrne, 1987). They should not turn out to be a heavy preoccupation; rather provide a break from routine exercises, making learners utilize the language as amusement.

Likewise, Hadfield, J. (1990) labels language games as a blend of rules and fun aimed to achieve a goal. There are many types of language games that can be used according to the level of learners. Whereas learners may learn language significantly and effectively via games (Hunt & Beglar, 2002), positive criticisms from teachers or learners can help both to adapt the classroom based on needs’ analysis. They can measure in real time whether learning objectives were achieved or not, without any outside review or input.

Research Methodology

For this procedure Kurt Lewin’s action research process was used by the researcher. To measure the effectiveness of learning vocabulary and conversation skills through games, several games were applied and where necessary adapted to examine whether and how games could aid learners in learning vocabulary and getting conversation skills in an adequate manner. The researcher used a selection of simple language games and activities like cataloging, elimination, sign your name, name ten, charades, draw it and pigeonhole in the chosen classes, the details of which are as follows:

Catalogue Game. The teacher divides learners into four groups, and each group is supposed to write down as many words (either on paper, or on white board) as they could remember from the unit covered that day. The team with the higher number of words wins. This game requires pens and papers, or a board and board markers. Also, this game gets the learners animated when a countdown clock is used.

Elimination Game. The class is divided into four groups, and each group of learners forms a line. The teacher lists the vocabulary words or phrases randomly on the white board. When the game begins, each group of learners pronounces and defines the word or phrase. If they did it correctly, the word or phrase gets erased from the board. The team that has erased the most words or phrases first, wins. This game requires a board and board markers only.

Sign Your Name Game. The class is divided into two groups to form two circles, inner and outer one. In each circle, one learner asks a question from the learner facing him/her on their turn and on a correct answer is then signed on his/her sheet. The team with most signatures wins. The materials required for this game are paper and pens/pencils.

Name Ten (Cheeky Monkey). The class is divided into four groups. The teacher sets a topic or a category and the learners write ten words related to this topic as quickly as they can. The first group to write ten correctly related words shouts ‘Cheeky Monkey’ to get a

point. The team with most points wins. The materials required include paper and pens (or a whiteboard and markers).

Charades. The class is divided into four groups. A member from each group comes to the front and shows the word or phrase picked from a basket. The other group tries to guess the word or phrase being demonstrated to them. When guessing correctly, each team gets a point and then the team with the most points wins. The materials required for this game include a basket and small pieces of paper.

Draw It. The class is divided into four groups. Each learner of the group comes up to the front, picks a card with a word from a hat and then draws a representation of this word or phrase on a board. The team with the right guess gets a point, and the team with most points wins. The materials required for the game are a hat, pieces of paper, a board and markers.

Pigeonhole. The teacher writes word groups on the board and the learners have to organise the words into correct pigeonholes according to the topics discussed earlier in class. The team with most correct words in each category wins. The materials required for the game are pens, paper, board and board markers.

While several games were inserted into each lesson plan, the researcher observed and recorded the learner's reactions and emotions for each activity. The instruments used were questionnaires, interviews and post-game surveys.

The analysis is qualitative in nature. The population of the study consists of several English Language classes, all among the SSRUIC learners in the academic year 2018-2019. The samples for this study were collected from six English ESL classes totaling to 160 learners from the SSRUIC Airline Business major.

Results

The results are divided into two categories. The first section looks at the teacher's opinions and recordings gathered from the evaluation checklist filled in at the end of each class during the sampling period. The second section looks at the results of the survey questionnaire designed to understand the feedback from learners about the effectiveness of games for teaching vocabulary and conversation skills.

Evaluation Checklist Results

Following is the feedback of teachers about their experiences during the sample period.

Could you meet your learning objectives? It was recognized that at the end of each lesson, the learners were able to retain the definitions of words and most of the learners could successfully use vocabulary in regular spoken phrases. It was also observed that the learners could create their own sentences by using words that they had just learned during the games.

Was there adequate class time to include the games and activities and achieve your required learning outcomes? The class time was three hours. Adding games could adequately fit in the class time by using the usual recapitulation time at the end of the class with the addition of an extra activity before the 15-minute break proved a good motivation lift to each study session.

Was it easy to explain how to play the games and were the learners able to understand sufficiently enough to play the game appropriately? All the learners made a mess of each game the first time that they were explained. Thus, the learners required repeated

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explanations. However, once the students became familiar with how to play each game or activity, they quickly became very effective in them.

Was the vocabulary appropriate and context-based? All vocabulary was selected from the relevant textbook.

What type of behavior did you observe among the learners? Most learners were easily engaged, but some were reluctant to be involved and some started talking. Overall, most learners were happy to participate in new games and activities as well as to learn new words. They were motivated and enjoyed all the activities, especially the fun games like Name Ten or charades. It was noted that the learners particularly enjoyed the competitive aspect of the games and the countdown timer always provoked extra motivation in the learners, even those who were reluctant to be involved at the start.

Was there a problem with discipline during the game activities? During the groupwork it was observed that the environment could get messy and a little disordered but overall the learners stayed engaged. There was the odd tendency for some learners to be distracted if the games went on a little too long. This was countered by the teacher being aware and continuing to engage those learners whose attention waned.

How was the learner engagement during the activities? The learner engagement was much higher than in other classes where games were not played.

Teachers' Class Survey and Interviews

The survey from the teachers' perspective was based on the classroom observations and learner feedback interviews.

1. Use of games is a good classroom strategy to aid learners in their retention of vocabulary and getting accustomed with natural English phrases. Only 60% of the respondents strongly agreed that games helped learners increase their vocabulary and natural English phrases whereas the rest of 40% agreed to it. Overall, all the respondents agreed that games facilitated learners' vocabulary and natural English phrases' retention.

2. Games enable teachers to create appropriate and relevant language contexts. All the respondents agreed that games and activities facilitated the creation of appropriate and relevant language contexts. 100% of the surveyed were positive about this statement.

3. ESL games and activities motivate and assist learners as they maintain their focus in the classroom. 90% of the respondents strongly agreed with this statement while 10% agreed with the statement. Almost all the learners interviewed found games and similar activities helpful for learning new words and phrases.

4. ESL activities and games create a more motivated learning environment. 80% of the respondents strongly agreed that vocabulary games motivate learners to learn English, whereas 20% agreed to it. None of them disagreed with this statement.

5. Is the classroom disorganized and too loud because of games and activities? 40% of the respondents agreed that the classroom was disorganized and too loud because of games and activities, 40% somewhat disagreed with this statement, and 20% of the respondents strongly disagreed. Overall, most of the respondents disagreed with the statement.

6. Games and activities create a fun and relaxed environment, so learners retain information more effectively. 50% of the respondents strongly agreed that games and activities create a fun and relaxed environment; 40% somewhat agreed whereas 10% chose

the option “undecided”. Most of the respondents considered using games as being helpful for learning.

7. Using games and activities disrupts the normal flow in the classroom. 10% of the respondents agreed with this statement, 20% were undecided, 40% disagreed and finally 30% of the respondents strongly disagreed. This division shows that there were mixed views among the respondents as to using games and similar activities which are different from the usual learning experience.

Learners Questionnaire Results

All the learners who participated in this study were given a basic questionnaire in addition to those learners who were selected for an interview during the research period.

The learners’ behavior was observed by the researcher and then they were asked to complete a very simple questionnaire which contained two questions only.

8. Have you played language games and activities in an ESL class before?

90% learners were never taught with the help of language games and similar activities, thus, it was a completely new experience for them.

9. How was your experience of learning by playing games and activities?

Most of the learners found it a very good experience to learn English vocabulary and phrases through games.

Discussion

Teaching ESL in Thailand has been improving year on year for many years. Still, some English teachers are unfamiliar with many newer ELT techniques. Incorporating games and similar activities into the process of teaching vocabulary and natural English phrases in the local lesson plans has proved to be very beneficial, although it might take some extra time to adjust to this new methodology. However, once applied, the feedback was overwhelmingly positive. Time management was the main issue since combining traditional textbook teaching with a few vocabulary games in one class requires some replanning.

Some of the learners insisted on using bilingual definitions of the words, but the games made a difference and in fact caused the learners to do some peer-to-peer teaching as part of the activity. The learners remained positive and motivated about the introduction of such new activities, thus, they gave highly positive feedback. Although the percentage of the learned new words and phrases increased, the traditional order of the classroom was disturbed, especially during highly competitive activities. The traditionally silent atmosphere in classrooms got disturbed by the learners’ movements like getting up, running to the board, or standing in rows and circles.

One of the most beneficial effects of using games and activities was the increased interaction amongst learners, which resulted in better communication skills as well as more friendly and competitive atmosphere. Another essential aspect of these activities was the kinesthetic factor.

The lethargy of the classroom was eliminated in two ways: first by movement as such, second by the nature of game activity itself. The activities provided a break either in the

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middle or served as a relief at the end of the class, often both. At the same time, the learners continued learning new words, definitions, spelling, pronunciation, etc.

Despite all the positive factors above, the classroom could not exactly recreate a real-life situation. However, the shuffling of games and activities ensured the learners' remained focused and their vocabulary and natural English was more enhanced as compared to the classes where language games were not introduced at all.

Conclusion

Games and similar activities familiarize learners with new vocabulary and conversational phrases and thus help them retain information more accurately and more quickly, they help develop learners' conversational abilities.

Games and activities encourage ESL learners to absorb words and phrases while having fun and enjoying their learning experience, particularly when such activities garner a friendly competitive environment which ensures the learners' interest and focus.

Games and activities therefore lead to a higher level of motivation among ESL learners as they are encouraging them to get involved and actively engage in activities and apply the language in simulated real life situations. The use of games and similar activities during classes motivated learners to continue their ESL studies on their own via mobile apps. Therefore, the study also proves that games are an excellent source of encouragement for ESL learners.

However, it has to be also acknowledged that there are many other teaching and learning methods that can be utilized and should not be ignored simply because fun games are being used.

Recommendations

Language games and similar classroom activities should be incorporated into everyday ESL learning environments for more effective learning and higher motivation of learners at all language proficiency levels. All the teachers should be given access to such activity materials. Benefits of using English language games and activities should be more clearly demonstrated to the educators.

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FACTORS AFFECTING THE BRAND VALUE OF SOME PRIVATE ECONOMIC UNIVERSITIES IN HO CHI MINH CITY, VIETNAM

Ai Huu Tran
My Phan Thi Chieu
Dao Mai Thi Hong

Văn Hien University, Ho Chi Minh, Vietnam

Branding is extremely important as it has long-term implications for all organizations. Concerns about branding have been initially raised in the field of tangible products and are now shifting towards the service sector. The arguments are: (1) The intangible nature of the service makes consumers rely more on branding to support quality assessment and reduce the risk of buying decisions; (2) Many types of services need to rely on brand reputation to attract customers such as healthcare, consulting, education. Higher education is a special type of service with its own characteristics: highly intangible contents, the affects on human minds, difficulties with assessing the quality, emphasis on prestige, the need to have specific conditions to use. The above characteristics make the brand of a training/education institution become very important when future learners are making their choice.



Ai Tran Huu

PhD, Lecturer at the Economics Department, Van Hien University, Ho Chi Minh City, Vietnam.

Research interests: agricultural markets; support for small and medium enterprises; organic food market; environmental issues of economic development; multinational corporations in services' production; global competitive resources.

E-mail: aith@vhu.edu.vn



Dao Mai Thi Hong

MBA, Lecturer at the Faculty of Economics, Van Hien University, Ho Chi Minh City, Vietnam.

Research interests: consumer behavior; innovative product markets; finance.

E-mail: daomth@vhu.edu.vn



My Phan Thi Chieu

MBA, Lecturer at the Faculty of Economics, Van Hien University, Ho Chi Minh City, Vietnam.

Research interests: consumer behavior; innovative product markets; finance.

E-mail: myptc@vhu.edu.vn

Keywords: brand value; higher education; Vietnam

Introduction

Brand value (BV) is a theoretical concept that has been interesting for researchers since the 1990s. Regarding the constituents of BV from a customer perspective, there are two main schools — those of David Allen Aaker (1991) and of Kevin Lane Keller (1993).

The Aaker school (1991) considers BV having five components or five main constituent elements which are: brand awareness, perceived quality, brand association, brand loyalty and other factors, among which brand value element is hardly mentioned in marketing research. It is intrinsically different from the original four components as it is not marketing in nature (patent, invention, goodwill, etc.).

The Keller School (1993) considers BV to be formed from consumer knowledge about brands, which consists of two main constituents - brand awareness and brand image.

Since the 1990s, studies on brand value in the world and in Vietnam have applied one of the models — Aaker (1991) or Keller (1993) — or according to the consultation approach or according to the influencing factor approach.

Brand-building is an extremely important and long-term issue for all organizations. Higher education is a special type of service with its own characteristics: highly intangible contents, various effects on human minds, difficulties while assessing the quality, strong emphasis on prestige, the necessity to have specific conditions required from the participants/learners and so on.

The above characteristics make the brand of a training institution become very important, especially when future learners are choosing an institution for themselves. Over the past 15 years, the number of higher education institutions in Vietnam has been increasing rapidly. This increase in the number of universities has made the level of competition among them much stronger. This competition can be seen between public universities; between public and non-public universities; between domestic universities and foreign universities operating in Vietnam and also between various training programs, between having work and studying at the same time, between distance learning and traditional modes of education, between the choices of second degrees, etc. The new policies of the Government and the Ministry of Education and Training in particular to improve the quality of higher education system and enhance the autonomy of universities make the branding problem even more acute. University brand has been an important highlight in marketing communications activities as it attracts learners and brings financial resources to the university.

Literature review

The American Marketing Association has defined brand equity as the value that brands bring to sellers. From the consumers' point of view, brand equity is judged based on consumer attitudes about positive brand attributes and positive results from brand usage.

Keller (2013, 41) stated that high brand value will bring the following benefits to sellers: (1) Awareness of product features will be more positive; (2) Higher loyalty level; (3) Less negative effects due to the marketing activities carried out by competitors; (4) Less effects due to incidents or marketing crises; (5) Higher profits overall; (6) Demand curve is less elastic when price increases; (7) Demand curve is more elastic when prices fall; (8)

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Better cooperation and support on the side of intermediaries; (9) There are more opportunities for licensing franchises to others; and (10) There are many brand extension opportunities.

Argenti (2000) argued that a school brand with a reputation (high brand value) brings many benefits to the school: (1) higher fees could be charged; (2) paying less to suppliers; (3) attracting best employers and trainers and (4) lower turnover rate among the staff.

Education is a specific type of service. In its turn, higher education has its own characteristics as a service. Compared to tangible products, this service has 4 specific characteristics: (1) intangibility, (2) the inseparability between production and consumption; (3) could not be warehoused; (4) heterogeneity of quality (Lovelock & Wirtz, 2010).

Higher education belongs to the type of service that provides knowledge and/or awareness. This service is characterized by rather invisible contents and effects on the mind, spirit, attitudes, and intelligence of customers (learners). When intangible content is higher, consumers face the risk of choosing more suppliers as it gets harder to judge the actual quality. Interacting with the human mind also makes the customer/learner's assessment of the service more difficult. In that case, the role of a brand becomes even more important.

According to the ease of quality assessment, products are usually divided into three groups: search products, experience products, and prestigious products (credence products). The latter include the services in which a buyer cannot fully evaluate the quality, even when already purchased and using the product. Products in this category include training, consulting, accounting, advertising, consulting, information technology, healthcare and medical, financial services, etc.

Education and training also belong to the category of prestigious products. When choosing to purchase this type of product, buyers tend to rely on brand reputation, endorsements and guarantee from others they trust, and also service quality and price. Services of this type tend to be designed and manufactured on demand, so there usually are fewer similar products and replacements.

Therefore, it is harder for customers to compare the quality of services. Also, they are less price sensitive. Education differs from many other types of services in that not everyone wants to consume or use this type of service. Also, not all consumers can actually afford it. The reason is that in order to consume this service, the learners (service consumers) must have a certain learning capacity to pass the entrance threshold.

Besides passing this threshold, education requires learners to actively participate in the training process so that to receive knowledge, skills and attitudes in the best way and then pass periodic tests along with the final tests at the end of education. With some other types of services, the consumers just need to spend money on a service and then enjoy this service. In education and training, learners, besides paying tuition, must make efforts and spend time studying independently and participating in the training process. The more active learners are — the better would be the results.

From the employer's perspective, university's brand value is reflected in the degree to which graduates meet employers' requirements, are highly appreciated by employers and are then paid a high starting salary (Rindova et al., 2005). University branding serves as a guarantee for the applicant's knowledge, skills and the ability to work overall.

From the learner's point of view, university's brand value is the university degree that must help them minimize the risks of unemployment, get the right job having the right major,

get a high income, be highly appreciated by employers and face good career development opportunities.

The study of brand equity in the field of higher education

Rindova et al. (2005) surveyed 1,600 businesses acting as employers of the graduates from 107 business schools in the US universities, to assess the factors that affect the organisational reputation and brand reputation of the faculty. Brand reputation is measured through prominence and perceived quality. Their research results show that brand reputation is a multidimensional concept which includes two main components: perceived quality and brand prominence, of which brand prominence is closely related to the starting salary of graduate students.

Mourad et al. (2011) studied the effects of learners' characteristics, brand awareness and brand image on university communication. The sample collected includes 135 university students and 165 high-school students preparing to enter universities in Egypt. The research results show that the majority of components in brand image have a positive impact on brand value, while the two components of brand recognition (admission promotion and word of mouth) have no significant influence on brand value.

Pinar et al. (2014) conducted an exploratory university-based study with the survey of 439 students in 30 university classes in the Midwestern region of the United States. Stemming from the model of Aaker (1991), the authors have built a scale of university communication with three old components from Aaker's model (1991): Brand awareness, perceived quality and brand loyalty. In addition, the authors added new components such as university reputation, emotions about learning environment (emotional environment), library services, student life, career development and physical facilities.

Although there have been many researches on brand value, the number of researches on brand value in the world and in Vietnam in particular is still rather small.

Especially, there hasn't been any research on the private universities' brand value and the factors influencing it in Ho Chi Minh City.

Summary on the context and implications for brand equity research

Over the past 15 years, Vietnamese higher education has undergone major changes. The number of universities has increased rapidly, the emergence of non-public universities, foreign universities in Vietnam and international joint training programs have created many learning opportunities for learners but also caused serious competitive pressure on training facilities. Among all academic major groups, the economic and business administration groups attract the largest number of Vietnamese students every year. The competition between universities in attracting students to study Economics and Business Administration is increasingly fierce. In the psychology of high-school students, college is more preferable than vocational training. In choosing a university, the school brand is the most important factor, followed by the major choice.

Facing such increased competition, university administrators are becoming increasingly aware of the importance and benefits of quality improvement and strong branding of the university. Strong brand and brand value together brings long-term competitive advantages to the domestic and international markets. The practice of branding raises in-depth research requirements about brand value, and also about the factors that have influence on brand value.

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Table 1 - Summary of the selected studies on university brand equity

(Source: made by the authors)

Research	Type of Study	Purpose & Research Result	Independent variables	Dependent variable	Survey Form & Country
Rindova et al. (2005)	Quantitative survey	To study the influence of quality factors on university brand reputation	Quality of students, quality of lecturers, quality of facilities, quality of scientific research	University brand reputation	Businesses in the US, acting as employers
Mourad et al. (2011)	Quantitative survey	Building and testing models affecting the characteristics of learners, brand awareness and brand image on university communication values	Learners' characteristics, Brand awareness, Brand image	University communication value	Students studying at university and also those about to graduate from high school in Egypt
Pinar et al. (2014)	Quantitative survey	Building a mathematical scale for the concept of communication in universities	Brand awareness, perceived quality, brand loyalty, other variables	University communication value	University students in the US

Table 2 - Number and structure of universities in Vietnam, 2015 to 2019

Criteria	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Total number of schools	219	223	235	236	237
- Public	159	163	170	171	172
- Non-public	60	60	65	60	65
Total number of students	1,824,328	1,753,174	1,453,067	1,707,025	1,824,328
- Public university students	1,596,754	1,520,807	1,275,608	1,493,354	1,596,754
- Non-public university students	227,574	232,367	177,459	176,669	227,574
- Full-time students	1,348,937	1,370,619	1,076,233	1,185,810	1,348,937
- Students in the learning-and-working system	339,301	295,261	370,934	330,079	339,301
Divided by training levels					
Doctor's	10,424	13,598	16,514	20,198	21,106
Master's	37,090	40,426	43,127	45,266	44,705
University/college	17,251	14,897	12,519	9,495	7,489
Other qualifications	336	50	109	32	12

Higher education is a specific type of service, besides, the context of higher education in Vietnam has its own, unique characteristics. Therefore, research and measurement of brand-related concepts in this field such as a brand value, brand awareness, perceived quality, brand association and brand loyalty require specific approaches. In addition to that, following international high-brand value studies, it is necessary to adjust the scale and measurement methods to suit the educational services in the Vietnamese context.

To date, there are 223 public and private universities in Vietnam. During the last five years, the country got 49 more universities, on average, 6 new universities every year. Among these 223 universities, there are 163 public universities, accounting for nearly $\frac{3}{5}$ of their total number, while the number of non-public school accounts for more than $\frac{1}{5}$ of the total number of universities (see Tab. 4 for more details).

Research models and hypotheses

Research models

Summary on the recent domestic and international research studies on communication and other characteristics of the higher education content in Vietnam the authors of this study have borrowed from the previous studies such as those by Yoo et al. (2000), Yoo & Donthu (2001), and Buil et al. (2013).

The factors influencing communication include the components of communication according to Aaker (1991): brand awareness, brand associations, perceived quality and brand loyalty. These variables also affect each other, according to the regression relation.

The Brand Awareness Scale is the ability of potential buyers to recall a certain brand found in a certain product category (Aaker, 1991).

The Perceived Quality scale is customers' perception of the overall quality and/or overall superiority of tangible products or services in comparison with other, similar products (Parasuraman et al., 1985, 1988).

The Brand Associations scale for university branding includes many aspects — from university reputation, majors, facilities, training programs, training organizations, tests to tuition fees, lecturers, students and so on (Pinar et al., 2014).

The Brand Loyalty scale shows the degree of buyer engagement with a brand. This loyalty includes the aspect of behavior (expressed in the frequency of repeated purchases affiliated to a particular brand) or the attitude aspect (trust, commitment, introduction to others) (Aaker, 1991).

The validity scale is a consumer's perception of the overall superior value of a product bearing in mind the brand name over other brands (Lassar et al., 1995).

Research hypotheses

H1: Brand awareness has a positive impact on the brand value of the university.

H2: Perceived quality has a positive effect on the brand value of the university.

H3: Brand associations have a positive influence on the brand value of the university.

H4: Brand loyalty has a positive influence on the brand value of the university.

H5: Brand awareness has a positive influence on perceived quality.

H6: Brand awareness has a positive influence on brand associations.

H7: Brand awareness has a positive influence on brand loyalty.

H8: Perceived quality has a positive impact on brand associations.

H9: Perceived quality has a positive effect on brand loyalty.

H10: Brand associations have a positive effect on brand loyalty.

Thus, we get the total of 10 research hypotheses in our research model, of which the first four hypotheses concern the impact of the four components of brand equity on the overall brand equity, while the remaining six hypotheses are related to the interaction

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between these four components (brand awareness, perceived quality, brand association and brand loyalty).

Research methodology

Here we are taking the research by Hair et al. (1998) for reference as to the expected sample size. Accordingly, the minimum sample size is 5 times the total number of the observed variables. This sample size is suitable for research with factor analysis application.

Thus, $n = 5 * m$; $m = 44$ is the number of questions. Therefore, the number of 300 samples is acceptable for our research topic.

Surveyed sample: The people surveyed are all students who are attending private universities in Ho Chi Minh City, namely those affiliated to the Departments of Accounting, Banking and Finance, Business Administration and Economics.

The survey was conducted during October-December 2019.

The survey was conducted using the simple random sampling method with the total number of votes generated being $n = 585$. The response rate of the surveyed subjects is 94.34%, or 552 votes. The number of questionnaires used for further analysis is 96.74%, or 534 votes (88 votes were rejected due to incompleteness of answers, or when the respondents were choosing one and the same option in all the questions).

The study used the Likert scale for evaluation on a scale from 1 to 5.

The main method used for data analysis was comparative statistical method and descriptive statistics based on SPSS 23.0 software.

Further, analytical techniques such as scale reliability testing, exploratory analysis (EFA), confirmatory factor analysis (CFA) and linear structural analysis (SEM) were applied.

Among the respondents, there have been 144 students studying Business group (30.98% of the sample), followed by the group of Finance and Banking students (166 people, or 30.07%), then goes Economics group (119 people, or 21.56%), and finally the group of Accounting branch (96 people, or 17.39%).

Table 3 - Survey sample divided by discipline (major)

(Source: made by the authors)

Student groups	University of Economics	Bank University	Foreign Trade University	University of Finance	Total	Ratio, in %
Business administration	39	89	37	6	171	30.98
Accounting and Audit	25	23	-	48	96	17.39
Finance and Banking	38	18	28	82	166	30.07
Economics	42	13	58	6	119	21.56
Total by school	144	143	123	142	552	100.00

Table 4 - Gender structure of the sample

(Source: made by the authors)

Sample	University of Economics	Bank University	Foreign Trade University	University of Finance	Total
Total number of students	144	143	123	142	552
Overall split in %	26.09	25.91	22.28	25.72	100.00
Female students	98	97	76	82	353
Female in %	68.06	67.83	61.79	57.75	63.95
Male students	46	46	47	60	199.00
Male in %	31.94	32.17	38.21	42.25	36.05

Descriptive statistical analysis of the research variables

The school's brand value is assessed through four elements which are: the ability to find suitable jobs, the ability to have high income, the ability to promote the profession and the ability to graduate from that school.

Table 5 - The importance of elements that represents the value of market brand equity

(Source: made by the authors)

The elements	Evaluation of importance			Total 1	Total 2
	Less important	Important	Very important		
	A	B	C	B+C	A+B+C
The ability to find suitable jobs	28	205	319	524	552
Ratio, in %	5.07	37.14	57.79	94.93	100.00
The ability to have high income	32	264	256	520	552
Ratio, in %	5.80	47.83	46.38	94.20	100.00
Career advancement ability	28	256	268	524	552
Ratio, in %	5.07	46.38	48.55	94.93	100.00
Social appreciation	37.00	219	296	515	552
Ratio, in %	6.70	39.67	53.62	93.29	100.00

All four elements are highly appreciated by the society. About half of the students surveyed stated that these four items above are at the "very important" level and about 95% think that the above elements are at the "important" and "very important" level in relation to university branding (Tab. 3).

Table 6 further shows how Vietnamese students evaluate the contribution of university communication into the elements of university brand value.

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Table 6 - Students' evaluation of university communication according
to the contents of brand value
(Source: made by the authors)

Content elements	University of Economics	Bank University	Foreign Trade University	University of Finance
The ability to find suitable jobs	3,55	3,18	3,28	3,17
The ability to have high income	3,89	3,55	3,58	3,54
Career advancement ability	4,32	3,90	4,12	3,92
Social appreciation	4,59	4,35	4,32	4,36
Average for all four criteria	4,09	3,75	3,82	3,75
Sample size	144	143	123	142

Note: Answers were obtained using the scale from 1 to 5, where 1 stands for "completely disagree" and 5 stands for "totally agree".

Testing the scale of the research variables

Cronbach Alpha test

Cronbach Alpha analysis results are based on such research concepts as Brand Awareness, Brand Associations, Perceived Quality, Brand Loyalty and Brand Value.

Exploratory factor analysis

Performing KMO and Bartlett tests with the help of SPSS 22.0 software, we have obtained the results that are showing that KMO test criteria = 0.913 > 0.5 and Bartlett test criteria had a critical probability p-value (Sig.) < 0.05. This proves that the sample is suitable for factor analysis (Hair et al., 2009, p.104).

The results of EFA analysis show that there are four factors extracted with the eigenvalue greater than 1 and the total variance extracted is 59.95%. The scales for Brand Awareness (BAW), Perceived Quality (PQ) and Brand Loyalty (BL) all meet the unidirectional requirement.

Confirmatory factor analysis

CFA test results on the AMOS software show that this CFA model has the conformance measurement indicators of $\chi^2 / df = 3.266$; CFI = 0.947; TLI = 0.933 and RMSEA = 0.062. According to (Hu & Bentler, 1999) and (Hooper et al., 2008), a linear structural model that has $\chi^2 / df < 5$; CFI > 0.9; TLI > 0.9; RMSEA < 0.08 can be considered consistent with the actual data. In other words, the scales of the research variables Brand Awareness, Perceived Quality, Brand Associations, Brand Loyalty and brand value are all unidirectional.

Testing the research hypotheses

Test results of the standardized regression weights in the proposed linear structure model demonstrate that all of these coefficients are positive with p-value being < 0.01 that is, statistically significant), thus showing a positive relationship between Brand Awareness, Perceived Quality, Brand association, Brand loyalty and overall brand value as hypothesized. Therefore, all the hypotheses, from H1 to H10, are accepted.

Table 7 - Cronbach's Alpha coefficients of the adjusted research concept scales

(Source: made by the authors)

Item	Scale mean if the item deleted	Scale variance if the item deleted	Corrected item total correlation	Cronbach's alpha if the item deleted
Brand Awareness (BAW): $\alpha = 0,780$				
BAW1	7.26	1.06	0.547	0.666
BAW2	6.87	0.88	0.707	0.599
BAW3	6.68	0.85	0.604	0.616
Brand Associations (BAS): $\alpha = 0,795$				
BAS2	18.80	6.88	0.449	0.666
BAS3	18.88	6.88	0.507	0.663
BAS4	18.56	7.08	0.512	0.662
BAS5	18.64	6.34	0.590	0.654
BAS6	18.83	6.62	0.546	0.665
BAS7	18.58	6.52	0.712	0.629
Perceived Quality (PQ): $\alpha = 0,804$				
PQ2	8.20	1.10	0.605	0.666
PQ3	7.87	0.85	0.709	0.669
PQ4	7.63	0.88	0.641	0.643
Brand Loyalty (BL): $\alpha = 0,752$				
BL2	14.42	4.63	0.411	0.646
BL3	14.76	4.38	0.607	0.666
BL4	14.47	3.88	0.473	0.636
BL5	15.10	4.56	0.545	0.600
BL6	14.41	4.51	0.620	0.666
Overall Brand Value (BV): $\alpha = 0,803$				
BV1	12.13	2.27	0.599	0.76
BV2	11.78	2.10	0.694	0.71
BV3	11.36	2.24	0.672	0.72
BV4	11.01	2.52	0.507	0.70

Some indicators of the model's characteristics and suitability:

$\chi^2/df = 2,558$; CFI = 0,969; TLI = 0,958; RMSEA = 0,052; $df = 102$ Chi-Square = 260,957 Chi-Square/df = 2,558; p-value = 0,000 NPAR = 68.

The research results appear to be consistent with Aaker's (1991) fundamental model of brand equity in which the author argues that the constituent factors of brand equity are Brand Awareness, Perceived Quality, Brand Association and Brand Loyalty. These are also the main sources of communication, and the constituent elements, positively (mutually) related in a rather interactive way.

Recommendations on university branding

These research results are very meaningful for brand construction and brand value management of the universities. The meanings are as follows:

1. Brand awareness is the most important factor influencing brand equity of a university. In addition, brand awareness also has a great weight as it is affecting perceived quality, brand association and brand loyalty. Therefore, it is important to focus on brand awareness as the starting point for brand equity enhancement.

2. Perceived quality is the second factor to be considered. In terms of marketing theory,

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quality is a solid foundation for branding in any context. According to the survey results, perceived quality has a great impact on brand value, brand association and brand loyalty.

3. Brand loyalty is the third most influential factor, straight after brand awareness and perceived quality. At the same time, brand loyalty is influenced by brand awareness, perceived quality and brand association. Therefore, in order to enhance brand loyalty, attention must be paid to building positive brand associations and programs to enhance brand loyalty.

Table 8 - Testing the research hypotheses

(Source: made by the authors)

Hypothesis content		Standard. Regression Weights	Regression Weights	SE	Critical Ratio (t Stat)	p-value	Decision
H ₁	Brand awareness □ Brand value	0.429	0.357	0.053	6.798	***	Yes
H ₂	Perceived quality □ Brand value	0.312	0.27	0.049	5.463	***	Yes
H ₃	Brand association □ Brand value	0.127	0.126	0.039	3.198	0.001	Yes
H ₄	Brand loyalty □ Brand value	0.41	0.337	0.052	6.422	***	Yes
H ₅	Brand awareness □ Quality perceived	0.714	0.687	0.053	12.965	***	Yes
H ₆	Brand awareness □ Brand association	0.422	0.352	0.067	5.296	***	Yes
H ₇	Brand awareness □ Brand loyalty	0.351	0.356	0.078	4.577	***	Yes
H ₈	Quality perceived □ Brand association	0.293	0.255	0.065	3.906	***	Yes
H ₉	Perceived quality □ Brand loyalty	0.397	0.419	0.076	5.544	***	Yes
H ₁₀	Brand association □ Brand loyalty	0.149	0.181	0.068	2.654	0.008	Yes

Note: *** means p-value being <0.001. SE is standard error. CR (critical ratio) is the computed value of the Student t-test criterion about non-zero (0) of the beta coefficient (the coefficient of the regression equation).

Designing a unified marketing strategy for a university

In order to improve the university brand value, according to the main research model, it is necessary to influence brand awareness, perceived quality, brand association and brand loyalty. To positively influence those components, appropriate and effective marketing strategies and programs are needed.

Perceived quality represents consumers' perception, assessment, and perception of the overall excellence/superiority of tangible products and services, in comparison to the quality expectations about personal consumption (Parasuraman, 1985).

In the context of increasingly fierce university competition, learners' expectations for training institutions are increasing. Thus, quality improvements need to be done on a regular basis and continuously.

Building brand awareness

A brand is only valuable when it is known by many people. Brand awareness is the beginning of the brand value creation process. Brand awareness is the design of brand identity, its application and implementation and then also external communication to create brand awareness.

Limitations of the study and suggestions on further research directions

Besides the positive contributions in theory and practice, this research also has some limitations.

In the research model, the number of research variables and observations included is quite large, the scale of some research variables in the model is not designed in detail, according to the content of each element. In fact, brand association, perceived quality and brand loyalty are complex and multi-dimensional concepts, so the use of a single-dimensional scale may not accurately reflect the impact of these elements on the overall brand value. Separate studies on each component of brand equity with deeper and multidimensional scales can help to overcome this limitation.

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