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Regional Differences in the Conditions of Technological Progress in Europe

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Abstract

The spatial structure of the world is unequal, centres and peripheries alternate. There are significant social and development differences between countries in the world, but there is also an unequal development within the countries. The main purpose of the regional policy is to reduce spatial inequalities by catching up the underdeveloped areas. Nowadays, in the era of the Fourth Industrial Revolution, technological progress creates possibilities for developing regions to catch up, because new technologies require new skills that are less dependent on factor endowments of countries. Most economies are unable to create new technologies because they do not have the appropriate resources or their institutional environment does not favour innovation. However, technological progress can also be observed in these countries by adopting and applying new technologies effectively. This research aims to illustrate the regional differences in the conditions of technological progress in Europe, using multivariate statistical methods. Based on the European Regional Competitiveness Index, the research question to be analysed is whether new technologies may be able to decrease spatial differences. We compare the European regions in the field of innovation in order to highlight the critical areas that can promote or prevent the reduction of inequalities.

Keywords: regional differences in Europe, technological progress, innovation leaders, innovation followers

Introduction

There are significant differences in income and economic development between countries that can be derived from the spread of technology and the incentive system influencing this process. Diffusion is important for the realization of technological progress because it creates the possibility of imitation in countries where the capabilities do not allow the creation of new technologies. In developed countries, technological progress realizes in an innovation-driven way, where the invention is realized, but in most countries, the adoption of existing technologies, i.e. imitation, creates possibilities for technological and economic development. It

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is also observed that countries are not homogeneous in terms of their level of development, there are significant regional differences not only in income but also in factor endowments which affect the possibilities of technology application.

Based on cross-sectional and panel data, national and regional growth rates are correlated with economic, social and political variables, including a number of factors influenced by government policies (Grossmann-Helpman, 1994, p. 23). Some empirical studies analyse the technological differences between countries, e.g. using the world technological frontier (see Caselli-Coleman, 2006; Growiec, 2006), but analysing regional competitiveness, the role of innovation is appreciated (Camagni-Capello, 2013; Békés, 2015). Our empirical research aims to highlight technological inequalities at a regional level. In the European Union, the NUTS classification (Nomenclature of territorial units for statistics) is used to collect regional statistics. Based on the NUTS system, the Regional Competitiveness Index (RCI) provides data to compare regions' performance in various areas of competitiveness. In this paper, we try to illustrate the regional differences in the conditions of technological progress in the European Union using various statistical methods.

Why Is There a Technology Gap between Countries?

Based on empirical experiences, differences in technology application across countries are closely related to income differences. The technology gap depends on how a country can mobilize its resources for the social, institutional and economic restructuring required by innovation, so close relationships can be assumed between a country's technological and economic development level (Fagerberg, 1987). Developed countries create new technology because their environment is favourable for this, but it is not certain that it will work in developing countries as well. The choice of the appropriate technology depends on factor-endowments, because technology can apply effectively if adequate resources are available. Each country chooses the best technology which fits its own capabilities, but it is not necessarily the best one in the world. Basu and Weil (1998, p. 1025) pointed out that a technology derived from a special combination of physical and human capital can be optimally matched to only one capital-labour ratio. This means that a given technology cannot work as efficiently as possible in every country. According to Krugman (1979), innovation is realized typically in developed countries, because human and physical resources, i.e. skills, knowledge and material resources required to create new ideas are available together, complemented by an appropriate

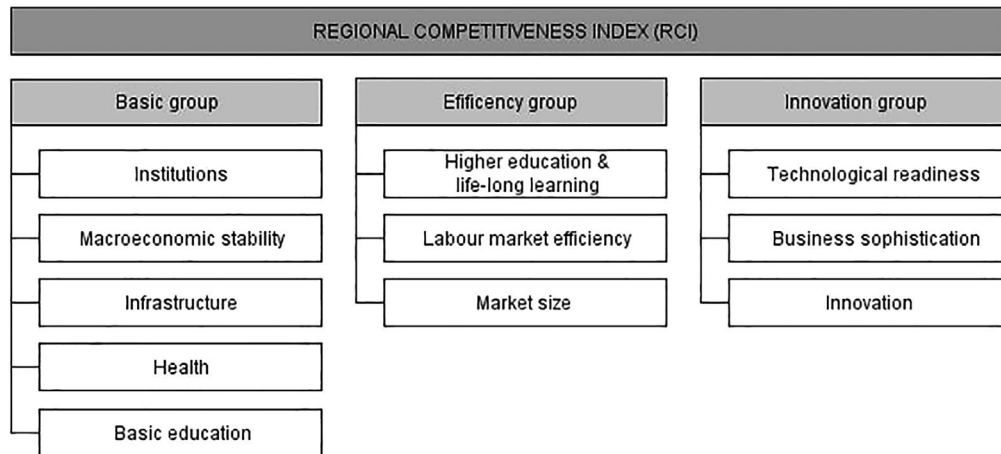
institutional background. Barro and Sala-i-Martin (1997) pointed out that imitation, i.e. adoption of new technology, is cheaper in developing countries, where investment and appropriate human resources are required to apply new technologies. To reduce technological and economic inequalities between regions, the innovation policies may help lagging regions to reach a critical mass, which allows them to benefit from knowledge spillovers within and across the region (Autant-Bernard et al., 2013). Lukovics (2009) pointed out that the opportunities for improving competitiveness are scarce in several regions. Nevertheless, innovation can create possibilities for regions to converge.

Database and Methodology

Based on the NUTS classification, the Regional Competitiveness Index (RCI) measures the different dimensions of competitiveness at the regional level in the European Union. The RCI is published every three years, the latest database, the RCI 2019, contains data for the period 2015-2017. RCI defines the regional competitiveness as the ability of a region to offer an attractive and sustainable environment for firms and residents to live and work (Annoni - Dijkstra, 2019). For this purpose, the RCI is divided into 11 pillars including 74 indicators to measure the different aspects of regional competitiveness and classify them into three groups: Basic, Efficiency and Innovation. The Basic group represents the main drivers of competitiveness in all types of countries. The Efficiency group contains variables from the fields of labour market. The Innovation group consists of three pillars related to the relevant fields of innovation. The triple division is the basis for the weighting scheme whose starting point is that the higher the regional GDP per capita, the higher the weight assigned to innovative aspects. Because of this, RCI considers the region's stage of development, the RCI does not measure all regions with the same yardstick but focuses on the most relevant aspects given their level of development (Annoni - Dijkstra, 2019). The pillars of the groups can be seen in Figure 1.

Our research focuses on the Innovation group, with highlighted regional differences mainly in the innovation pillar because this pillar includes the most relevant variables related to technological progress. The regional technological readiness contains three variables at the regional level (households' access to broadband; individuals buying over internet; households' access to the internet). The business sophistication pillar measures the degree to which small and medium enterprises are involved in innovation cooperation, but there are very small differences in the most relevant variables. There are four variables in this pillar, employment and GVA (K-N sectors), innovative SMEs and

Figure 1. The composition of the Regional Competitiveness Index (RCI)



Source: Own construction based on Annoni and Dijkstra (2019)

marketing organisational innovators. The innovation pillar consists of eight variables by region, which characterize well the main fields of innovation as human resources, innovation output and corporate activities. The variables of innovation pillar are core creative class employment; knowledge workers; scientific publications; total intra-mural R&D expenditure; human resources in Science and Technology; employment in technology and knowledge-intensive sectors; exports in medium-high/high tech manufacturing; sales of new-to-market and new-to-firm innovation. Compared to the previous RCI index, patenting activities are not measured at the regional level, but sales of new-to-market and new-to-firm innovation can be measured in regions.

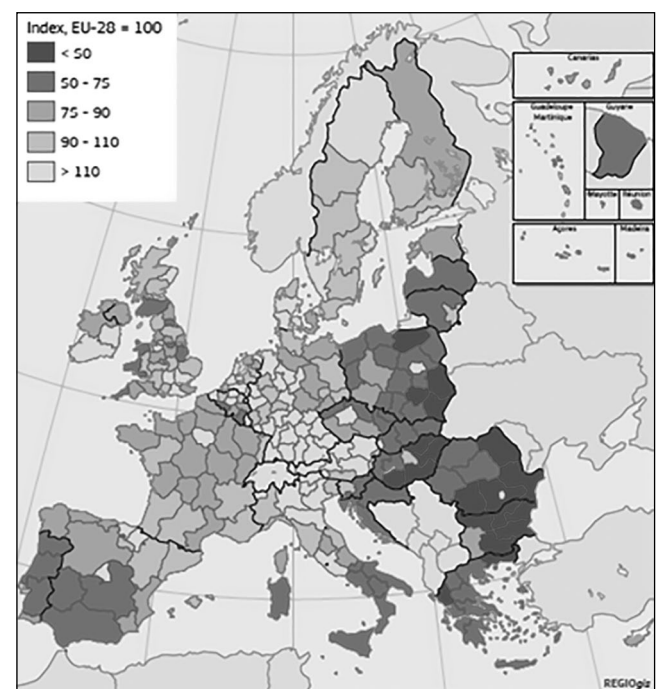
To compare the European regions' performance, we used SPSS to analyse the differences using quantitative analytical techniques. Firstly, regions are grouped based on their economic performance, then we compare the means of innovation variables between performance groups. In the next step, we used cluster analysis to classify regions based on their innovation performance, and finally, the correlation analysis to analyse the relationship between economic and innovation indicators in order to highlight which innovation variables have the strongest effect on economic performance.

Empirical Results

There is a basic assumption in economics that the economic and technological performance are strongly correlated. Firstly, we categorized regions into five performance groups based on the GDP per capita, which reflects the stages of

development. Figure 2 shows this classification, which follows the categorization of RCI. In the first stage of development, the regional GDP is below 50% of the EU-28 average. There are 16 regions, out of 268, in this group that can be defined as falling behind. In the second stage of development, including 67 regions, the regional GDP is at least 50 %, but less than 75% of the EU-28 average. These are the laggards where GDP per capita is less than three quarters of the EU-28 average. In the third stage of development,

Figure 2. The classification of 268 European regions based on their GDP per capita (average 2015-2017) related to EU28 (EU28 = 100%)



Source: Annoni and Dijkstra (2019, p.18)

the regional GDP is at least 75 %, but less than 90% of the EU-28 average. These 55 regions can be called moderately developed. In the fourth stage of development, including 58 regions, the regional GDP is at least 90 %, but less than 110% of the EU-28 average. They can be called developed regions. In the fifth stage of development, the regional GDP is at least 110 % of the EU-28 average. There are 72 regions, out of 268, in this group that are the most developed regions.

Based on the regional GDP per capita, there is one European region, i.e. Luxembourg, whose economic performance is prominently high, because in this country there is only one region. The best performing regions include the capitals of the countries, while the least performing regions are mostly in Hungary, Romania and Bulgaria.

Using the previous classification, we compare the innovation variables of regions' economic performance group. Table 1 contains the mean of innovation variables¹ by regions' economic performance groups.

¹ The description and the source of these variables are in Appendix (Table A1).

Using Kruskal-Wallis test to compare the means of economic performance groups, it can be stated that there is a significant difference between them. These results are found in the Appendix (Table A2). It is not surprising because, in general, the higher innovative activity is associated with the higher economic performance. Therefore, it is worth comparing the groups in pairs as well to highlight which factors can differentiate innovation performance between regions. Using Mann-Whitney U test to compare the means by pairs, it can be stated that there is no significant difference in employment in technology and knowledge-intensive sectors, marketing organizational innovators, innovative SMEs and exports in medium-high/high tech manufacturing between the falling behind and laggards. There is a significant difference in all variables between the laggards and moderately developed regions. There is no significant difference in households' internet access, GVA (K-N sectors), innovative SMEs and sales of new-to-market and new-to-firm innovation between moderately developed and developed regions. The slightest differences are between the developed and most developed regions, because there is a significant difference only in households' internet access, marketing organizational innovators, innovative SMEs and exports in medium-high/

Table 1. Means of innovation variables by regions' economic performance groups

Variables	Falling behind	Laggards	Moderately developed	Developed	The most developed
Households' access to broadband (% of total households)	73.800	79.090	84.527	88.919	89.981
Individuals buying over internet (% of those who ordered goods or services over the internet for private use)	27.133	43.731	62.418	69.170	69.729
Households' internet access (% of total households)	75.000	81.045	87.564	91.463	92.335
Employment (K-N sectors*) (% of total employment)	6.861	9.849	14.440	16.201	17.874
GVA (K-N sectors) (% of total GVA)	16.682	19.120	23.417	24.990	26.305
Innovative SMEs (% of total number of SMEs)	0.123	0.288	0.443	0.505	0.428
Marketing organizational innovators (% of total number of SMEs)	0.139	0.279	0.402	0.444	0.479
Core creative class employment (% of population aged 15-64)	6.038	7.268	8.871	11.290	12.397
Knowledge workers (% out of total employment)	25.826	31.646	38.000	42.617	44.842
Scientific publications (per million inhabitants)	543.487	891.222	1346.186	2023.343	2480.317
Total intramural R&D expenditure (% of GDP)	0.662	0.772	1.255	1.861	2.429
Human Resources in Science and Technology (% of labour force)	28.254	34.020	42.742	46.084	48.796
Employment in technology and knowledge-intensive sectors (% of total employment)	1.962	2.347	3.024	3.789	4.882
Exports in medium-high/high tech manufacturing (% of total product exports)	0.490	0.470	0.574	0.591	0.660
Sales of new-to-market and new-to-firm innovation (% of turnover)	0.242	0.362	0.463	0.461	0.413

Source: own calculations based on RCI (2019)

* K-N sectors mean Financial and insurance activities; real estate activities; professional, scientific and technical activities; administrative and support service activities.

high tech manufacturing. Based on these results, we can conclude that there is a break between the moderately developed and laggards, so the falling behind and laggards can be called innovation followers, while the other three economic performance groups, i.e. moderately developed, developed and most developed, can be called innovation leaders.

Cluster analysis is an adequate method to classify the regions based on their innovation performance. In the previous section, we compared the means, and the results show that there is no convincing difference in innovation variables between the developed and developing regions. Using a hierarchical cluster analysis, it can be stated that two clusters are optimal in this sample. This is confirmed by the previous empirical result, where there is a break between the moderately developed and laggards. In the K-means cluster analysis, there are 56 regions in cluster 1, where all innovation variables are higher than in cluster 2, consisting of 184 regions. 28 regions cannot be classified because of their missing data. Cluster 1 can be called innovation leaders, while cluster 2 are innovation followers. Table 2 shows the final cluster centres of innovation leader and follower groups. The cluster membership of the regions is found in the Appendix (Table A3).

Table 2. The final cluster centres of innovation leader and follower groups

Variables	Innovation leaders	Innovation followers
Households' access to broadband	90.665	84.053
Individuals buying over internet	72.864	56.893
Households' internet access	92.614	86.632
Employment (K-N sectors)	18.834	13.061
GVA (K-N sectors) (% of total GVA)	26.778	22.085
Innovative SMEs	0.527	0.365
Marketing organizational innovators	0.485	0.359
Core creative class employment	13.230	8.902
Knowledge workers	46.150	36.756
Scientific publications	3350.058	1212.084
Total intramural R&D expenditure	2.560	1.334
Human Resources in Science and Technology	50.076	40.195
Employment in technology and knowledge-intensive sectors	4.813	3.076
Exports in medium-high/high tech manufacturing	0.643	0.574
Sales of new-to-market and new-to-firm innovation	0.428	0.416

Source: Own calculations based on RCI (2019)

Table 3. Correlation coefficients between GDP per capita and innovation variables

Variables	GDP per capita
Human Resources in Science and Technology	0.694**
Employment (K-N sectors)	0.691**
Knowledge workers	0.685**
Core creative class employment	0.661**
Employment in technology and knowledge-intensive sectors	0.619**
Households' internet access	0.608**
GVA (K-N sectors) (as % of total GVA)	0.583**
Households' access to broadband	0.559**
Scientific publications	0.553**
Individuals buying over internet	0.543**
Marketing organizational innovators	0.524**
Total intramural R&D expenditure	0.522**
Exports in medium-high/high tech manufacturing	0.395**
Innovative SMEs	0.276**
Sales of new-to-market and new-to-firm innovation	0.160*

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed).

Source: Own calculations based on RCI (2019)

The highest difference between innovation leaders and followers is in scientific publications, which is followed by total intramural R&D expenditure and employment in technology and knowledge-intensive sectors. The slightest difference is in sales of new-to-market and new-to-firm innovation, which is followed by households' access to the internet and households' access to broadband. Based on these results, we can conclude that internet penetration is good in both groups, which creates possibilities to exploit the advantages of the new internet-based technologies.

There are some interesting cases where a low GDP per capita is associated with good innovation performance, while in contrast, there are cases where a high GDP per capita and low innovation performance can be seen. Because of this contrast, we ran a correlation analysis to reveal the relationship between innovation variables and economic performance of the regions. We found that there is a quite strong correlation between GDP per capita and innovation variables; the results can be seen in Table 3.

Based on the correlation analysis, we can conclude that human resources in Science and Technology, employment (K-N sectors) and knowledge workers, meaning human resources indicators, have the biggest impact on innovation and economic performance of the regions.

Conclusion

There are significant differences in income and economic development not only between countries, but also within the countries. These economic inequalities are strongly correlated with the innovation performance of the regions. In the era of the Fourth Industrial Revolution, technological progress creates possibilities for a catch-up, because new technologies require new skills that are less dependent on factor endowments of countries and regions. This research tried to illustrate the regional differences in the conditions of innovation in Europe using multivariate statistical methods. Based on the European Regional Competitiveness Index, the research question to be analysed is whether new technologies may be able to decrease spatial differences. To answer the question, we first classified the regions into five economic performance group based on RCI, i.e. the most developed, developed, moderately developed, laggards and falling behind, and then we compared 15 innovation variables in these groups. There is a significant difference in all variables between poor performing groups and a less significant

difference between well performing ones. Our analysis confirmed a strong relationship between economic and innovation performance, but also highlighted a bigger difference between the regions in innovation than in economic performance. The critical area preventing the reduction of innovation inequalities is creation of new knowledge; if the region can develop its R&D&I activity, it will become an innovation leader. It is promising that the regions converge in the field of human resources, which is the result of the labour market changes. Summarizing our results, we can conclude that regional differences remain in the era of the Fourth Industrial Revolution, but a restructuring of the economic process will occur in all regions regardless of whether the region is an innovation leader or follower, and technological progress will promote economic development.

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Appendix

Table A1. The description and the source of innovation variables

Variables	Description	Source
Households' access to broadband	% of total households with access to broadband	Eurostat ICT Survey
Individuals buying over internet	% of individuals who ordered goods or services over the internet for private use	Eurostat ICT Survey
Households' internet access	% of total households with internet access	Eurostat ICT Survey
Employment (K-N sectors)	Employment in the "Financial and insurance activities; real estate activities; professional, scientific and technical activities; administrative and support service activities" sectors (K-N) as % of total employment	Eurostat
GVA (K-N sectors)	GVA in the "Financial and insurance activities; real estate activities; professional, scientific and technical activities; administrative and support service activities" sectors (K-N) as % of total GVA	Eurostat
Innovative SMEs	SMEs with innovation co-operation activities as % of total number of SMEs	Regional Innovation Scoreboard (RIS)
Marketing organisational innovators	SMEs introducing marketing or organisational innovation as % of total number of SMEs	Regional Innovation Scoreboard (RIS)
Core creative class employment	% of population aged 15-64	Eurostat, LFS
Knowledge workers	knowledge workers as % of total employment	Eurostat, LFS
Scientific publications	Scientific Publications per million inhabitants	Centre for Science and Technology Studies (CWTS) - Leiden University - based on in-house version of Web of Science
Total intramural R&D expenditure	total R&D expenditure as % of GDP	Eurostat, Regional Science and Technology Statistics (RSTS)
Human Resources in Science and Technology	persons with higher education and/or employed in Science and Technology as % of labour force	Eurostat, RSTS
Employment in technology and knowledge-intensive sectors	as % of total employment	Eurostat, RSTS
Exports in medium-high/high-tech manufacturing	Exports in medium/high technology products as % of total product exports: measures the technological competitiveness of the EU, the ability to commercialise the results of research and development (R&D)	Regional Innovation Scoreboard 2017, EC-DG GROW
Sales of new-to-market and new-to-firm innovation	Sales of new-to-market and new-to-firm innovations as % of turnover: it captures both the creation of state-of-the-art technologies (new to market products) and the diffusion of these technologies (new to firm products)	Regional Innovation Scoreboard 2017, EC-DG GROW

Source: RCI (2019)

Table A2. The results of Kruskal-Wallis test

Variables	Chi-Square	Asymp. Sig.
Human Resources in Science and Technology	132.534	0.000
Employment (K-N sectors)	123.183	0.000
Knowledge workers	127.245	0.000
Core creative class employment	128.630	0.000
Employment in technology and knowledge-intensive sectors	83.976	0.000
Households' internet access	121.357	0.000
GVA (K-N sectors) (as % of total GVA)	81.576	0.000
Households' access to broadband	100.339	0.000
Scientific publications	97.194	0.000
Individuals buying over internet	102.652	0.000
Marketing organizational innovators	71.967	0.000
Total intramural R&D expenditure	113.802	0.000
Exports in medium-high/high tech manufacturing	27.595	0.000
Innovative SMEs	55.971	0.000
Sales of new-to-market and new-to-firm innovation	41.721	0.000

Source: Own calculations based on RCI (2019).

Table A2. The results of Mann-Whitney U tests

Variables	Mann-Whitney U and Sig.							
	Falling behind – laggards		Laggards – moderate developed		Moderate developed – developed		Developed – the most developed	
Human Resources in Science and Technology	275.500	0.006	1132.0	0.000	1051.0	0.002	1860.5	0.346
Employment (K-N sectors)	188.000	0.000	749.5	0.000	1197.0	0.022	2002.0	0.787
Knowledge workers	243.000	0.002	895.5	0.000	996.5	0.001	1802.5	0.223
Core creative class employment	205.000	0.000	541.0	0.000	1174.0	0.016	1741.0	0.104
Employment in technology and knowledge-intensive sectors	387.000	0.085	930.0	0.000	1240.0	0.041	1896.0	0.369
Households' internet access	221.000	0.002	929.0	0.000	1230.0	0.126	1543.0	0.038
GVA (K-N sectors) (as % of total GVA)	277.000	0.022	909.0	0.000	1166.0	0.055	1676.0	0.154
Households' access to broadband	279.000	0.009	981.0	0.000	797.0	0.000	1760.0	0.124
Scientific publications	232.000	0.001	834.0	0.000	896.0	0.000	1816.0	0.203
Individuals buying over internet	289.000	0.017	953.0	0.000	897.0	0.000	1722.5	0.087
Marketing organizational innovators	394.000	0.282	906.0	0.000	975.0	0.001	1542.0	0.011
Total intramural R&D expenditure	267.500	0.002	599.0	0.000	1056.0	0.002	1724.5	0.089
Exports in medium-high/high tech manufacturing	300.000	0.113	1034.0	0.002	944.0	0.001	1473.0	0.011
Innovative SMEs	433.000	0.822	1086.0	0.006	1397.0	0.717	1437.0	0.019
Sales of new-to-market and new-to-firm innovation	266.000	0.015	1068.0	0.004	1457.0	0.879	1613.0	0.083

Source: Own calculations based on RCI (2019).

Table A3. The members of the innovation follower cluster

Region	Distance	Region	Distance
Kärnten	657.190	Provence-Alpes-Côte d'Azur	476.881
Steiermark	657.207	Corse	413.365
Oberösterreich	197.391	Jadranska Hrvatska	475.030
Salzburg	197.530	Kontinentalna Hrvatska	138.323
Tirol	197.460	Közép-Magyarország	466.260
Vorarlberg	197.527	Közép-Dunántúl	893.377
Rég. de Bruxelles-Cap./Brussels Hfst. Gew. & Vlaams-Brabant & Brabant Wallon	960.966	Nyugat-Dunántúl	962.231
Hainaut	77.906	Dél-Dunántúl	527.862
Liège	78.259	Észak-Magyarország	1058.599
Luxembourg	77.683	Észak-Alföld	449.588
Namur	78.801	Dél-Alföld	307.640
Severozapaden	1138.700	Northern and Western	222.451
Severen tsentralen	1138.714	Southern	988.086
Severoiztochen	1138.253	Eastern and Midland	729.436
Yugoiztochen	1138.678	Piemonte	182.733
Yugozapaden	584.004	Liguria	905.452
Yuzhen tsentralen	584.763	Lombardia	476.141
Jihozápad	114.289	Abruzzo	432.287
Severozápad	1056.089	Molise	575.496
Severovýchod	528.990	Campania	61.229
Jihovýchod	609.922	Puglia	196.686
Střední Morava	83.648	Basilicata	54.608
Moravskoslezsko	600.530	Calabria	277.668
Stuttgart	295.997	Sicilia	171.569
Freiburg	983.999	Sardegna	81.205
Niederbayern	934.843	Prov. Autonoma di Bolzano/Bozen	250.693
Oberpfalz	363.938	Veneto	311.138
Oberfranken	56.335	Emilia-Romagna	967.655
Mittelfranken	1024.025	Umbria	972.166
Unterfranken	773.620	Marche	46.345
Schwaben	803.886	Friesland	789.293
Darmstadt	567.637	Drenthe	603.403
Kassel	628.712	Overijssel	691.864
Mecklenburg-Vorpommern	660.800	Zeeland	774.430
Hannover	740.291	Noord-Brabant	280.041
Lüneburg	968.643	Małopolskie	441.202
Weser-Ems	577.299	Śląskie	569.732
Düsseldorf	29.414	Wielkopolskie	309.420
Münster	26.494	Zachodniopomorskie	667.886
Detmold	380.936	Arnsberg	41.706
Auvergne	760.655	Koblenz	977.566
Rhône-Alpes	684.313	Saarland	544.879
Chemnitz	450.343	Kujawsko-pomorskie	650.085

Table A3. The members of the innovation follower cluster (continue)

Region	Distance	Region	Distance
Sachsen-Anhalt	251.977	Warmińsko-mazurskie	645.317
Schleswig-Holstein	248.971	Pomorskie	338.752
Thüringen	503.436	Łódzkie	301.078
Sjælland	571.209	Lubelskie	280.820
Attiki	344.722	Podkarpackie	914.990
Kriti	847.632	Podlaskie	522.166
Anatoliki Makedonia, Thraki	529.543	Warszawski stołeczny	310.703
Kentriki Makedonia	116.366	Mazowiecki regionalny	369.935
Thessalia	392.732	Norte	349.270
Dytiki Ellada	480.590	Centro	615.429
Stereia Ellada	1073.428	Alentejo	598.729
Peloponnisos	1058.698	Nord-Vest	498.507
Galicja	179.461	Sud - Muntenia	1147.642
Principado de Asturias	476.347	București - Ilfov	444.442
Cantabria	644.102	Sud-Vest Oltenia	1030.273
País Vasco	687.921	Vest	680.140
La Rioja	100.516	Småland med öarna	332.533
Aragón	760.932	Norra Mellansverige	436.671
Castilla y León	15.556	Mellersta Norrland	477.829
Castilla-La Mancha	482.977	Vzhodna Slovenija	513.351
Extremadura	405.620	Západné Slovensko	967.062
Cataluña	1057.064	Stredné Slovensko	842.214
Comunidad Valenciana	328.561	Východné Slovensko	508.412
Illes Balears	256.044	Tees Valley and Durham	974.680
Andalucía	16.700	Northumberland and Tyne and Wear	974.713
Región de Murcia	202.477	Cumbria	702.086
Canarias	277.380	Greater Manchester	702.349
Länsi-Suomi	980.785	Lancashire	702.134
Centre - Val de Loire	504.079	Cheshire	702.619
Bourgogne	494.609	Merseyside	702.219
Franche-Comté	142.805	East Yorkshire and Northern Lincolnshire	832.831
Basse-Normandie	497.923	North Yorkshire	833.037
Haute-Normandie	504.429	South Yorkshire	832.869
Nord-Pas de Calais	209.396	West Yorkshire	832.990
Picardie	501.252	Derbyshire and Nottinghamshire	512.501
Alsace	127.256	Lincolnshire	512.320
Champagne-Ardenne	494.595	Leicestershire, Rutland and Northamptonshire	512.532
Lorraine	158.712	Aquitaine	269.026
Pays de la Loire	164.606	Gloucestershire, Wiltshire and Bristol/Bath area	728.084
Bretagne	150.464	Poitou-Charentes	136.013
Lubuskie	963.683	Languedoc-Roussillon	425.155
Dolnośląskie	100.542	Midi-Pyrénées	271.783
Opolskie	867.555	Devon	727.731
West Wales and The Valleys	539.182	West Midlands	371.869

Table A3. The members of the innovation follower cluster (continue)

Region	Distance	Region	Distance
East Wales	539.449	Limousin	355.290
Northern Ireland	266.230	Dorset and Somerset	727.801
Shropshire and Staffordshire	371.756	Cornwall and Isles of Scilly	727.688
Herefordshire, Worcestershire and Warwickshire	372.152	Gloucestershire, Wiltshire and Bristol/Bath area	728.084

Table A3. The members of the innovation leader cluster

Region	Distance	Region	Distance
Wien & Niederösterreich	556.399	Lazio	869.280
Burgenland	771.326	Flevoland & Noord-Holland	478.322
Antwerpen	930.443	Groningen	4853.869
Limburg (BE)	930.431	Gelderland	557.876
Oost-Vlaanderen	930.432	Utrecht	3053.473
West-Vlaanderen	930.526	Zuid-Holland	231.477
Praha & Střední Čechy	260.420	Limburg (NL)	213.032
Berlin & Branderburg	446.700	Área Metr. de Lisboa	1002.969
Karlsruhe	696.410	Stockholm	1736.441
Tübingen	180.505	Östra Mellansverige	1600.483
Oberbayern	179.705	Sydsverige	312.084
Bremen	191.190	Västsverige	531.674
Hamburg	107.031	Övre Norrland	2104.937
Gießen	38.656	Zahodna Slovenija	330.830
Braunschweig	395.195	Bratislavský kraj	184.773
Köln	422.771	Inner London West & Inner London East & Outer London East-North-East & Outer London South & Outer London West North West & Bedfordshire/ Hertfordshire & Essex	432.815
Rheinhausen-Pfalz	955.970	East Anglia	705.233
Dresden	246.550	Berkshire, Buckinghamshire and Oxfordshire	517.716
Leipzig	325.820	Surrey, East and West Sussex	517.649
Hovedstaden	3368.177	Hampshire and Isle of Wight	517.394
Syddanmark	1020.458	Kent	517.389
Midtjylland	378.766	North Eastern Scotland	449.858
Nordjylland	235.465	Highlands and Islands	371.050
Comunidad Foral de Navarra	971.849	Eastern Scotland	447.686
Comunidad de Madrid	679.761	West Central Scotland	409.492
Pohjois- ja Itä-Suomi	931.650		
Île de France	603.479		
Provincia Autonoma di Trento	238.680		
Friuli-Venezia Giulia	262.070		
Toscana	859.977		
Southern Scotland	304.874		

Note: There is no cluster membership because of the missing data for: Kýpros; Trier; Eesti; Voreio Aigaio; Notio Aigaio; Dytiki Makedonia; Ipeiros; Ionia Nisia; Ciudad Autónoma de Ceuta; Ciudad Autónoma de Melilla; Helsinki-Uusimaa; Etelä-Suomi; Åland; Guadeloupe; Martinique; Guyane; La Réunion; Mayotte; Valle d'Aosta/Vallée d'Aoste; Sostinès regionas; Vidurio ir vakarų Lietuvos regionas; Luxembourg; Latvija; Malta; Świętokrzyskie; Algarve; Região Autónoma dos Açores; Região Autónoma da Madeira.

Regionalne razlike v pogojih tehnološkega napredka v Evropi

Izvleček

Prostorska struktura sveta je neenakomerna, središča in obrobja se izmenjavajo. Obstajajo znatne družbene in razvojne razlike med državami v svetu ter tudi neenakomeren razvoj znotraj držav. Ključni namen regionalne politike je zmanjšati prostorske neenakosti med razvitimi in nerazvitimi območji. Danes, v obdobju četrte industrijske revolucije, tehnološki napredek ustvarja možnosti, da regije v razvoju nadoknadijo zaostanek, ker nove tehnologije zahtevajo nove veščine, ki so manj odvisne od posedovanja faktorjev držav. Večina gospodarstev je nezmožnih ustvarjati nove tehnologije, ker nimajo primernih virov ali njihovo institucionalno okolje ni naklonjeno novostim. Kljub temu pa je v teh državah s sprejemanjem in učinkovito uporabo novih tehnologij mogoče spremljati tehnološki razvoj. Cilj te raziskave je ponazoriti regionalne razlike v pogojih tehnološkega napredka v Evropi z uporabo multivariatnih statističnih metod. Temelječa na Indeksu evropske regionalne konkurenčnosti, poskuša odgovoriti na raziskovalno vprašanje, ali so nove tehnologije zmožne zmanjšati prostorske razlike. Primerjamo evropske regije na področju inoviranja, da bi izpostavili kritična področja, ki lahko spodbudijo ali preprečijo zmanjšanje neenakosti.

Ključne besede: regionalne razlike v Evropi, tehnološki napredek, inovacijski vodje, inovacijski sledilci

Ageing Entrepreneurs and Business Transfer Challenges in Croatia

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Abstract

Business transfer as a research topic awakened the interest of researchers in the past few decades. Business transfer is defined as a change of ownership of any firm to another person or legal entity assuring the continuous existence and commercial activity of the enterprise, and it encompasses different kinds of transfers both to family and non-family members. Ageing and consequently retirement are often mentioned as the reasons for entrepreneurs' exits from the companies and intention to initiate the business transfer process. A successful business transfer process is one of the key prerequisites for long-term sustainability of small and medium-sized enterprises. There is a significant number of ageing business owners in Croatia who will exit their companies in the coming years. Considering the number of these entrepreneurs and the influence their exits can have on company stakeholders and national economy in general, it is of great importance to better understand the factors that can influence the choice of their exit strategies. The aim of the paper is to provide an understanding of the dilemmas that the ageing entrepreneurs face when considering different exit modes. The data for the study was collected through in-depth, semi-structured interviews conducted with six ageing business owners. The analysis of the interviews enabled the identification of the challenges that ageing entrepreneurs face in the business transfer process: emotional attachment to the firm, strong preference for family succession and concerns about financial security after retirement. Some of these challenges are a result of the undeveloped business transfer ecosystem, strong tradition and cultural values that imply family succession as the only acceptable exit strategy for retiring company owners in Croatia.

Keywords: business transfer, entrepreneurial exit, ageing entrepreneurs, SMEs, business transfer ecosystem

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Introduction

The SME business transfer as a research topic awakened the interest of researchers in the past few decades. Business transfer is defined as a change of ownership of any firm to another person or legal entity assuring the continuous existence and commercial activity of the enterprise when more than 50% of assets or shares are transferred (Van Teeffelen, 2010). The definition of business transfer encompasses different kinds of transfers both to family and non-family members. Ageing and consequently retirement are often mentioned as the reasons for entrepreneurs' exits from the companies and initiating business transfer processes. Ageing, in general, is considered to be one of the greatest social and economic challenges of the 21st century in Europe. The proportion of people aged 65 or more is expected to increase from 19.8% in 2018 to around 31.3% by 2100 (Eurostat, 2019). The ageing of the European population also translates into the ageing of the European entrepreneurs impacting the transfer of enterprise ownership but also employment and growth prospects (Varamäki & Viljamaa, 2014). A macroeconomic study in the Netherlands showed that, in 2011, nearly 10% of all SMEs either liquidated or were up for sale, mainly for retirement reasons (Van Teeffelen & Uhlaner, 2013).

Because of the high rate of risk in the implementation of the business transfer process in SMEs, the European Commission has been monitoring the quality of national business transfer ecosystems in EU member countries for the last 25 years, providing recommendations to policy makers for the improvement of support programs for entrepreneurs facing business transfer challenges (e.g. European Commission, 2011; 2013).

The issue of business transfer is particularly important for post-socialist economies in Europe, in which the transition to a free-market economy in the early 1990s encouraged the launching of a significant number of entrepreneurial ventures. Nearly three decades later, first-generation entrepreneurs who started businesses in the 1990s have reached the age when they should plan for retirement, and thus make a decision about the future of the company after their withdrawal from the business. Unlike developed countries, which have a long tradition of entrepreneurship and private ownership, post-socialist countries in Europe are facing the first major wave of entrepreneurial exit and transfer of businesses. Despite the importance of this topic for national economies, challenges faced by first-generation entrepreneurs and level of development of the business transfer ecosystem are still an under-researched topic. One of the first academic contributions to addressing the specificity of issues related to family business succession in the transition economies was done by Dana and Ramadani in 2015 as editors of the book "Family Businesses in Transition Economies – Management, Succession and

Internationalization." The contributions for this edition came from authors from Slovenia, Bulgaria, Moldova, Croatia, Macedonia, Czech Republic, Slovakia, Russia, Serbia and Kosovo, but with a rather heterogeneous approach to the topic.

The issue of business transfer is becoming increasingly important in Croatia. Based on the Business Transfer Barometer Croatia (BTBC) research in 2015 conducted by CEPOR – SMEs and Entrepreneurship Policy Centre – the share of enterprises whose owners are 55 years old or older in Croatia amounts to 31% of the total number of enterprises, with a share of 16.1% in the total number of employees in legal entities, and a share of 18.9% of the total income generated by legal entities (Alpeza et al. 2015, 15). Based on the results of this research, it was estimated that more than 5300 enterprises in Croatia, with about 57,000 employees, represent a risk group where owners underestimate the complexity and length of the business transfer process. This can have significant negative implications for those firms, their owners as well as a wide network of stakeholders – employees, firm owner's family members, suppliers, customers, banks, local business environment and the national economy in general (European Commission, 2002; 2011). The aim of this paper is to provide a deeper understanding of the challenges and dilemmas the ageing entrepreneurs are facing when considering different business exit modes in Croatia, a country with an undeveloped business transfer ecosystem (Viljamaa et al., 2015). The research results provide a basis for revisiting the policy recommendations for supporting the SME owners in the business transfer process created in 2015 by CEPOR: launching of awareness raising activities, development and co-financing of advisory services, defining and supporting the development of family entrepreneurship, promoting and co-financing business takeover, and developing of virtual matching services for sellers and buyers of SMEs.

Literature Review

Exploring the business transfer challenges of ageing entrepreneurs requires a deeper insight into the previous research results in the field of entrepreneurial exit, business exit strategies, ageing and retirement of entrepreneurs.

Entrepreneurial exit is the important phase of the entrepreneurial process (DeTienne, 2010). In spite of this fact, most of entrepreneurship research but also policy attention and supporting programs so far have been focused on new venture creation and growth of the company and little attention has been given to entrepreneurial exit.

Research and theory on entrepreneurial exit focus mainly on two units of analysis: individuals and firms (Aldrich

2016, 11). When firms represent the units of analysis, exits can be analysed at several levels – exits of founders and founding teams, new ventures, new populations and the aggregation of populations at the level of the total economy. When individuals are taken as the unit of analysis, researchers focus on the founders of the entrepreneurial ventures, but also owners who may not necessarily have founded the business (Aldrich 2016, 11). The focus of this paper is on the individual level of analysis, rather than the firm. In that context, entrepreneurial exit is defined as the process by which the founders of privately held firms leave their companies, thereby removing themselves, in varying degrees, from the primary ownership and decision-making structure of the firm (DeTienne, 2010). A better understanding of entrepreneurs' challenges in this process is of great importance. According to Sarasvathy (2004), entrepreneurship researchers' attention needs to be focused on understanding entrepreneurs' point of view.

Compared to business transfer, which refers in its definition to change of ownership only, entrepreneurial exit encompasses two dimensions, namely entrepreneur's withdrawal from both ownership and (key) management role in a company. However, the study of entrepreneurial exit needs to be incorporated into the study of business transfer since predecessors play the key role in the business transfer processes. Business transfer as a concept includes the sustainability of the company, which tends to be one of entrepreneurs' biggest concerns when considering different exit options (Alpeza et al., 2015). There are several different exit options for entrepreneurs to consider when leaving their companies, including family succession, sale to individuals or other companies and liquidation (Deschamps, 2012). It is important to understand why entrepreneurs choose different exit strategies. DeTienne and Chandler (2010) state that the length of time required to complete the entrepreneurial exit process from the company is directly related to the complexity of the business and the circumstances underlying the decision to exit. Also, there is a variety of personal and organisational factors that can influence the time and the way the entrepreneur will exit the company (Delmar et al., 2006; Taylor, 1999). Taylor's study (1999) shows that entrepreneurs' personal factors related to entering the entrepreneurial venture affect how the entrepreneur is going to exit from the business. DeTienne and Cardon (2010) showed that variables such as age, education level and industry experience influence entrepreneurs to pursue different exit paths.

Ageing and closing to retirement age are unavoidable triggers for business transfer (European Commission, 2002, 2011; Van Teeffelen & Uhlaner, 2013; Koładkiewicz & Wojtyra, 2016). However, there are also some other reasons that can stimulate entrepreneurial withdrawal from the business, such as change of profession and personal interests, willingness to start another entrepreneurial venture, changes in the business

environment that require significant changes in the business model that the entrepreneur is not capable or willing to introduce or incidental situations, like divorce, illness or death.

Some of the researchers link retirement to the development of strong emotions, such as fear, anxiety or uselessness (Feldman & Beehr, 2011). Emotional attachment can prevent a positive exit outcome (Van Teeffelen, 2012) and delay or postpone transfer of business (e.g. Lansberg 1999; Sharma et al. 2001), especially in family businesses where it is identified as the major obstacle to successful transfer (Sharma et al., 2003). Some of the researchers highlighted the existence of psychological barriers to business transfers, such as fear of mortality, fear of nothingness and losing a part of the identity, prejudice against succession planning and distrust of the successor (Lansberg, 1988; Steingold, 2012; Flören & Nandram, 2007, Van Teeffelen et al., 2011; Weesie, 2017), and only recently the coping strategies to those barriers in context of business transfers were further explored (Weesie, 2017). Based on his research, Weesie concluded that between passive and active coping styles, entrepreneurs will dominantly use passive style, such as denial, focus on and venting of emotions or substance use. Soleimanof et al. (2016) use the theory of planned behaviour to build the conceptual model linking retirement intentions to exit effort and strategy. The developed model indicates that "retirement intentions are a key factor influencing exit effort and its interactions with exit strategy."

As previously mentioned, the study of entrepreneurial exit is closely linked to the study of business transfer. This fairly new phenomenon was introduced in 1980s through the issue of business succession planning, primarily by researchers focused on family entrepreneurship. Family business researchers addressed the issue of succession planning as one of the most important reasons why many first-generation family firms do not survive their founders (e.g. Lansberg, 1988). In the 1990s, researchers continued to focus on family business and the issue of succession and survival through the creation of models of succession determinants (Morris et al., 1997), and, in the 2000s, through the creation of integrative models of the succession process (Le Breton-Miller et al., 2004). Family succession seems to be the most studied exit strategy of entrepreneurs (e.g. Lansberg, 1988; Bennesen et al., 2007). According to the existing evidence, family succession accounts from around 15% to 35% of businesses transfer processes, and the numbers have been declining (CSES, 2013).

Business transfer and exit preferences of entrepreneurs have been researched in Croatia through the already mentioned Business Transfer Barometer research. In this research, the main identified challenges among entrepreneurs are related to maintaining harmonious relations within the family while going through the business transfer process

and identification of sources of income after the withdrawal from the company (especially in family succession cases). The same research also indicated a low level of understanding of the complexity of business transfer among Croatian entrepreneurs and a difficulty in identifying the professionals whose expertise might be helpful in coping with the business transfer challenges, especially in the micro and small business sector. This finding was also mentioned as a weakness of the Croatian business transfer ecosystem in the analysis of business transfer ecosystems of five European countries (France, Spain, Finland, Sweden and Croatia) conducted by Viljamaa et al. in 2015. The same authors found that legal and tax regulations are the only favourable components of the Croatian business transfer ecosystem that do not present a barrier for business transfer processes. Other parts of the business transfer ecosystem, as identified by Van Teeffelen (2010), namely sellers, buyers, financial institutions, advisors, market and economic conditions and tax regulations, according to Viljamaa et al. (2015), are still undeveloped in Croatia, representing more an obstacle than the supporting factor in business transfer processes. Lack of adequate sources of financing and government subsidy programs for business takeover, scarcity of professional advisory expertise related to business transfer for micro and small business owners and lack of online matching platforms that would facilitate the establishing of contacts among sellers and buyers of SMEs represent the biggest differences of the Croatian business transfer ecosystem compared to the situation in more developed European countries (Alpeza et al., 2018).

Methodology

For the purpose of exploring the ageing entrepreneurs' challenges and dilemmas when considering different exit strategies, the case study method was applied. The case

study method was chosen because while it is descriptive in its essence, it enables the understanding of the dynamics that exist within a single setting and the explanation "why" behind the decisions and relationships (Yin, 2014; Eisenhardt, 1989). The purposive sampling method was used for the selection of cases. Eisenhardt (1989) argues that the selection of an appropriate population controls extraneous variation and helps to define the limits for generalizing the findings. Six small business owners aged 55 years or older from four companies who attended at least one business transfer awareness raising event were selected as a sample in this research. They were chosen because they were already familiar with the concepts of exiting the company and business transfer. Another reason was that the participation at the awareness raising event encouraged them to think further about exiting the company and, at the same time, about the future of their companies once they have withdrawn from it.

The selected owners were company founders with both ownership and managerial role in their companies. The sample included owners who have family members (children) involved in their business as well as those who do not. The general information about the interviewed ageing owners and their companies is presented in Table 1.

The case studies in this paper were built based on qualitative data collected through in-depth, semi-structured interviews and observations by two researchers working as a team. One of the researchers was handling the interview questions and the other was responsible for recording the interviews and observing the interviewees' reactions. As suggested by Eisenhardt and Bourgeois (1988), this approach enables the interviewer to establish the perspective of personal interaction with the interviewee, while the other researcher retains a different, more distant view. Semi-structured interviews enabled researchers to ask the owners a standard set of questions but also probe the

Table 1. Sample of companies with ageing entrepreneurs

Interviewees	Case	Entrepreneur's age	Company founding year	Industry	Number of employees	Number of children/number of children involved in company operations
IN1	A	59	2003	Food processing industry	6	3/all involved in some way
IN2	B	64	1996	Engineering	30	3/not involved
IN3	C*	56	1989	IT industry	6	1/not involved
IN4	C*	64	1989	IT industry	6	1/not involved
IN5	D*	61	1997	Specialied retail shop	3	3/1 involved
IN6	D*	65	1997	Specialized retail shop	3	3/1 involved

*Companies described in case C and D have multiple owners. Company in case C has 4 co-owners – 2 of them were interviewed. Company in case D has 2 co-owners, who were both interviewed for the purpose of this research.

Source: Own transcripts of interviews.

interviewee for additional details. In the in-depth interviews helped to gain a better understanding of the decision-making process in the pre-transfer phase and determine the factors that influence the business owners in considering different exit modes. The interviews lasted between 80 and 120 minutes, and were conducted between October 2016 and January 2017 on the premises of CEPOR – SMEs and Entrepreneurship Policy Centre – that organized the awareness raising workshops about business transfer challenges in which the interviewees participated.

The interview protocol consisted of two major parts. In the first part of the interview, the entrepreneurs were asked to talk about their entrepreneurial path and the companies they had created. The initial questions asked by the interviewer were: *How did you start the business? How long have you been running the business? How is the business operating today?*

In the second part of the interview, the participants were asked about the future of their company with the following initial questions: *What do you think will be the future of your company after you retire? How would you like to exit your company? What is your exit strategy?*

During the interview, additional questions were asked based on the information obtained from the interviewee. An adjustment of the data collection instrument was expected, which was the main reason why semi-structured interviews were chosen as the data collection method. These adjustments allow researchers to be flexible and take advantage of special opportunities which may present themselves in any given situation during the interview (Harris & Sutton, 1986).

The multiple case study method enabled an in-depth analysis of each case as a stand-alone entity, as well as the searching for cross-case patterns in order to generalize the findings (Bourgeois and Eisenhardt, 1988). The analysis of the research results included a comparison between theory and data for the purpose of enhancing the internal validity and generalizability of the research results. The research conclusions were compared to the results and policy recommendations of the Business Transfer Barometer Croatia.

Results and Discussion

The information gathered from the first part of the interview, where the interviewees (IN1, IN2, IN3, IN4, IN5 and IN6) were asked to describe their entrepreneurial path, provided background information about the business owners and their companies (Case A, B, C and D).

Case A describes a situation of a small business managed by a 59-year-old owner who established the business 15 years ago. The company produces different kind of cakes sold through B2B and B2C channels and employs six people. The owner invested years in building a reputable business. Profit made by the company has been reinvested in new equipment and operation processes each year. The business owner's three children are involved in company operations. The oldest daughter is formally employed in the company. The other two children are not formally employed, but they would like to be more involved in business operations. The oldest daughter, who has finished high school, has the administrative job within the company and occasionally helps in production if the number of orders requires it. The middle daughter, who has a business school degree, has a good position in a bank, although she is thinking about leaving it after maternity leave and joining the family business. The owner's youngest son is a pastry chef and would also like to join the business. He is the one who has ideas about new products that the company could introduce to its customers. The owner is close to her retirement age and she has been thinking for some time about exiting the company and transferring the business to her children. Besides keeping a harmonious relationship among her family members, the owner is concerned about finding the best solution for her retirement. She expects to have additional sources of income from the company, besides her pension, which she expects to be very low and not adequate for a good standard of living, that she would like to have once she retires. The additional source of income, next to her pension, she believes should be calculated based on the value of the company whose ownership she plans to transfer to her children.

Case B illustrates the situation of a 64 year-old engineer and owner of a company specialized in electrical power engineering. The company has been successfully operating for the past twenty years and, in that time, it has gained respect among its customers and business partners. The company conducts business on the domestic market in Croatia, the European Union and eastern and southeast Asia. The business has been very profitable, especially in recent years. The owner has three grown up daughters who have all chosen different career paths and are not interested in continuing their father's business. The company has 30 employees, mainly engineers. retirement and wish to pursue a less stressful lifestyle made the owner think about the possible exit strategies. The owner has already discussed his intention to exit the business with his key employees and offered them to take over the company. None of the engineers are willing to take the company for two reasons: firstly, they are not willing to take over the risk of running the business and secondly, they lack financial resources required to buy the company. This situation puts

the owner in a position where he has to think about selling the business to an external person or another company as his exit strategy.

Case C describes the situation of an IT business run by four partners (two married couples) who founded the business almost thirty years ago. Three of the founders have informatics engineering degrees and one of them has a business school degree. The company has developed its own accounting software and gained a significant number of clients throughout the years. In the mid-1990s, after the company was founded, the market was rapidly expanding and requiring specialised accounting IT solutions. At that time, the company experienced a fast revenue growth. In recent years, due to rapid changes in technology development and lack of initiative and knowledge of company co-owners, the company has not been capable to keep up with the competition and has experienced a decline in its revenue. The four company owners have started thinking about retirement and the future of their company. Each couple has one child and they are not involved in the business. Both children have recently graduated and, at that time, they have chosen different career paths. Besides the four owners, who are employed in the company, the company has two other employees who lack the required skills and knowledge to take over the business. The owners are currently considering their exit options. The main company product needs to be innovated, which requires knowledge, time and energy that owners do not have. If the owners do not have the capacity to innovate the software, they will lose their customers even before they retire.

Case D illustrates the situation of a small specialised shop selling orthopaedic products which is owned by a married couple. The owners are ageing entrepreneurs who started the business twenty years ago by selling orthopaedic shoes and different kinds of orthopaedic equipment. The company is also the exclusive importer for several reputable orthopaedic footwear brands sold in their store. The owners have gained customers' trust by offering high quality products and an individual approach to customers. The current owners were running the business by themselves. Last year, their daughter joined the family business. She has shown great passion for work as well as an interest in expanding the business. The owners also have two more children who are not involved in the business and have chosen different career paths. Both owners see their daughter as the potential successor but, at the same time, they are concerned about maintaining good family relations and gaining additional sources of income once they retire, next to their pension which they expect to be very low.

The analysis of the in-depth interviews conducted with six ageing business owners considering different exit

strategies enabled a deeper insight into the challenges these entrepreneurs face. One of the challenges identified is their emotional attachment to the businesses they have created, which was already identified in the previous research (Sharma et al, 2003; Feldman and Beehr, 2011; Van Teeffelen, 2012, Weesie, 2017). A further analysis of the data collected through the interviews and observations in this research identified the main causes and fears influencing a high level of emotional attachment to the business as well as the consequences of such behaviour.

Fear of identity loss

Running a business is a way of life for the interviewed entrepreneurs, and they believe that business success depends on their involvement. They have closely connected their lives with their companies, and they fear losing their important position within the family as well as the community after they withdraw.

- *"We have been living with this business all of our working life... it is our way of life."* (IN3 and IN4)
- *"I am facing the most important decision in my working life and the life of the company. If I decided to liquidate the company... I cannot come in and say that we are closing the operations next month... some of the projects are in their beginning stage, some are near their completion, and I have thirty people employed in my company."* (IN2)
- *"We love the business we created and the relations we have built with our customers."* (IN5 and IN6)
- *"I am the owner of the business, but at the same time, also the manager. I know the soul of this business."* (IN2)

Fear of losing financial security after leaving the company

Due to low pension levels in Croatia, Croatian entrepreneurs face the challenge of low standard of living once they retire. This is also supported by previous research, which showed that more than 70% of entrepreneurs who are close to their pension would need additional financial resources once they retire (Alpeza et al., 2015). The average pension in Croatia ranged from EUR 330 in 2014 to EUR 360 in 2018 (Croatian Pension Insurance Institute, 2019). For most entrepreneurs, therefore, their personal income, coming from the profits generated by the company's future operations (if they transfer it to their children), represents an important additional financial resource for their retirement. The emotional attachment (although often considered as unreasonable) is rooted, in some of the cases, in their actual concerns as to their future financial security

which depends on how well the company will perform in the future. Most of the entrepreneurs prefer family succession because they believe it is the best way to secure theirs and their family members' future wellbeing.

- *"I think I need to secure the working position for both of my children who are not working in the company at this moment."* (IN1)
- *"We are thinking about retiring and transferring the business to one of our daughters... we are afraid that we are not going to have sufficient financial resources after our retirement... Our daughter does not have the means to buy the business from us... and there is no credit line to support her."* (IN5 and IN6)

Family succession as a preferred exit option

A further data analysis indicated entrepreneurs' strong preference for family succession even though their children might have already chosen different career paths.

- *"I want to retire and what I would like to do is to give the business to my children, but I keep wondering if it is better to transfer the business to one of them or all three of them? In my opinion, the best solution is to have one person as the owners of the company, but they are all my children."* (IN1)
- *"As we see it, there are three options for us... one is to liquidate the company, another is to transfer the ownership to someone younger and a third option is to talk to our children... We could liquidate the company... but it would be a shame to lose everything we have created... We would like to give the company to our children."* (IN3 and IN4)
- *"Our children have been living with this company ever since their birth, they have all the relevant information, but they have different preferences now... we see them as potential successors."* (IN3 and IN4)

Postponing the business transfer process

The interviewed entrepreneurs are late in planning their business transfer, mostly because they rely too long on waiting for family successors to make their decision about taking over the family business, or because they are uninformed about the complexity and longevity of the business transfer process.

- *"We started to think about how we are getting old and we should think about retiring... We should have thought about it earlier while there was still time... but, at that moment, we enjoyed it so much."* (IN3)

Previous research on business transfer emphasizes that preparation and planning of business succession is

important for ensuring successful transfer and continuity of the firm (Le Breton-Miller et al., 2004; Ip and Jacobs, 2006). Proper and timely preparation enables addressing all the important questions related to the transfer. It also enables all relevant parties to have enough time to either withdraw from or grow into the business (Hytti et al., 2011).

Low level of preparedness for business transfer is a result of entrepreneurs' lack of knowledge and experience on the level of development of the business transfer ecosystem that should provide support in the implementation of the entrepreneur's chosen exit strategy. Entrepreneurs are not familiar with company valuation methods and have no information on the potential consultants providing that kind of expertise for micro and small companies.

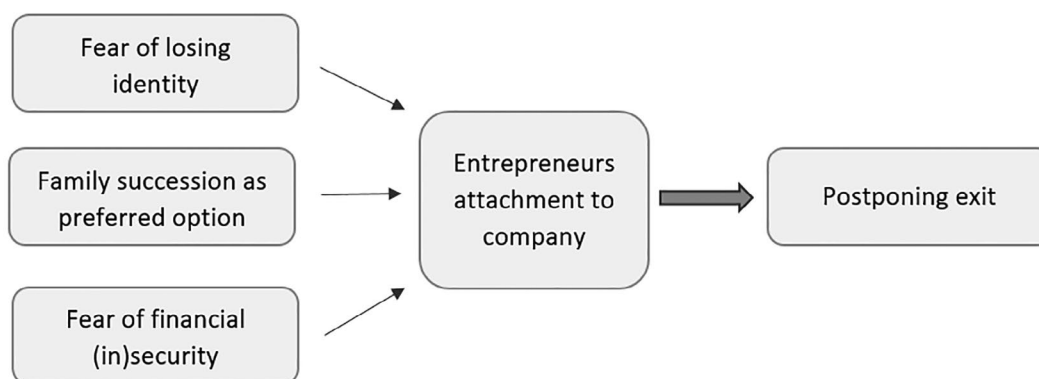
- *"Planning my exit is a current issue for me... If you want to sell something, it is also important to know what you are selling. You have some assets and some know-how... I don't know the value of my company and I need a person or a broker who could help me find the buyer... A broker with access to the market."* (IN2)

Another issue that entrepreneurs face is lack of financial services directed toward potential buyers.

- *"If I ask my employees to buy my company, I need to offer them a solution... Not wanting to buy the company for personal reasons is one thing, and wanting to buy but not having the means to buy it is another."* (IN2)

All of the above findings are in line with the previous research. An additional finding that was identified is the pressure put on entrepreneurs in Croatia to give their company to their children without any financial compensation. This approach in family succession is customary in Croatian culture and tradition. In this case, a strong cultural legacy affects the owner's decision in choosing the exit strategy. For the majority of entrepreneurs in Croatia, the pension level is too low, therefore the income from the company profits (in case of family succession) or company's sale (in case of selling the company) is the solution for the entrepreneur's financial wellbeing. It can be concluded that entrepreneurs' attachment to their companies is influenced by his or her fear of losing identity, fear of financial (in)security and family succession as a preferred option, which leads them to postpone their exit from the company (Figure 1).

Cultural aspects of entrepreneurial exit and business transfer yet remain to be further studied. DeTienne (2010) states that there are many different cultural aspects of entrepreneurial exit across the world and points out that research into cross-cultural entrepreneurial exit is necessary to better understand the processes, similarities and differences, inviting authors to further research.

Figure 1: Factors influencing Croatian entrepreneurs to postpone their exit from the company

Source: Analysis of interview transcripts.

Conclusion

There is a significant number of ageing business owners in Croatia who will exit their companies in the coming years; almost one third of SMEs in Croatia are owned by owners who are 55 years and older. Considering the number of these entrepreneurs and the influence their exits can have on company stakeholders and national economy in general, it is of great importance to better understand the dilemmas they are facing when considering different exit strategies. The analysis of the interviews conducted with small business owners who are in the process of planning their exit strategy helped to identify the key challenges they face. The interviewed entrepreneurs show a strong emotional attachment to the firm that is even more pronounced with those entrepreneurs whose children are involved in the business. It was also found that the entrepreneurs have a strong preference for family succession even though their children might have already chosen different career paths. The entrepreneurs included in this research expressed their concerns about their financial security once they retire but, at the same time, due to cultural pressure, do not consider selling their company to their children as external buyers as an equally possible option as family succession without a financial compensation. Related to the previous findings, entrepreneurs are late in planning the business transfer, mostly because of relying too long on family successors. Additionally, they lack knowledge and experience in company valuation methods and have no information on the potential consultants providing that kind of expertise for micro and small companies.

Some of these challenges are contextual and the result of the undeveloped business transfer ecosystem and strong tradition and cultural values imposing family succession as the only dignified exit strategy for retiring company owners. Therefore, entrepreneurs often rely persistently on family succession as an exit strategy. In a situation when

this strategy does not prove to be the right one, they have difficulty in changing the exit strategy due lack of time and channels that would link them with potential buyers. All of these findings were already addressed by the policy recommendations developed by CEPOR – SMEs and Entrepreneurship Policy Centre – in 2015. The most relevant action, based on this research, should be conducting awareness raising activities, targeting entrepreneurs, company stakeholders and wider public in order to develop the understanding of the challenges SME owners are facing when planning the business transfer. Company owners, stakeholders and the wider public should be open and flexible to accept non-family transfers as important exit strategies.

The results from this research contribute to a better understanding of the rationale and factors influencing ageing entrepreneurs when considering different exit strategies. A better understanding of the decision-making process of ageing entrepreneurs in the pre-transfer phase can contribute to creating and improving business transfer support policies. Evidence-based business transfer policies can contribute significantly to creating a fostering business transfer ecosystem and ensure the survival of small enterprises as well as safeguard the jobs which depend on them. Furthermore, the results can be useful to advisors in approaching and consulting ageing entrepreneurs in the preparatory phase of the business transfer process.

The limitations of this research lie in the limited number of interviews and in the fact that the research was conducted in a country with an undeveloped business transfer ecosystem, which influences the possibility of a wider generalization of the research results. Further research should provide a comparison of the research results from a country with a developed business transfer ecosystem in order to identify the influence of the culture and level of development of the national business transfer ecosystem on the identification of exit options of the entrepreneur.

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Starajoči se podjetniki in izzivi prenosa posla na Hrvaškem

Izvleček

Prenos posla je kot raziskovalna tema pritegnil raziskovalce v preteklih nekaj desetletjih. Prenos posla definiramo kot spremembo lastništva katerega koli podjetja drugi osebi ali pravni entiteti, ki zagotavlja kontinuiran obstoj in komercialno aktivnost podjetja ter obsega različne oblike transferjev tako družini kot tudi nedružinskim članom. Staranje in posledično upokojevanje se pogosto omenjata kot razloga za izstop podjetnikov iz podjetij in za namero začetka procesa prenosa posla. Uspešen proces prenosa posla je eden izmed ključnih predpogojev za dolgoročno trajnostnost malih in srednje velikih podjetij. Na Hrvaškem obstaja znatno število starajočih se lastnikov podjetij, ki bodo v prihodnjih letih izstopili iz svojih podjetij. Upoštevajoč število teh podjetnikov in vpliv, ki ga lahko ima njihov izstop na predstavnike interesnih skupin podjetja ter na nacionalno gospodarstvo kot celoto, je velikega pomena, da bi bolje razumeli dejavnike, ki lahko vplivajo na izbiro njihovih izstopnih strategij. Cilj članka je zagotoviti razumevanje dilem, s katerimi se soočajo starajoči se podjetniki, kadar razmišljajo o različnih oblikah izstopa. Podatke za študijo smo avtorji zbirali z globinskimi, polstrukturiranimi intervjuji, ki smo jih izvedli s šestimi starajočimi se podjetniki. Z analizami intervjujev smo identificirali izzive, s katerimi se soočajo podjetniki v procesu prenosa posla: čustvena navezanost na podjetje, močno dajanje prednosti družinskemu nasledstvu in skrb za finančno nasledstvo po upokojitvi. Nekaj od teh izzivov je rezultat nerazvitega ekosistema prenosa posla, močne tradicije in kulturnih vrednot, ki nakazujejo družinsko nasledstvo kot edino sprejemljivo izstopno strategijo za upokojene lastnike podjetij na Hrvaškem.

Ključne besede: prenos posla, podjetniški izstop, starajoči se podjetniki, mala in srednje velika podjetja, ekosistem prenosa posla

The Model M Method and Its Contribution to a Socially Responsible Society

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Abstract

Model M means being young and being a role model for others in finding innovative employment or creating one's own employment, and thus becoming and remaining an active citizen. In years 2012-2018, IRDO – Institute for the Development of Social Responsibility – implemented the project Model M Slovenia. The project started in the Podravje region, in years 2012-2014, with a small amount of money invested by the local community (The City Municipality of Maribor). Later (in years 2016-2018), it became a nation-wide Slovenian project funded by the EU's Social Fund and the Republic of Slovenia. The purpose of the project was to empower youth with training, networking, counselling and active participation in the society to create their own models of success. In this paper, we present the Model M method (MMm) that we have developed through the Model M Slovenia project and its social impact on the employment of youth in Slovenia. With the Social Return on Investment (SROI), a method for social impact measurement, we present how the funds invested in the local pilot project were later multiplied tenfold on a national level within the project Model M Slovenia. The originality of the MMm, as presented in this paper, is in its requisitely holistic approach to youth training in terms of personal and social responsibility. The MMm is accelerating the (self)employment of youth and other unemployed persons. The MMm was created by a team of business practitioners and social responsibility researchers. Their aim was to practice and develop social responsibility, interdependence and requisitely holistic approach as a systemic behaviour, suggested by the global humankind in the ISO 26000 guidance standard.

Keywords: project Model M, youth, employment, social return on investment, impact measurement, social responsibility, socially responsible society

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Introduction

The global socioeconomic crisis broke out in 2008 and, at that time, humanity announced to the highest global authorities: humans must activate social responsibility as a way out of the crisis (ISO, 2010). The ISO 26000 guidance standard for social responsibility provides all life practices, summarized in seven topics and with their essence expressed under three items (ISO, 2010):

- (1) Everyone's responsibility for influencing people and nature,
- (2) Interdependence,
- (3) Holistic approach.

In ISO 26000, social responsibility is supported by seven principles that match the required characteristics of people and organizations.

Social responsibility always and everywhere prevents many problems and costs. Most literature on social responsibility deals with organizations, not with society (Collins, 2005; Medvedeva & Umpleby, 2015; Bohinc, 2017). A review of the Slovenian and international literature and lessons learned about the given practice has shown that neither Slovenia nor the rest of the world yet have the political economy of a socially responsible society. The first step in this direction is the book by M. Mulej et al. (2019).

According to the OECD Economic Survey for Slovenia, an EU Member State, in 2017 (OECD, 2017), its economy is experiencing a strong recovery after a prolonged period of low growth following the international financial and domestic banking crises. The current economic prosperity reflects a combination of recent structural reforms, business restructuring, supportive monetary conditions and improved export markets. The downsides include unemployment consisting increasingly of low-skilled and older workers who are unable to fill in the emerging labour shortages. In addition, long-run growth prospects are hindered by a rapidly ageing population and low productivity growth, partly linked to product market issues. The OECD 2017 Survey makes key policy recommendations to secure fiscal sustainability through pension and health care reform. In addition, the Survey recommends measures to enhance economic growth by boosting investment incentives in human and physical capital. Such investments will improve the skills and adaptability of the Slovenian workforce and promote competitive organizations, fostering faster productivity growth and higher living standards for all Slovenians by ensuring more inclusive growth. This includes young people with degrees and poor knowledge about finding or generating their jobs.

The youth unemployment rate (OECD, 2019) is the number of unemployed 15-24-year-olds expressed as a percentage of

the youth labour force. Unemployed people are those who report that they have no jobs, seek jobs and have taken active steps to find a job in the last four weeks. In Slovenia, this rate was 8.8% in 2018 (15.3% in 2016) of youth labour force, and 15.2% in EU (28 countries) (18.7% in 2016). According to these figures, Slovenia worked well on supporting projects and programmes for reducing youth unemployment.

The Model M Slovenia project with its Model M method (MMm) refers to a holistic approach to reduce youth unemployment. It makes an interesting contribution to the development of a socially responsible society by supporting and raising the employment capability of young people with degrees and no jobs. The MMm is a practical outcome of fifteen years of efforts made by IRDO – Institute for the Development of Social Responsibility – including 14 international conferences and over 20 books with contributions by over 1000 authors from around the world (IRDO, 2018). The main purpose of the paper is to present the method that we have created through the Model M Slovenia project called Model M method.

The research presented here describes how this project, as one of the EU supported projects in Slovenia, helped young people find their jobs faster and the impact of this approach on the society.

The research questions were: (1) What kind of holistic approach could help young people become (self-)employed as soon as possible? and (2) What could be the new method for reducing youth unemployment?

In our research, we analyze the case of the Model M Slovenia project (Hrast et al, 2015-2018). Within it, we developed the Model M method (MMm) as a new requisitely holistic approach to youth training, in terms of their personal and social responsibility, to reduce their unemployment. We also present the results of the project, the social return on investment (SROI) calculation and potential further research on the topic.

Theoretical Backgrounds

McKinsey & Company (Mourshed et al., 2014) surveyed 5300 young people, 2600 employers and 700 postsecondary education providers across 8 countries which represent home to almost 73 percent of Europe's 5.6 million jobless youth: France, Germany, Greece, Italy, Portugal, Spain, Sweden and the United Kingdom. They also examined more than 100 programs in 25 countries to provide examples of companies, governments, education providers and nongovernmental organizations that may be relevant to

Europe. Their research led them to the following answers (summarized conclusions):

1. While there are more people looking for work, employers in Europe cannot find the skills they need. (So why is it that young people are not getting the skills that employers need? One reason is the failure of employers, education providers and young people to understand one another. To cite the McKinsey & Company 2012 report, they operate in “parallel universes.”).
2. Young people face three significant hurdles on which they should be focused. (The education-to-employment (E2E) path can be described as a road with three intersections: enrolling in postsecondary education, building the right skills and finding a suitable job. The problem is that, in Europe, there are roadblocks at each of these three points.)
3. The E2E structure is failing for young people and for small businesses. (Only one of their segments, the so-called high achievers, which represent 10 percent of the youth surveyed, achieves a good employment outcome. This group succeeded because the young people in it receive a strong education and good information; they also focus on finding opportunities to build job skills. Another two segments, representing 11 percent of youth surveyed – what they call “coasters” and “meanderers” – receive strong support but are less motivated and end up only moderately satisfied with their job outcomes. The remaining four segments (79 percent) are frustrated by a lack of support and unhappy at their prospects. They exhibit different responses to these circumstances, from fighting for every opportunity they can get (but rarely succeeding) to losing heart and leaving education at the first opportunity.)
4. There are proven ways to improve the E2E journey. (Europe’s governments, employers, education providers and families are operating in difficult circumstances, but there are ways to ease the burden on all of these groups; for example, innovate with design, course delivery and financing to make education more affordable and accessible; focus young people, employers and education providers on improving employment readiness; build the supporting structures that allow the best interventions to scale up; or involve the European Union.)

The role of education (Buchert, 2014) in fostering economic growth and sustainable development has, therefore, been reinforced with particular attention to its link to the labour market, in part to create knowledge and a highly skilled workforce to ensure economic competitiveness in a global economy characterised by flexibilisation and deregulation. At the same time, its role in facilitating social cohesion and social justice remains pertinent, affecting the relationship between diversity, inclusion and citizenship.

Young people need to be equipped with the skills required to access the world of work, including skills for self-employment (Feldt et al., 2018). Thereby, skills refer to the ability to apply knowledge, use know-how to complete tasks and solve problems and carry out the tasks that comprise a particular job. If they lead to decent employment, they can be enabling and empowering factors. Beside technical skills, life skills are important for the general wellbeing of individuals and lead to better employability. A key challenge in many developing countries is addressing the skills needed for accessing decent employment both in terms of formal employment and self-employment. In this regard, training and formal Technical and Vocational Education and Training (TVET) systems play an important role in equipping youth with the skills required for bridging the skills gaps and empowering young people with education and training that is key for the realisation of their full potential. In the 2030 Agenda for Sustainable Development (UN, 2015), the signatory states also agreed on the need for youth skills development with clear indicators under Goal 4, Target 4.4, which commits to “By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.” It is therefore essential to ensure that education is holistic, not only addressing quickly changing technical skills, but also focusing on greater life skills.

There are two situations (UK Government Office for Science, 2017) where the demand for and supply of skills are out of kilter: skills surpluses, where the supply of skills exceeds demand, and skills deficits, where the demand exceeds supply. ‘High skills equilibria’ or ‘low skills equilibria’ are circumstances where the skills required by employers are matched by the skills provided by employees, but the latter can cause significant economic and social problems.

The OECD Learning Framework 2030 (OECD, 2018) therefore encapsulates a complex concept: the mobilisation of knowledge, skills, attitudes and values through a process of reflection, anticipation and action, in order to develop the inter-related competencies needed to engage with the world. To ensure that the new learning framework is actionable, the OECD Education 2030 stakeholders worked together to translate the transformative competencies and other key concepts into a set of specific constructs (e.g. creativity, critical thinking, responsibility, resilience, collaboration) so that teachers and school leaders can better incorporate them into curricula.

Building on the OECD (2018) Key Competencies (the DeSeCo project: Definition and Selection of Competencies), the OECD Education 2030 project identified three

further categories of competencies, the "Transformative Competencies", that together address the growing need for young people to be innovative, responsible and aware (OECD, 2018):

- Creating new value;
- Reconciling tensions and dilemmas;
- Taking responsibility.

Corporate Social Responsibility contributes to the sustainable development of organizations that choose to integrate the environmental and social issues faced by modern human society (Stanescu & Comandaru, 2019). In other words, everyone benefits from the use of social responsibility programs: the organization that paves its way to business success by increasing profits and creating long-lasting relationships with the stakeholders, and disadvantaged communities that receive support for local development. This effort may include the MMm as a part of the stakeholders' relations, but we detected no references yet to the MMm in Web of Science, Science Direct, Wiley Online Library, Scopus, or Google Scholar (visited in December 2019). The MMm is the result of practical experiences of IRDO members, including all ages and many professions.

The benefits of skills development and lifelong learning (UK Government Office for Science, 2017) are multifaceted and accrue in many ways across the economy and society. A number of the benefits are interlinked: for example, any impact on employment outcomes can have benefits for the individual as well as the state and society. Generally, returns from spending on learning can be considered with respect to:

- Benefits to the individual, for example increases in wages and the probability of remaining in employment;
- Benefits to the employer, for example greater profitability (also positively affecting society);
- Benefits to society, including public health benefits, reduced welfare dependency and higher tax revenues.

Target 8.b in the 2030 Agenda for Sustainable Development reads (ILO, 2019): "By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization." The associated indicator involves looking for the "[e]xistence of a developed and operationalized national strategy for youth employment, as a distinct strategy or as part of a national employment strategy."

Target 8.6 (ILO, 2019) calls for countries to "substantially reduce the proportion of youth not in employment, education or training [(NEET)]." Importantly, this target must be achieved by 2020, reflecting the urgency of generating adequate employment opportunities for the next generation of workers. When young people find themselves in a NEET situation, it means they are not gaining skills that are valued

in the labour market, which reduces their future chances of finding employment. In the long run, this both condemns young people to social exclusion and undermines the ability of an economy to grow over a sustained period (ILO, 2017; ILO, 2019).

Methodology

For our research, we used a case study, i.e. the Model M Slovenia project. A logical plan was made based on five important components:

- The research question (2),
- The study's propositions (the Model M project will continue its work in the following years),
- The study's units of analysis (the Model M project),
- The techniques for the logic linking of the data to the proposition (the SROI method of social impact measurement),
- The criteria for interpreting the case study's findings (number of employments, investment in EUR into the project and social return on investment).

The research questions were: (1) What kind of holistic approach could help young people become (self-)employed as soon as possible? and (2) What could be the new method for reducing youth unemployment?

For this case study, we used direct observation as the method for collecting data. The research participants were those participating in the Model M project (unemployed youth, experts, volunteers, managers of enterprises etc.).

In the process of collecting data and case study evidence, we used study notes, documents, tables and narratives from the Model M project implementation, which are also kept as the chain of evidence for the reports required by the Ministry of Education, Science and Sport of the Republic of Slovenia (co-funder of the Model M Slovenia project).

We analyzed the evidence of the data collected in the empirical study using quantitative (numbers) and qualitative data (words, descriptions). Because case studies are mostly based on qualitative data, we focused on this part, but as in our case we also added the SROI calculation, we used mixed methods.

Our research had several limitations: firstly, we focused only on one organization and one project, and not more, in this field of research; secondly, we used only one method of social impact measurement (SROI) instead of combining several of them; and thirdly, we applied a limited period of time and limited resources to the research.

The Model M Slovenia Project Case Study

The emergence and development of the Model M small projects

The Model M Slovenia project is an upgrade of the pilot implementation of the Model M small projects – a training program for youth, tested and improved in the Podravje region in years 2012–2016 (Podravje: 2012–2013 Model M; 2014 Model M; 2015 Model M Express; 2016 Model M (r) evolution). The Model M Slovenia project was the expansion of this training program for young people in six other regions of Slovenia and contributed to IRDO's expanding its network and activities in seven Slovenian regions (Pomurje region, Savinjska region, South-east Slovenia, Central Slovenia, Upper Carniola, Goriška region, Coastal-Karst region).

The project presented a bridge between theory and practice in training and employment of young people, and also enriched the work of the IRDO Institute. It upgraded the pilot implementation of this kind of training, which was tested in the Podravje region earlier, and enabled its dissemination and upgrading around Slovenia. IRDO's visibility, including all involved in the project, was raised, too. It provided two jobs at the IRDO Institute and part-time jobs for more than 80 experts (training, counseling, authorial and other professional work) as well as more than 50 other new employments for young people.

Model M means being young and a model of success

The Model M means being young and being a role model for others in finding innovative employment or creating one's own employment, and thus becoming and remaining an active citizen. The purpose of the Model M Slovenia project was to empower young people with training, networking, counseling and active participation in the society to create their own success models.

In order to secure their first jobs (Brewer, 2013) as well as navigate in the labour market, young women and men need the technical skills to perform specific tasks as well as core work skills: learning to learn, communication, problem-solving and teamwork. Development of core skills, awareness of workers' rights and an understanding of entrepreneurship are the building blocks for lifelong learning and capability to adapt to change.

The ILO defines employability skills as (Brewer, 2013): "... the skills, knowledge and competencies that enhance a worker's ability to secure and retain a job, progress at work and cope with change, secure another job if he/she so wishes

or has been laid off and enter more easily into the labour market at different periods of the life cycle. Individuals are most employable when they have broad-based education and training, basic and portable high-level skills, including teamwork, problem solving, information and communications technology (ICT) and communication and language skills. This combination of skills enables them to adapt to changes in the world of work."

Employability (Brewer, 2013) results from several factors – a foundation of core skills, access to education, availability of training opportunities, motivation, ability and support to take advantage of opportunities for continuous learning, and recognition of acquired skills – and is critical for enabling workers to attain decent work and manage change and for enabling enterprises to adopt new technologies and enter new markets.

Life skills training (IYF, 2014) is most effective when it offers young people a foundational basis to be healthy and productive members of their communities. The challenge in designing the program which aims to increase youth employability will be to identify or create a curriculum that:

- Encompasses key or "core" life skills;
- Emphasizes workplace-readiness skills and behaviours;
- Is demand-driven by incorporating the skills employers regard as paramount for hiring and job-success;
- Is flexible enough to incorporate additional life skills identified through consultation with other key stakeholders (training institutes, government ministries, educators, etc.).
- That is why the Model M Slovenia project had several objectives in the years 2016–2018:
- To increase the employability and employment of young people aged 15 to 29 in the labour market in at least seven statistical regions of Slovenia (in enterprises and non-governmental organizations and elsewhere);
- To increase the diversity of approaches to the employment of young people (innovative job search, creating their own employment through their own organization) with the help of entrepreneurial networks, regional chambers of commerce and career centres at universities, and through youth work and cooperation with non-governmental organizations;
- To strengthen the competences of young people for active citizenship and to encourage the social recognition of these competences through a training program, awarding young people for their best career and business plans, and linking them with entrepreneurs and non-governmental organizations and promoting these links;
- To train regional organizations in the youth sector to address and solve the problem of youth unemployment, and thus, in a sustainable way, strengthen the

competences of youth workers, youth work and its socio-economic potential, also through the “Train the Trainer” program.

Through the entire training program, young people, receiving practical advice from various professionals and entrepreneurs, and evaluating their own cultural (knowledge, education, skills), social (social environment, social class, social status) and psychosocial potentials (personality traits and orientations), generated their career plans or business plans and implemented them with the support of IRDO and its partners.

Creation of the Model M Slovenia Community

The purpose of the Model M Slovenia Community is to exchange the information on employment, training, business opportunities and good practices. The emphasis is on the networking between young people and businesses and other organizations. Within the Model M Slovenia, IRDO organized speed business meetings between young people and entrepreneurs in each region.

The fact that benefits are spread across the society raises a question about the appropriate form and level of learning provided by the constituent parts of society, in particular the individual, employer and the state (UK Government Office for Science, 2017). The types of skills are in demand by employers and the shortcomings of labour market entrants. Possessing a good work ethic and character skills, such as responsibility, integrity and self-management, are perceived by many employers as highly important, yet many applicants appear to lack these attributes. Possible approaches to helping individuals develop these skills before they enter the working world are discussed, as are the roles of the employer and education provider in achieving this goal.

The IRDO Institute brought together different groups of people in the community:

- Candidates for employment (young people actively seeking employment);
- Providers of products and services (young people who have set up their own enterprise or non-governmental organization);
- Jobseekers (organizations and other legal entities that are looking for suitable candidates for employment);
- Providers of internships and practices (enterprises and other legal entities that can offer internships or practices to young people);
- Lecturers and counselors for young people (entrepreneurs, non-governmental and other professionals who are ready to advise young people);

- Youth organizations and other organizations that are trained to strengthen the employability and employment of young people in the region;
- Young people who have already found a job or created their own.

The Model M Community, within the Model M Slovenia project, acquired 118 new young participants in 2016-2018, more than 80 new lecturers, 14 regional partners and many others. Its social capital is even greater, if we add more than 150 Model M members from the Podravje region from previous years and more than 140 existing IRDO members who have been able to support the development of this project with their networking. More about activities, results and evaluation of Model M Slovenia can be found on the website at www.model-m.si.

The development of the Model M method

According to the Model M method (MMm), a new participant is first invited to an informative meeting where the training program is presented, along with the MMm way of cooperating through “models” – former participants who have already completed the Model M training. New applications for the training are also accepted at the informative meeting.

The first day of the training is usually also the first day of the first out of 6 weeks of training, which consists of 2 or 3 days per week, 15 days in total. Excellent lecturers and consultants provide more than 100 hours of discovery, sharing experiences, storytelling and learning to know more about entrepreneurship and consulting in almost every region.

The content of the Model M Slovenia training

Life skills training (IYF, 2014) is most effective when it offers young people a foundational basis to be healthy and productive members of their communities. The challenge in designing the program which aims to increase youth employability will be to identify or create a curriculum that:

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- Is flexible enough to incorporate additional life skills identified through consultation with other key stakeholders (training institutes, government ministries, educators, etc.).

The MMm training consists of 6 modules, carried out over 15 days, and offers the following content:

1. "Me and My Plans": discovering one's mission, skills and limitations – homework, group lectures and discussions;
2. Career planning and business environment – group lectures and discussions, visits to organizations with good practices, homework;
3. Consultancy (group and individual), homework;
4. Learning about the business and employment environment – group lectures and discussions, visits to organizations with good practices, homework;
5. Finding opportunities for work and visiting organizations with good practices, networking;
6. Presentation of the candidate's career or business plan and consultation with other participants.

The content of the training program (Hrast & Rajšp, 2018) includes:

- Getting to know oneself and others, personal growth and easier transition to the labour market; decision for a sole-entrepreneurial or non-governmental path, active employment;
- Acquiring knowledge and skills for the following classes (work in 3 groups):
 - A. Establishment and operation of one's own business;
 - B. Establishment and operation of a non-profit organization;
 - C. Active job search in the labour market;
- Writing one's own career or business plan and other exercises.

Methods of work, duration, performers

Methods of work include group lectures, individual workshops, meetings, consultations, visits to organizations with good practices, storytelling, networking, sharing experiences.

The process of training revealed that day-to-day task performance and job-orientation are key. The tasks are designed in a way that allows the participants to first learn about themselves and each other through public presentations. This creates an atmosphere of understanding, acceptance and integration.

During their public speaking within the group, the participants share their views on the attendance of the trainer and suggest improvements, present themselves in front of the group and provide feedback to each other. The first three days of training are crucial for making the group a community. The moderator plays an important role: connects the group through his/her work, gives feedback, encourages and offers improvements, and ensures the respect of the training participants.

The group is subject to agreed upon rules, namely:

1. Everything that happens in the group remains in the group;
2. Confidential personal information and information about a person must not be shared with others;
3. The rule of constructive criticism – if your criticism cannot awaken something positive in a person in a positive way, be quiet;
4. Everyone in the group is respected and the participants try to awaken the best in everyone, so that they can show it to others;
5. Members connect each other, regardless of gender, race, orientation, culture, religion, etc. and help each and every one find a job as soon as possible – with recommendations, exchange of information, linking, encouraging each other to personal development – all in a positive way by creating a positive climate in the group.

Every day, the participants appear in front of the group – they present their tasks, and thus themselves, and strengthen their public speaking skills or overcome stage fright. External lecturers provide several lectures; they always speak about themselves – how they first started, what kind of entrepreneurial and employment experiences they have gained, what they have learned so far in their years of experience and what they would recommend to the participants in the training. It is a valuable experience that gives young people the courage to make something out of themselves.

Measuring the social impact of the Model M Slovenia project

The IRDO Institute (Hrast, Kojc & Mulej, 2014), in cooperation with the Ministry of Labour, Family, Social Affairs and Equal Opportunities in Slovenia, Europe, prepared a Study on Measuring the Social Effects of Social Enterprises. Within this study, a model for measuring the impact on the society was developed, and now social enterprises (and other organizations) can evaluate the results of their work and effectively present them to the general public and other interested parties (co-financiers, investors, managers). On June 6, 2014, IRDO organized a working meeting in Ljubljana with a workshop on the measurement of social effects of social enterprises, attended by 15 representatives of Slovenian social enterprises. With them, the instructions, the model of calculation and the questionnaire were upgraded by including their updates.

At the meeting, IRDO also presented important aspects of the measurement of social effects and the positive impact of such measurement for the successful operation of social enterprises. IRDO presented two practical examples of using the emerging model of measuring the social effects of Slovenian

social enterprises, one of which was the Model M project, implemented by IRDO in the Podravje region. Within the workshop, social enterprises could fulfill the questionnaire and the Social Return on Investment (SROI) calculation and thus measure their social effects (subsequently).

With the help of the workshop, the participants got an insight into the complexity of this kind of measurement. It helped them to think structurally about the goals that the social enterprise poses, the way of doing business, the potential market, the acquisition of financial resources, and the clearer formation and communication of one's own identity, the financial evaluation of their own activities and the achievements that help them earn income. Together with the participants in the workshop and within the discussions, IRDO co-created the adjustments of the Slovenian model of measuring social impact (IRDO, 2018), making it more usable and practical for Slovenia.

The goal of impact measurement is to manage and control the process of creating social impact in order to maximise or optimise it (in relation to costs). Managing impact occurs continuously and is facilitated by integrating impact measurement in the investment management process. It is important to identify what you may need to change within the investment management process so that you are able to maximise social impact. That is why managing impact is the core of the impact measurement process. For each step in the process, one should consider how this relates to the everyday work of funding and building a stronger social purpose for organisations.

Social return on investment (SROI) is a method for measuring values (Folger, 2019) that are not traditionally reflected in financial statements, including social, economic and environmental factors. It can identify how effectively an enterprise uses its capital and other resources to create value for the community. While a traditional cost-benefit analysis is used to compare different investments or projects, SROI is used more to evaluate the general progress of certain developments, showing both the financial and social impact the enterprise can have. SROI is useful to enterprises because it can improve program management through better planning and evaluation. It can also increase the enterprise's understanding of its effect on the community and allow better communication regarding the value of the enterprise's work (both internally and to external stakeholders). Philanthropists, venture capitalists, foundations and other non-profits may use SROI to monetize their social impact in financial terms. A general formula used to calculate SROI is as follows: $SROI = (SIV - IIA) / (IIA \times 100\%)$, where: SIV=social impact value, IIA=initial investment amount. Assigning a dollar value to the social impact can present problems, and various methodologies have been developed to help

quantify the results. The Analytical Hierarchy Process (AHP), for example, is one method that converts and organizes qualitative information into quantitative values. While the approach varies depending on the program that is being evaluated, there are four main elements that are needed to measure SROI:

- Inputs, or resources investments in your activity (such as the costs of running, say, a job-readiness program);
- Outputs, or the direct and tangible products from the activity (for example, the number of people trained by the program);
- Outcomes, or the changes to people resulting from the activity (i.e., new jobs, better incomes, improved quality of life for the individuals; increased taxes for, and reduced support from the government);
- Impact, or the outcome minus an estimate of what would have happened anyway (for example, if 20 people got new jobs but five of them would have been hired in any event, the impact is based on the 15 people who got jobs directly as a result of the job-readiness program).

Model M—a training program that teaches young unemployed persons about entrepreneurship and non-government organizations, and offers counseling and visits to good practices—was piloted in the period 2013-2016 in the Podravje region. At the end of 2014, we prepared a calculation, with help of the SROI method, for measuring the effects of this project on the wider society.

In further description of the Model M Slovenia project case study, we present the results of measuring the social impact of the Model M Slovenia project, as prepared for the purposes of the study in 2014 (Hrast, Kojc & Mulej, 2014) as an example with adaptations to be used in Slovenia. For the calculation, we used the SROI spreadsheet and additional attachments to assist in the selection of the indicators.

At the beginning of measuring the social impact of the Model M Slovenia project, we planned our social impact according to framework Dimensions of Social Performance (Leclair et al., 2013). We defined the mission of the project, its objectives, internal system of work and activities required to achieve our social impact. We also defined the planned outputs and outcomes. At the end, we tried to define our social impact by answering the question: What change can be made for the participants and in the society with our action?

Later, we began to calculate the social impact for the Model M project using a model for calculation with key definitions in impact measurement (Hehenberger et al., 2013) and the social return on investment (SROI) method (Hrast, Kojc & Mulej, 2014; Folger, 2019). The process of impact measurement has two dimensions: organization's planned

work (inputs and activities) and organization's intended results (outputs, outcomes and impact). Inputs were our resources (volunteer work, EU Funds, etc.) invested in the activity. Activities were concrete actions of the organization (education, training, etc.). Outputs were tangible products from the activity (number of employed youth). Outcomes were changes, benefits, learnings, effects resulting from the activity (increased level of trained youth). Impact was attribution of our organization's activities to broader and longer-term outcomes (cooperation with other organizations, creation of a supportive environment for (self-)employment of young people).

In the further report of the SROI calculation, we tried to present how the investment of 103,180.00 EUR (input) can make a change through activities (of the Model M project) for an organization and for the society (total net present value of 983,741.27 EUR). This means that the planned reimbursement value per invested amount of 1 EUR was 10.53 EUR. The report also explains which stakeholders were included, what inputs, activities and results were gained – outputs, outcomes and impact.

Table 1 presents the financial results of the calculation, where the investment of every euro should be reimbursed in the social contribution of 10.52 EUR within 4 years of the project impact.

The result (see Table 1): the investment of every euro was reimbursed in the social contribution of 10.53 EUR within 4 years. The opinion on the achieved result of the SROI: We believe that the calculated SROI is a good basis for reflection on the social reimbursement of such activities. It is based on a subjective assessment, but verified by several official sources of information. It could reflect the picture of possible reimbursements of such activities of the IRDO Institute to the society (Hrast, Kojc & Mulej, 2014) in the future, as described in Table 2 and in the section Results

(where we explain that the contribution in the following years (after 2014) really was ten-fold).

Investing in youth training, as with the Model M project in the Podravje region, has a large impact on the society (as explained in Table 2). This is also demonstrated by the building of the Model M Community, as described in the section Results.

Research results: Evaluation of the Model M Slovenia project

The example of the Municipality of Maribor confirms that the support offered for the Model M project pilot is in fact later also financially remunerated, in this case more than ten-fold. Namely, the Municipality of Maribor co-financed the project in the period from 2012 to 2017 in the amount of EUR 39,856.86. The IRDO Institute made a broader impact, thanks to this source, in the following years (2016-2018) with the amount of EUR 339,206.59 gained through a public tender of the Office of the Republic of Slovenia for Youth and European Social Fund for the Model M Slovenia project (to support the employment of more than 50 young people in Slovenia, see more details at www.model-m.si).

At the end of the Model M Slovenia project, the IRDO Institute research group (Hrast, Rauter & Rajšp, 2018) also evaluated the entire project with one qualitative and two quantitative researches among 118 project participants, their trainers and lecturers in seven Slovenian regions. Based on the descriptive responses of 16 opinion leaders, entrepreneurs, advisers, non-governmental speakers, lecturers and young participants from the Model M Slovenia project, it was found that similar people were involved in the project, with a high degree of proactivity and awareness of themselves and their surroundings.

Table 1. SROI calculation result – financial summary for the Model M project (2014)

SUMMARY of calculation for 4 years of impact in EUR	YEAR 0 (starting year 2013)	YEAR 1 (2014)	YEAR 2 (2015)	YEAR 3 (2016)
Total per year in EUR	299,220.00	331,868.00	279,281.60	228,776.72
Present value each year	299,220.00	320,645.41	260,712.36	206,343.49
Total present value (PV) in 4 years				1,086,921.27
Input				103,180.00
Net present value (NPV = PV minus input)				983,741.27
Social return on investment (SROI)				10.53
Reimbursement value per invested amount of 1 EUR =				10.53 EUR

Source: Hrast, Kojc & Mulej, 2014

Table 2. Impact report for the Model M project in the Podravje region (2012-2014) – calculation in 2014

Report components	Description
Summary	
The reporting date and the covered period of activity and impact measurement	27 May 2014, 1 year of implementation, 3 years of influence
Overview of the report	Ministry of Education, Science and Sport, Republic of Slovenia
Mission	
Mission description	The mission of the project is to train 30 young people for employment within two months or to establish their own legal entity (profit, non-profit).
How do you understand the problem that you are trying to deal with?	Currently a very topical problem in society.
How do you respond to it with your key purposes, approach and the fundamental orientation of your work?	We developed the Model M project – a program for training young unemployed people for entrepreneurship and non-governmental jobs, supporting them with consulting and viewing examples of good practices.
How do you respond to your users?	We listen to their needs and adapt the program to them.
Activities and results	
What were your activities during the reporting period? Can you create a spreadsheet?	<p>Within the framework of the project, the partners carried out the following activities in 2012-2014:</p> <ol style="list-style-type: none"> 1. Project management and coordination (management, organization, reporting and other activities). 2. Model M 2014 – Summer-Autumn School (training program for young unemployed persons and students for entrepreneurship, non-governmental and innovative job search). 3. Motivating the participants in the training program for the best entrepreneurial, non-governmental and career plans. 4. Research among the participants in the 2013-2014 training program on satisfaction with the program and proposals for the development of the city in terms of the development of youth entrepreneurship and non-government. 5. Networking and promotional activities for the project, evaluation, dissemination of the program and inclusion of a wider population of young people and entrepreneurs in the development of urban entrepreneurship and non-governmental work (intergenerational collaboration, international cooperation).
How are activities transmitted to your influence? Can you show your impact chain?	<p>Objectives of the project (impact chain) are:</p> <ul style="list-style-type: none"> • Young people: They should be more trained in finding a job; they should get the knowledge and advice to establish their own legal entity, they should get employment faster in the labour market, their social capital should increase and other impacts; • Professional staff of support institutions: Gaining insight into the needs of job-seekers, strengthened support networks for jobseekers, knowledge sharing between the professionals from supporting institutions; • Volunteers: Acquiring knowledge to work with the unemployed, strengthening the social network, acquiring skills in the framework of the unemployed program, the volunteer prize; • Employers: Staff recruitment for potential employment, promotion of the employer, strengthening the social network, establishing the cooperation with the local community, obtaining proposals for improving the business; • Volunteers-lecturers (entrepreneurs, experts): Promotion of the lecturer, strengthening the social network, establishing the cooperation with the local community, obtaining proposals for improving the lectures, a set of potential new employees, sales of products/services; • Co-financers (local community, sponsors and donors): Reduction of the number of unemployed persons, greater involvement of actors in the local community, promotion of the co-financer, identification of the needs of other target groups and proposals for new forms of co-financing; • Investors (e.g. start-up organizations): They can invest in new legal entities, promotion of the investor, strengthening of social capital, profit.

Table 2. Impact report for the Model M project in the Podravje region (2012-2014) – calculation in 2014 (cont.)

Report components	Description
<p>What were the results of the reporting period?</p> <p>- Indicators used</p> <p>- Recorded values (outcomes and indirect outcomes)</p> <p>- Inputs used (costs, resources)</p>	<p>Indicators used:</p> <ul style="list-style-type: none"> • No. of completed trainings of participants; no. of new jobs on the market; no. of new established legal entities (plan: at least 20 trained unemployed persons, at least 2 legal entities newly registered, at least 2 new employment of unemployed persons); • No. of conducted lectures, no. of hours, no. of lecturers involved; • No. of hours worked by volunteer work, no. of volunteers, no. of days of cooperation; • No. of hours spent for business visits, no. of participants of the tour, no. of days of cooperation, no. of potential candidates for employment; • No. of hours spent on lecturing, no. of experts, no. of days of cooperation, no. of new persons employed due the training program; • No. of social innovations, no. of employed persons, no. of publications in the media, proposals for new programs, tenders; • No. of new founders, no. of new legal entities, no. of announcements in the media about the investor. <p>Recorded results:</p> <ul style="list-style-type: none"> • Training for 30 people in the amount of 127 hours per 10 eur/hour a group (for 30 people); individual counseling for them by appointment; • 10 people, 60 hours of counseling work, 15 eur/hour; • 5 volunteers, 30 working days per 8 hours, 10 eur/hour for volunteer work; • 3 views of organizations with good practice examples, 3 working days per 8 hours, 15 eur/hour for managing a good practice in the enterprise; • 10 professional volunteers, 10 working days per 8 hours, 15 eur/hour (value for payments of professional work); • Co-financing the project in the amount of 30 % of the total project's assets; • Launch of 2 profit organizations and 2 NGOs, promotion of the investor in 2 media, collection of profits in the 3rd year of operation of these start-ups; <p>In the total amount of 1,086,921.27 EUR.</p> <p>Inputs used:</p> <ul style="list-style-type: none"> • Time, work, money for a total amount of 103,180.00 EUR.
SROI calculation	The investment of every euro will be reimbursed with the social contribution of 10.53 EUR in 4 years.
Your broader impacts	The wider impacts are cooperation with other organizations in the Podravje region and joint creation of a supportive environment for (self-)employment of youth.
Non-intended or negative indirect outcomes	Negative indirect outcomes have not been recorded in the project.
Checking and responding	
Comparing the results with your plans and goals for a given period; key factors	Since this was a forecast, we estimated that we can carry out the project in the first year (if funds were available), and with the same support, we can help the next generation of young people.
Lessons learned and therefore the foreseen changes? Explain them!	We will need more cooperation with entrepreneurs and the creation of additional education for youth if we want to make Slovenia more entrepreneurial. This also applies to social entrepreneurship, where entrepreneurial skills and non-government knowledge are lacking.
Your view of how the external situation develops (risks, opportunities)? Explain...	We need more support from the government in education development and its implementation for youth and social entrepreneurship, and other related topics.
Your plan for the next year (2015) is ...?	Enroll the next generation of young people and connect all previous generations in terms of mutual support and joint development. Educate for social entrepreneurship.
How do you plan to measure the success of the plan (purpose, objectives)?	Indicators as mentioned above and monitoring SROI calculations for individual years, this time in the form of retrospective reports.
Your more long-term strategy for the future is...?	Encourage the development of social responsibility in all Slovenian organizations and all residents of Slovenia. This also includes the promotion of entrepreneurship, social entrepreneurship, and so forth.

Source: Impact Report for the Model M project, year 2014 — Annex to the SROI calculation for the Model M Podravje project (Hrast, Kojc & Mulej 2014)

Their answers imply that all of them give importance to lifelong education and complement formal education with non-formal education. Model M Slovenia was designated as an important added value for young people on their way to employment due to many already tested positive effects (Hrast, Rauter & Rajšp, 2018). The young participants complimented and thanked the Model M Slovenia project (as well as the Ministry of Education, Science and Sport of the Republic of Slovenia, the Office of the Republic of Slovenia for Youth and the EU's Social Fund) for offering them a good opportunity to get to know themselves and their competences better, and through this, more clearly define their employment and life path.

The online survey, performed after the conclusion of the Model M Slovenia project in 2018, included lecturers, moderators and other project-related persons, and was answered by 27 people. As many as 77% of them are extremely satisfied with Model M Slovenia, giving it the highest rating. 73% found a great need for the Model M Slovenia training to continue. The respondents also assessed only one day of the Model M Slovenia project training, i.e. the day they were present. Other results include: 88% of the highest score for the training concept, 84% of the highest score for the communication with young people, 77% of the highest score for the completion of one study day as a whole.

The findings from the research and evaluation of the project show that the participants, lecturers and others involved in the project are mostly satisfied with the project and that the effects of the project are very visible. By the end of May 2018, 50 participants out of 118 were employed (42.37%), while at the end of the project (15 September, 2018), the participants expected at least a few more jobs.

In order for the Model M Slovenia project to most easily continue, funds are the most crucial, according to most respondents. Both those involved and those not involved in the project consider that young people themselves will not be able to finance such projects in the future, and that, if the European Union provides the funds, the state and/or the local community is the best co-funder. Only a small proportion of them are willing to pay for this type of training.

Discussion

Students (OECD, 2018) will need to apply their knowledge in the unknown and in the evolving circumstances. For this, they will need a broad range of skills, including cognitive and meta-cognitive skills (e.g. critical thinking,

creative thinking, learning to learn and self-regulation); social and emotional skills (e.g. empathy, self-efficacy and collaboration); and practical and physical skills (e.g. using new information and communication technology devices). The use of this broader range of knowledge and skills will be mediated by attitudes and values (e.g. motivation, trust, respect for diversity and virtue). The attitudes and values can be observed at personal, local, societal and global levels. While human life is enriched by the diversity of values and attitudes arising from different cultural perspectives and personality traits, there are some human values (e.g. respect for life and human dignity, and respect for the environment, to name but two) that cannot be compromised.

What do young people want after the Model M Slovenia project? The respondents want more content in the field of career orientation in regular education — secondary and higher education or at least a continuation of the co-financing or financing of projects such as Model M Slovenia, and at least a partial mentoring for young people. Most funds are expected from the state and the European Union. The classical content is still current, e.g. young people are happy to hear how to present themselves to the employer, how to write a CV, how to publicly perform, enter into entrepreneurship and use social networks. The content that is very or even most sought after is learning about oneself and one's abilities, setting one's own goals and knowing one's own competences.

According to young people, the strongest channels for promoting Model M Slovenia are social networks, followed by links and presentations among young people in schools and faculties, while the older ones think the opposite, and experience has shown that it is necessary to be very skillful and innovative in acquiring participants. The combination of both definitely supports the young, and above all, the quality of the program, the quality of the speakers, a good choice of location and a meaningful time scale.

The question arises as to whether it would be reasonable to use Model M Slovenia, as a project or state measure, and include it into the existing curricula of all educational institutions in Slovenia (for example, for the last years of vocational and secondary schools and faculties). This would not only cover the entire population but, with the Model M Slovenia training method, also connect as many young people as possible with the economy, profit and non-profit organizations, non-governmental organizations and educational institutions.

One of the most important roles in an enterprise is to ensure that employees have the right skills and competences to achieve successful business results. Based on the results,

we found (Rožman et al., 2019) that appropriate approaches of knowledge management have a significant positive impact on work engagement of employee knowledge in Slovenian enterprises.

Education (OECD, 2018) has a vital role to play in developing the knowledge, skills, attitudes and values that enable people to contribute to and benefit from an inclusive and sustainable future. Learning to form clear and purposeful goals, work with others with different perspectives, find untapped opportunities and identify multiple solutions to big problems will be essential in the coming years. Education needs to aim to do more than prepare young people for the world of work; it needs to equip students with the skills they need to become active, responsible and engaged citizens.

As an institution (Buchert, 2014), education has a critical role to play for the life chances of youth and their inclusion in or exclusion from social opportunities. The issue of learning outcomes is therefore central to policy discussions nationally and internationally.

Conclusions

Our research questions were:

- (1) What kind of holistic approach could help young people become (self-)employed as soon as possible?
- (2) What could be the new method for reducing youth unemployment?

We can conclude that the answer to the first question is social responsibility. This conclusion links the Model M Slovenia viewpoint with the concept of social responsibility – society is composed of individuals, their relations and synergies. Young individuals tend to graduate from narrowly specialized education programs, usually without enough knowledge, know-how and values, and they tend to need to actively join an interdisciplinary creative cooperation with other individuals from a similarly narrow education. Neither of them acquire enough entrepreneurial knowledge, know-how or values. The third missing part in current education programs is social responsibility as a human, organizational and societal attribute (see more in: Mulej et al., 2019; Mulej et al., 2016 a, b, c, d; Mulej, Dyck et al., 2014 a, b; Mulej et al., 2013 a,b; Lebe, Mulej et al., 2014; Mulej et al., 2015; etc.).

Social responsibility in ISO26000:2010 (ISO, 2010) has the organization as its focus and concerns the responsibilities of an organization to society and the environment. Social responsibility is closely linked to sustainable development.

Because sustainable development is about the economic, social and environmental goals common to all people, it can be used as a way of summing up the broader expectations of society that need to be taken into account by organizations seeking to act responsibly. Therefore, an overarching goal of an organization's social responsibility should be to contribute to sustainable development.

Hence, it is not enough to promote the corporate social responsibility, while forgetting about the social responsibility of individuals and entire societies. Social responsibility (or irresponsibility) is, last but not least, a crucial component of values with a crucial impact over the acquiring and use of knowledge and know-how. Here, the Model M project recognitions fill in a crucial leak. In the autumn of 2018, the leak was made visible, e.g. in the Marakesh conference on migration issues, the Katowice conference on climate change issues, the protests against the social injustice in several countries, about one hundred million displaced persons who are victims of the lack of social responsibility of the power holders etc., as the public media keep informing.

The basis for understanding the concept of social responsibility was Carroll's Pyramid (Carroll, 1979; Carroll & Archie, 2015), which defined economic, legal, ethical and philanthropic responsibility. The answer to the second research question is the Model M method (MMM). This method has shown that investing in young people and their employments has a great impact on the individual, society and business. According to Carroll's Pyramid of Social Responsibility, each person can create their own success with economic, legal, ethical and philanthropic responsibility. As young people take responsibility for their own lives and success, society becomes more responsible, too (Manual Model M Slovenia, 2018). Further research is therefore required as to individual responsibility in the context of social responsibility.

The implications of our research for individuals, managers, society and policy makers are connected. Individuals can try to find a way to educate themselves more on the topics of social responsibility to contribute to their (self-)employment and to society. Policy makers can include social responsibility and the Model M method in the curriculum of education programs at all educational levels. Managers can improve their knowledge by getting a certificate on this topic from independent training providers. They can also employ young people, offering them apprenticeship and internship or a first employment. Society could improve by creating new policies to reduce youth unemployment and linking different stakeholders to build the capacities for youth's economic independence. All these topics could be further research subjects.

In the 2030 Agenda for Sustainable Development (UN, 2015), adopted by all United Nations Member States in 2015, a

shared blueprint for peace and prosperity for people and the planet, now and into the future, is provided. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries – developed and developing – in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests. We hope that our research has made a small impact towards these changes and making the world a better place as well.

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Razvoj metode Model M (mMM) in njen prispevek k družbeno odgovorni družbi

Izvleček

Model M pomeni biti mlad in biti vzor drugim, kako inovativno najti zaposlitev ali ustvariti samozaposlitev ter tako postati in ostati aktiven državljan. IRDO – Inštitut za razvoj družbene odgovornosti je v letih 2012–2018 realiziral projekt Model M Slovenija. Projekt se je začel v Podravju v letih 2012–2014 z majhnim zneskom denarja, ki ga je vložila lokalna skupnost (Mestna občina Maribor). Pozneje (v letih 2016–2018) je prerasel v nacionalni projekt, ki sta ga sofinancirala Evropski socialni sklad in Republika Slovenija. Namen projekta je bil mlade opolnomočiti z usposabljanjem, mreženjem, svetovanjem in aktivno udeležbo v družbi, da bi ustvarili lastne modele uspeha. V tem prispevku predstavljamo metodo Model M (mMM), ki smo jo razvili v okviru projekta Model M Slovenija, in njen družbeni vpliv na zaposlovanje mladih v Sloveniji. Z metodo povračila – donosnosti družbene naložbe (SROI), metodo za merjenje družbenega učinka, predstavljamo, kako so bila sredstva, vložena v prvotni lokalni pilotni projekt, pozneje na nacionalni ravni v okviru projekta Model M Slovenija desetkrat pomnožena. Izvirnost metode Model M (mMM), kot je predstavljena v tem prispevku, je njen potreben celostni pristop k usposabljanju mladih v smislu osebne in družbene odgovornosti. mMM pospešuje (samo)zaposlovanje mladih in drugih brezposelnih oseb. mMM je ustvarila ekipa poslovnih strokovnjakov in raziskovalcev družbene odgovornosti. Njihov cilj je bil uveljaviti in razviti družbeno odgovornost, soodvisnost in potreben celostni pristop kot sistemsko vedenje, ki ga svetovno človeštvo predlaga v svetovalnem standardu ISO 26000.

Ključne besede: projekt Model M, mladi, zaposlovanje, socialna donosnost naložb, merjenje učinka, družbena odgovornost, družbeno odgovorna družba

Trade War between the USA and China: Impact on an Austrian Company in the Steel Sector

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Abstract

The paper is intended to provide information on the trade war between China and the USA. It analyses the consequences of the trade dispute, discusses the impact on an Austrian company in the steel sector, gives an overview of possible strategies with which companies can reduce the negative effects of tariffs and discusses strategies that are good options for companies in the steel industry. The methodology applied included theoretical and empirical research based on quantitative analysis as well as quantitative research in the form of expert interviews. The results show that the trade war between China and the USA was in full swing until January 2020. The impacts do not only affect the parties involved, but also other parties such as the EU. Companies can use a variety of strategies to mitigate the negative effects of trade wars. The best strategy for a company depends on the structure of the company, its products and its competitors. The paper adds new insights to the existing literature on the trade war between China and the US and its effects, strategies to mitigate the negative effects of tariffs and discussions on optimal strategies for companies in the steel industry.

Keywords: trade war, China, USA, tariffs, EU, strategies

Introduction

Today, China and the USA are the two largest economies in the world. There have been problems in the economic relations between the two countries for some time now (Noland, 1996). The economic rise of China has increasingly worried the Americans. They accuse the Chinese of stealing jobs in the US, deliberately undervaluing their currency – the yuan – exporting deflation by selling at unfair prices, keeping labour costs low by violating human rights and failing to meet commitments made to the WTO. Multinational companies operating in the US and China are already feeling the effects of the trade war, which luckily has already passed the peak after the signing by both sides of the agreement to

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ease the trade war in mid-January 2020. Apple is planning a revision of its supply chain and has asked some of its major suppliers, such as Foxconn Inventec Corp or Goertek, to determine the impact on the cost of relocating parts of their current production in China to South-East Asia. The company sees the danger of being heavily dependent on the production in China and believes the risk is growing (Reuters, 2019a).

The Division Voestalpine High Performance Metals (HPM) has two clearly defined business areas: production and value-added services. Products include high-speed steel, nickel-based alloys, special steels, structural steel, valve steel, steels produced by force metallurgy and tool steels. In addition, the company produces drop forgings, such as low-alloy steels or titanium alloys. There are eight production facilities worldwide, in Austria, Sweden, Germany, USA and Brazil, as well as 160 sales companies in 40 countries. Several sales companies are located in China. Therefore, the trade war between the two nations directly and indirectly affects the division.

The aim of this paper is to provide an overview of the trade war between the USA and China, to examine the impact of the tariffs already imposed, and to analyse how the Voestalpine HPM Division is affected by the trade dispute and what strategies companies can use to mitigate the negative effects of the tariffs. The work is intended to answer the following research questions:

RQ1: What has been the general impact of the trade war between the US and China so far between July 2018 and December 2019?

RQ2: How is the Voestalpine HPM Division affected by the trade war between the USA and China?

RQ3: What strategies can companies use to mitigate the negative effects of tariffs? Are there optimal strategies for companies in the steel industry?

First, relations between the US and China are discussed, followed by an analysis of the development of trade between the two countries since the announcement of the tariffs and the impact of these tariffs. The following text will deal with trade between the EU and China, strategies to reduce the impact of tariffs and the impact on the Voestalpine HPM Division. Later, the text will explain the methodology used and the limitations. The final chapter deals with the results and the discussion, combining information obtained from the literature with empirical results.

The work combines theoretical analysis, which includes an extensive literature review, with empirical research, which

is divided into a quantitative and a qualitative part. For the quantitative research, a statistical analysis is used, and the qualitative part consists of interviews. While the objective of the statistical analysis is to determine the impact of US tariffs, the interviews are intended to provide suggestions for possible strategies to mitigate the impact of tariffs.

Literature Review

The belief that free international trade is beneficial to all is widespread among people all over the world. But if this is the case, why is there a trade policy or even a trade war? Trade literature has provided several theoretical explanations for trade policy. "The most popular explanations are imperfect competition, rising yields, terms of trade argument, distributional effects and other WTO and national security-related reasons" (Qiu, Zhan & Wei 2019, p. 154).

The Ricardian model and Heckscher-Ohlin models predict that countries will export products to industries with comparative advantages or abundant endowment with production factors. In recent decades, however, we have experienced a change in the structure of trade. One of the most important features is the emergence and growth of intra-industrial trade. With rising returns, new entrants cannot compete with the incumbents. Industries with economies of scale tend to have limited competition, leading to imperfect competition, such as monopolistic competition. These situations give governments leeway to help their companies increase their size to compete with foreign firms and to gain monopoly power to gain more advantages. As noted in the seminal work of Krugman (1987, 134): "However, if rising yields and imperfect competition are necessary components of the explanation of international trade, we live in a second-best world where government intervention can fundamentally improve market outcomes." Specifically, Krugman (1987) summarises two main arguments for trade policy: foreign trade and strategic trade policy.

The main argument of strategic trade policy is that, with rising returns and imperfect competition, protection can lead to some industries achieving higher returns than the opportunity cost of the resources they use. In industries with oligopolistic competition, because the companies achieve positive rents, a government can pursue an appropriate trade policy to influence the strategic interaction between domestic and foreign competitors in such a way that the profits of domestic companies can be increased at the expense of foreign companies in quantity competition or consumers in price competition. Spencer and Brander (1983) and Brander and Spencer (1985) affirm that, under

the right circumstances, government policy can deter foreign companies from competing for profitable markets. A simple numerical example from Krugman (1987) can help to clarify intuition.

In addition to the basic market structure argument, the traditional terms of trade arguments also speak in favour of trade policy. For a large country that is able to influence the prices of foreign exporters, an import duty has the potential to increase its trading conditions. An import duty induces two opposing forces. On the one hand, the tariff distorts the country's production and consumption and thus reduces overall welfare. On the other hand, if the country is large, customs duties lower the price of imports, thereby winning the terms of trade. If the terms of trade profits dominate the loss due to the distortion, the overall prosperity of the country is increased by the import duty. The above analysis also refers to the trade deficit argument, which has been used by President Trump. As far as we know, the trade deficit is not considered in the literature to be the reason for a trade war; instead, the trade deficit is rather the result of an import duty. However, if one country (the US) improves its trading conditions by imposing an import duty, the country will import less and may eventually reduce its trade deficit. However, because of the retaliatory measures, the strategy of using import duties to reduce the trade deficit appears to be difficult to succeed. Stiglitz (2018) also argues that the multilateral trade deficit is important, not the bilateral deficit, which is mainly determined by macroeconomics – the gap between domestic savings and investment – and not by trade relations between the US and China.

Objectives of the US tariffs and recent escalation

During the 2016 presidential campaign, President Trump talked about plans to combat trade practises that he considers unfair, citing Section 201 and Section 301 of the US Trade Act (Reuters, 2019c). These two sections currently play an important role and are therefore worthy of closer examination.

The US International Trade Commission (USITC) provides a detailed explanation on Section 201: “The USITC shall determine whether an article is imported in such increased quantities as to cause or threaten to cause serious injury to a US industry producing a similar article or directly competing with the imported article” (United States International Trade Commission, 2019).

Meanwhile, Section 301 of the Trade Act of 1974 empowers the US Trade Representative to take action if certain rights granted to the US by trade agreements are violated (Govinfo, 2018).

In March 2017, two months after taking office, Donald Trump signed two execution orders. The first calls for stronger enforcement of duties in both anti-dumping and anti-subsidy cases. The second aims to examine the causes of the US trade deficits. Just one month later, the US president met with the Chinese president Xi Jinping where both sides agreed on trade talks. However, the negotiations did not go well as no agreement could be reached on the US trade deficit. After that, the first serious action was taken against Beijing in the form of a probe under section 301 to investigate the potential theft of intellectual property by the Chinese. In March 2018, duties of 25% on steel and 10% on aluminium were imposed on Chinese imports. China reacted with tariffs of 25% on more than 100 products. Unfortunately, the fight did not stop there. Both sides have further increased tariffs. The Trump administration took its biggest measure on September 24, 2018, when it introduced tariffs of 10% on Chinese goods worth about 200 billion dollars. In addition, the administration announced that these tariffs would be increased to 25% by the beginning of 2019. Beijing reacted quickly and increased customs duties on US imports to a value of around 60 billion dollars. Although both sides agreed to stop the new tariffs, in May 2019, President Trump declared his intention to implement his previous plan to raise tariffs to 25% (Reuters, 2019c).

Economic impact of increased tariffs on the US and China

50% of all US imports from China in 2018 were affected by the increased US tariffs. Average tariffs on these imports are now up to 12% from the previous 3%. China's retaliatory measures affect 70% of all imports from the USA and result in average tariffs of 18% (Bown, 2019, p. 2).

In 2018, the USA exchanged goods and services with China worth 737.1 billion dollars. Imports amounted to 557.9 billion dollars and exports to 179.3 billion dollars. The total trade deficit of the USA, including goods and services, was therefore about 378.6 billion dollars. China is the USA's largest trading partner for goods. The USA imported goods worth 539.5 billion dollars, while exports amounted to 120.3 billion dollars. The trade deficit in goods was 419.2 billion dollars. Trade in services presents a different picture with a US surplus of 40.5 billion dollars (Office of the United States Trade Representative, 2019b).

US exports of goods to China have fallen by more than 7% compared to 2017. Nevertheless, China is the third largest export destination, accounting for 7.2% of total US exports. The main export categories are: vehicles (\$9.4 billion), optical and medical instruments (\$9.8 billion), electrical machinery (\$13 billion), machinery (\$14 billion) and

aircraft (\$18 billion). Meanwhile, exports of services rose by 2.2% compared to 2017, and with a total value of 58.9 billion dollars, exports of services have almost tripled since 2008. The transportation sector, intellectual property sector and trade sector are the leading services exported to China. The Ministry of Commerce estimates that, in 2015, more than 900,000 jobs were supported by exports to China. Exports of goods supported 600,000 jobs and exports of services accounted for the remaining 300,000 jobs (Office of the United States Trade Representative, 2019b).

In 2018, China was the most important source of merchandise imports for the USA. US merchandise imports have increased by 6.7% compared to 2017. Overall, 21.2% of all US imports come from China. Leading import categories are: plastics (\$19 billion), toys and sports equipment (\$27 billion), furniture and bedding (\$35 billion), machinery (\$117 billion) and electrical machinery (\$152 billion). Imports of services increased by 5.5% to 18.4 billion dollars in the same year. The most imported services are related to travel, research and development, and the transport sector (Office of the United States Trade Representative, 2019b).

Global growth has so far had little impact, but recent events could have serious consequences for financial markets and the economy, and could potentially disrupt global supply chains. The most recent escalation was the increase from 10% to 25% in US tariffs on \$200 billion worth of imports from China and the announcement of retaliatory measures by the Chinese government.

Trade data seems to show an existing influence of previous tariffs imposed by the US and consequently by China. While the USA and China are directly involved in the trade war, their trading partners are also feeling the consequences of rising customs duties. However, there was an advanced increase in imports of goods in cases where customs duties were not implemented immediately after their announcement. It is likely that the importers were responsible for the decrease in imports after the duties were imposed and therefore decided to stock up early. "The Chinese also imported fewer goods from the US as a result of the tariffs imposed by the US government" (Eugenio, Gopinath & Adil, 2019).

The results show that importers pay most of the duties collected. These costs are often passed on directly to consumers in the USA. Other cases show the absorption of the duties by importers, resulting in lower profit margins. However, an additional increase in tariffs would most likely be passed on to consumers (Eugenio, Gopinath & Adil, 2019).

In addition to imposing duties on imports from China, the Trump administration has also threatened Huawei, the

largest Chinese technology company, with being cut off from the supply of processors and chips. The company is heavily dependent on network devices as well as software and semiconductors in smartphones. This dependence is one of the company's greatest weaknesses. However, the USA is also vulnerable in the technology sector (The Washington Post, 2019b). "Rare earths are a number of chemical elements found in the earth's crust that are vital to many modern technologies, including consumer electronics, computers and networks, communications, clean energy, advanced transportation, health care, environmental protection, national defence and many others" (Rare Earth Technology Alliance, 2019). The newspapers in China speculated whether the government could use rare earths as a means of exerting pressure on the USA in the current trade war. Between 2014 and 2017, the USA imported 80% of its rare earths from China (Daly & Singh, 2019).

EU-China trade relations and the implications of the US-China trade war

In August 2018, the EU Chamber of Commerce in China conducted a survey to assess the impact of the US-China trade dispute on European companies operating in China. 193 respondents from various sectors took part in the survey. Even companies that are neither American nor Chinese are feeling the effects of the trade war between China and the USA. Furthermore, the global supply chain is interrupted by the conflict. Most respondents said that the tariffs have a negative impact on both sides. In addition, almost 20% stated that new investments or expansions would be delayed. Direct effects affect margins and costs and are coupled with indirect effects that lead to a slowdown in economic growth, less trade and fewer jobs. So far, only a small proportion of European companies operating in China have taken drastic steps, such as changing suppliers or relocating. However, this is an annoying trend considering that the situation could deteriorate if further duties were imposed. The President of the EU Chamber of Commerce in China Mats Harbon said that "the impact of the trade war between the US and China on European companies in China is significant and predominantly negative." He also said that while the EU shared US concerns about unfair Chinese practices, the imposition of duties was dangerous (The European Union Chamber of Commerce in China, 2019).

Chinese steel exports to the EU after the implementation of US tariffs

The analysis in the previous sub-chapter has shown that Chinese exports to the EU in 2018 have increased compared to the previous year. However, trade between the two sides

has been increasing for years. The question arises how the Voestalpine HPM Division is affected by this development. Therefore, this sub-chapter specifically examines how Chinese steel exports to the EU have developed.

In March 2018, Trump announced the decision to impose duties of 10% on aluminium imports and 25% on steel imports. The tariffs, which affect both the EU and other countries, came into force on 1 June, 2018 (Alosi & Rocha, 2018). Although China exported less steel in 2018 than in 2017, the country is still the world's largest steel exporter. China accounted for 16% of global steel exports. The amount of steel that China exports is almost twice as large as that of the second largest exporter, Japan. However, when looking at the total value, steel accounted for only 2.2% of all goods exported in 2017. Chinese steel exports have increased significantly after 2009. Between 2009 and 2018, steel exports rose by almost 200% overall.

Between 2016 and 2018, crude steel production in China rose continuously. Production increased from 830 million tonnes to 928 million tonnes. In 2016, the percentage of steel production used for export was three times as high as in 2009, but since 2017, the share of exported production has declined to 7.2% in 2018 (U.S. Department of Commerce, 2019, p. 1-6). In 2018, official steel consumption in the EU increased by 3.3%. In addition, steel imports have also increased. World steel trade has been severely affected by the measures imposed under Section 232 of the US Customs Code at a 25% duty rate. As a result, steel exports to the US fell, while EU steel imports increased sharply over the same period. The EU reacted to this with a steel safeguard measure to stop the flood of diverted steel flowing into the EU. The EU safeguard measures have so far had mixed results as steel imports have reached record levels. In 2018, imports were at their highest level since 2007, as total steel imports increased by 13%. A total of 29.3 million tonnes of finished products were imported. The countries of origin for steel imports into the EU are China, India, Russia, South Korea and Turkey. Together, these nations account for 65 % of all steel imports into the EU (EUROFOR, 2019, p. 6).

The EU institutions received a letter from the bosses of the European steel industry saying that US tariffs were diverting steel to Europe. Since 2013, steel imports to the EU have doubled, although demand for steel has only risen slightly in the same period (Reuters, 2019e).

Impact of the tariffs on the Voestalpine HPM Division

The HPM department produces high performance metals, which are characterised by special material properties that

make them more resistant and polishable. These products are used in the consumer goods industry, the automotive industry, the oil and gas industry and in power plant construction. In addition, the HPM Division is a major supplier of forged parts to the power generation and aviation industries (Voestalpine, 2019, p. 8).

On 1 June, 2018, the USA introduced a tariff of 25% on steel and 10% on aluminium. This has already led to diversification effects in the global steel sector at the expense of Europe. The CEO of Voestalpine Wolfgang Eder said in an interview: "Europe has lost almost 5 million tonnes of steel, the USA has gained 2.3 million tonnes," and compared this year's development with 2017. According to Eder, Trump is ignoring the rules of the world trading system that have been in place for decades, which "leads to massive changes in international trade flows," adding that "the EU is acting weaker and smaller in international trade disputes than it actually is."

In the last four years, Voestalpine has invested around 1.4 billion US dollars in the USA and employed around 3000 people in the country. The company uses three different strategies to fight the US duties:

- The first strategy is to pass on the additional costs to consumers.
- In addition, the company submitted around 5500 requests for exemption from the tariffs. 2950 of the 3300 responses were positive. However, the important decision on the exemption of seamless steel tubes is still pending.
- The third option is to relocate production, for example from the USA to Mexico, where the Group already employs 565 people at twelve locations. However, the problem is the increased minimum hourly wages and the requirements for minimum value added.

The new US trade agreement with Canada and Mexico, USMCA (replacing NAFTA), "is generally welcome. The deviations from the previous agreement are not so great" (Industriemagazin, 2018a).

In July 2019, the Chinese Ministry of Commerce announced the imposition of anti-dumping duties on several stainless steel products from the EU, Japan, South Korea and Indonesia. The tariffs will be increased between 18.1% and 103.1%. Fortunately, Voestalpine is only slightly affected. The share of the revenue concerned is only about 8 million euro. However, increasing trade defence around the world has a negative impact on the global economy.

The Voestalpine Group has around 30 sites in China with more than 3000 employees generating a turnover of EUR 552 million in the 2018/19 business year. In line with the

Group's internationalisation strategy, around 200 million euro have been invested in the construction, expansion and modernization of sites in China over the past ten years (Industriemagazin, 2019b). Eder's warnings about the economic downturn and the trade conflict between the US and China were fully reflected at a recent press conference. The company's profit and sales have declined in the first quarter of 2019. All four divisions were faced with a decline in sales. Weak demand from the automotive industry had a particularly negative impact. While other steel producers have long been struggling with overcapacities from China and are exposed to the pressure of consolidation on the European market, Voestalpine has so far been able to set itself apart from its competitors. However, the lead has now been exhausted: the high purchase prices for the iron ore needed for production, combined with the low steel selling prices, are increasingly becoming the subject of (Die Presse, 2019).

Empirical Analysis

Empirical research is a combination of quantitative and qualitative research. The first part of the empirical research involved conducting the quantitative analysis, followed by the qualitative analysis of the expert interviews evaluation. The qualitative part was used as the last step of the empirical research to create the possibility of using the results of the previous steps in the discussion with the experts.

The approach is also subject to some limitations:

- The trade war was an ongoing topic between July 2018 and December 2019, and new developments often took place on a daily basis. Certain information or findings can become outdated within a short time.
- A further restriction concerns the expert interviews. The trade war is an issue that mainly affects China and the USA. However, some of the experts interviewed had more information from a Chinese perspective as they work in China and one of the experts is Chinese. None of the interview partners currently works in the USA to provide up-to-date information on this perspective.
- The third limitation concerns the impact of the trade war on the HPM division of Voestalpine. Only limited public information is available. Therefore, the paper also examines the effects on the entire company and not only the effects on the HPM department.
- For the quantitative analysis, the price index of all steel imports was used. However, steel is a broad category consisting of many different products. Due to time constraints, the impact on steel was analysed without further subdividing steel into specific products.

Quantitative research

For the quantitative part of the empirical research, an analysis of the price elasticity of imports from China to the USA was carried out. In addition, this investigation also examines the development of imports from China into the USA. The aim of the quantitative research was to contribute to answering the following research question: How is Voestalpine HPM affected by the trade war between the USA and China?

Price elasticities are an important analytical tool in international trade and their usefulness is undeniable. This analysis is based on the model used in "Income and Price Elasticities World Trade" by Houthakker and Magee (1969).

Under certain conditions, the income elasticities of import demand and the income elasticity of export demand of each country strongly influence the change in trade balance over time. The balance of trade between two countries can change if "their respective income elasticities of demand for exports from the other country are different," even if prices remain constant and income growth is the same in both countries. Imports will grow much faster than exports if the income elasticity of demand for their imports is higher than the income elasticity of demand for exports. This will put pressure on the country's exchange rate and slow income growth may not be sufficient to avoid balance of payments imbalances leading to a deterioration in the trade balance (Houthakker & Magee, 1969, p. 111).

Customs duties levied on goods increase their prices. The question arises whether this will lead to a change in demand for these goods. The tool used to perform this analysis was Stata. The results are presented in Figure 1. The period between January 2010 and December 2018 has been analysed (108 months), as no relevant data are currently available after this period. For this analysis, the consumer price index and the price index of all steel imports were used. The data for the quantitative analysis was collected by the "Bureau of Labour Statistics", the "UN Comtrade Database" and the "Federal Reserve Bank of St. Louis" to analyse the following hypothesis: The price increase leads to a reduction in import demand.

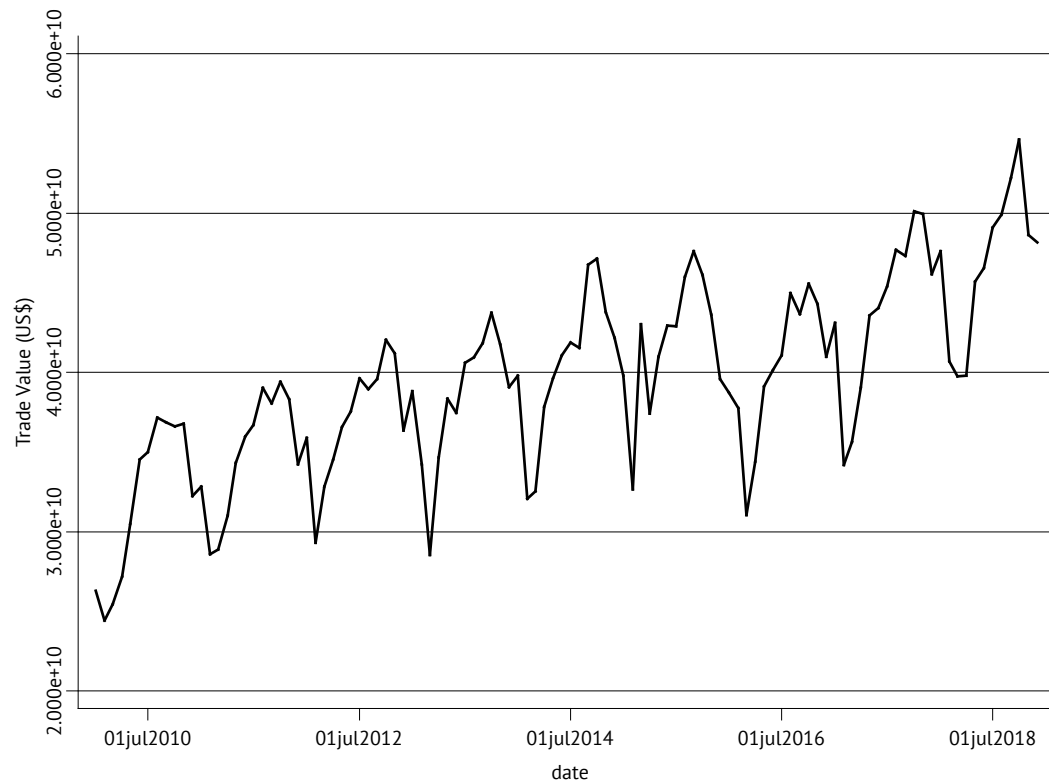
The number of observations refers to the number of months analysed. The R square measures the amount of the total variance explained in the model. The coefficient on the variable of interest is -0.351, which means that a 1% price increase leads to an average reduction of 0.35% in imports. After checking for heteroskedasticity and autocorrelation using robust standard errors (White, 1980, pp. 817-818), it can be concluded from our t-statistic of -3.67 that we can reject the hypothesis that there is no effect at a highly significant level ($\alpha=0.01$). A more advanced model could be

Figure 1. Analysis results

Linear regression					Number of obs = 108	
					F(1, 106) = 13.46	
					Prob > F = 0.0004	
					R-squared = 0.0999	
					Root MSE = .15318	
l_M	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
l_x	-.3516149	.0958517	-3.67	0.000	-.5416502	-.1615797
_cons	24.62567	.066269	371.60	0.000	24.49428	24.75705

Source: Own illustration. The data for the quantitative analysis was gathered from the “Bureau of Labor Statistics”, the “UN Comtrade Database” and the “Federal Reserve Bank of St. Louis”.

Figure 2. Development of Chinese imports to the US

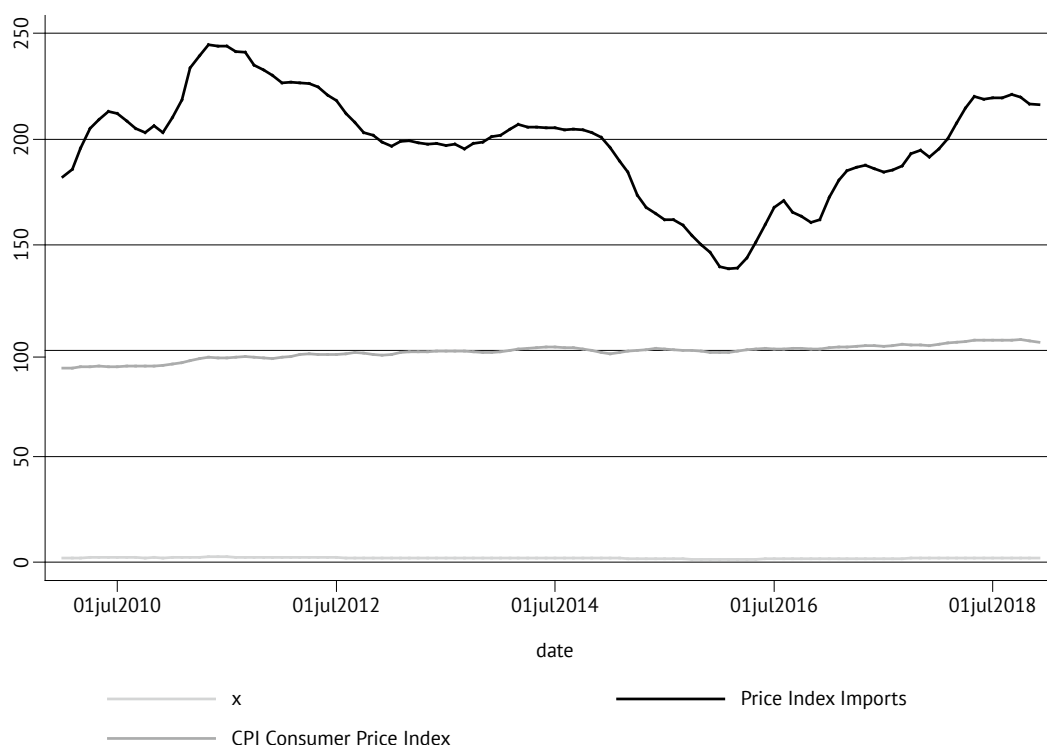


Source: Own illustration. The data for the quantitative analysis was gathered from the “Bureau of Labor Statistics”, the “UN Comtrade Database” and the “Federal Reserve Bank of St. Louis”.

constructed that could better explain the causalities, but this model shows that an increase in price has at least some effect to changes in demand.

Figure 2 shows the development of all Chinese imports into the U.S. from the beginning of 2010 to the end of 2018, and clearly shows that the total trade value of imports into the U.S. has increased dramatically over the last 8 years.

Figure 3 shows the development of the price index of all steel imports (compared to the consumer CPI price index) in the USA. CPI calculates "the weighted average of the prices of a basket of consumer goods and services, such as transport, food and medical care." The index shows how the price of each item in the shopping cart changes (Chen, 2019). The price index for steel imports does exactly the same, but only for steel products.

Figure 3. Price index of steel imports

Source: Own illustration. The data for the quantitative analysis was gathered from the "Bureau of Labor Statistics", the "UN Comtrade Database" and the "Federal Reserve Bank of St. Louis".

A look at the indices allows the comparison of figures from different years to see whether prices are falling or rising. "The government can take measures to counteract the undesirable effects of price change" (Suman, n.d.). While the CPI index has remained relatively stable in recent years, the price index of steel imports has increased sharply over the same period.

Qualitative research

Seven interviews were conducted with the experts, six of which are Austrian and one Chinese. The interview partners are the following:

- I1: Austrian expert at an Austrian trade organisation in Beijing,
- I2: Austrian expert who works as a lecturer at the FH Joanneum,
- I3: Austrian expert at an Austrian trade organisation in Hong Kong,
- I4: Austrian expert working at a research institute,
- I5: Chinese expert working as a professor in China and Austria,
- I6: Austrian expert at an Austrian trade organisation,
- I7: Austrian expert working as a professor at the University of Graz.

The questions asked were the following:

- Q1.) What general effects of the trade war between the USA and China are already being felt?
- Q2) Do you believe that the trade war will intensify in the future or will both parties succeed in defusing the conflict?
- Q3) Both sides have introduced new tariffs in recent months.
 - 3a) How do the tariffs affect companies in the countries observed?
 - 3b) How are consumers affected by the tariffs?
- Q4) In your opinion, could there be other developments besides tariffs that would have negative consequences for companies?
- Q5) Are there positive effects of the imposition of duties?
- Q6) Are there opportunities for companies to benefit from the tariffs?
- Q7) What strategy can international companies use to mitigate the effects of tariffs?
- Q8) What strategy are companies pursuing in the current trade war between the USA and China to reduce the negative effects?
- Q9) What strategy would you recommend specifically for companies in the steel industry?

The interviews each lasted between 22 and 60 minutes, with an average duration of about 35 minutes. The interviews were conducted by telephone or Skype. Due to the qualitative nature of the interviews, they cannot be recorded statistically. The entire methodology underlying the interviews follows Mayring's approach (Mayring, 2016, p. 71).

Q1: An increase in uncertainty and unpredictability (I1, I2, I3) and negative effects on the Chinese economy (I2, I4, I7) were the most common responses. Companies will try to act confidently in public and show no signs of nervousness (I2). Increased uncertainty could also lead to new investments being postponed. However, according to a survey in 2018, Austrian companies operating in China have indicated that they have not felt any significant influence so far (I1). Many American companies rely on parts from China to manufacture their products, and some of them may go out of business unless they find a new source for these goods (I5). As a result of the trade war (I4), China is experiencing the slowest growth in decades. Moreover, the dispute is leading to massive changes in trade flows (I4). Despite tariffs on Chinese imports, the US trade deficit with China has not changed (I7). Other effects include the impact on US and Chinese companies (I5) and the potential damage to the global economy (I6, I7).

Q2: Almost all experts said that it depends on what the Americans do and President Trump will do (I2, I3, I4, I5, I6, I7). The consensus is that China wants to end the trade war and has no interest in further escalation. The actions of President Trump will, however, carry great weight, and 2020 elections could have a significant impact (I6, I7). However, the trade war cannot be ended until the USA is ready to treat China equally (I5).

Q3a: Many experts said that the affected companies, as suppliers or buyers, are struggling with falling profit margins (I2, I4, I5, I6). Some companies are trying to diversify, either by changing their supply chains or by looking for new markets (I1, I6). The trade war creates a difficult environment for companies that do not operate globally (I3). American products will lose competitiveness due to higher prices (I5). However, the impact often depends on the specific companies (I7).

Q3b: All experts said that consumers have to pay higher prices for imported goods. Consumers will lose purchasing power (I4) and certain products will subsequently no longer be available (I6). An example of this is the increase in the price of washing machines in the USA (I7).

Q4: The global economy will grow more slowly and the general outlook is less positive (I1, I2), companies around the world will feel the effects of the trade war (I5) and

companies are facing increased uncertainty (I3). In addition, the USA presents itself as an unreliable trading partner and violates principles that have been valid for decades, such as the free movement of goods and cost advantages (I4). American companies will suffer long-term consequences because necessary structural changes will not be made, as they do not currently have to compete fairly (I6).

Q5 and Q6: Most experts said that there could be at least some positive effects. Companies operating in customs-protected sectors can benefit from them (I2, I4, I6, I7). Moreover, undertakings protected by tariffs will be less exposed to competition (I4). There could also be indirect effects through changes in consumer behaviour (I1), and companies that already produce locally will have an advantage (I3). Tariffs can also help developing countries to build up domestic industries without facing strong external competition (I6). However, one interviewee said that there are no positive effects of tariffs, other than the fact that governments collect some money through tariffs (I5) and that consumers and businesses are concerned about the trade war.

Q7: The experts mentioned a variety of strategies. One way to mitigate the negative effects is to restructure the supply chain by relocating procurement or changing the production site (I3, I4, I5, I7). Companies must also be able to follow new developments and react quickly. (I1). Another possible strategy is an attempt to influence decision-makers (I2). Having more than one supplier also reduces the geopolitical risk (I3). In addition, companies can take advantage of intra-company trade if they operate globally (I4). Companies should conquer new markets, which can be achieved through technological superiority (I6).

Q8: Although supply chain restructuring is a possible option, companies will not implement this strategy immediately and will first evaluate their options, but some companies are more flexible than others (I3, I6). Some Chinese exporters are lowering their prices to compensate for the duties (I4). Some American companies may relocate their production facilities away from China (I5), while Chinese companies export their goods to the US via Vietnam (I7).

Q9: Evaluating good strategies for steel companies is difficult and depends heavily on the company in question (I2, I4, I6, I7). In addition, the strategies also depend on the company's products (I6) and the company's competitors and customers, as well as the location (I7).

One issue that came up very frequently in all experts interviews was the positive and negative impact of the ongoing trade war between the US and China on the EU and its Member States. The first possible positive effect mentioned by one interviewee is that European products are substitutes

for American products on the Chinese market. One indication of this could be the increase in Austrian exports to China since the beginning of the dispute (I1). The European countries are interested in filling the gaps created by the trade war. The European agricultural industry already sees benefits. However, both China and the US are important markets and trading partners for the EU. The effects of the trade war may therefore also have a negative impact on the EU (I4). It is important to note that Europe has lost much industry to China in the past (I2). Another potential problem for the EU is the fact that it may be increasingly targeted by the US and face new tariffs (I3). This would cause major problems for countries like Austria which export a great deal (I6). Chinese companies are shifting part of their investment from the US and may choose Europe as a new destination (I5). Certain goods that are currently produced outside Europe may in future be produced in Europe. The EU is an area with a high demand for products. The Member States alone are too small to exert influence, but the EU is large enough to play an important role on the international stage and as a trading bloc (I7). Protectionism and resistance to free trade (TTIP and so on) are on the rise. Brexit is a good example of this. Such a situation is dangerous because it has its own dynamics (I7).

Discussion and Conclusion

The final chapter of this paper brings together the results and findings of the theoretical analysis and the empirical research that will help answer the three research questions outlined at the beginning of the paper. This process will add to the existing literature new insights into the trade war between China and the US and its effects, strategies to mitigate the negative effects of tariffs, and discussions on optimal strategies for companies in the steel industry.

The relationship between China and the USA lacks trust. China's politicians are convinced that the USA is trying to stop its rise to world power. American politicians are now concerned about the theft of trade secrets and technology (Liebertahl & Wang 2012, p. vi-ix). Tensions between the two countries have steadily increased and have now reached a point where they are difficult to resolve. US companies operating in China often complained about the bad treatment in China. Some companies had their technology stolen or were forced to give it away. The USA tried to raise this issue with the WTO, but was unsuccessful. The WTO mechanism to avoid bilateral trade disputes lost its effectiveness as the US made less use of the complaint procedure to resolve such issues. After China's accession to the WTO in 2001, many other trade barriers – instead of tariffs – were used by both countries against each other (Bown, 2019, p. 2-3). Moreover, there are already several visible effects of the current war. Although global growth has so far been slightly impaired,

recent escalations could change this and even disrupt supply chains worldwide (Eugenio, Gopinath & Adil, 2019).

The trade war is causing great uncertainty among companies, which in certain cases has led to the postponement of planned investments. China's growth has slowed down and this could further affect the global economy. Companies, on the other hand, are facing falling profit margins, and American companies using parts from China could lose competitiveness due to higher prices. Some companies are diversifying their supply chain to be less dependent on production in China and are trying to establish themselves in new markets to compensate for their losses.

Despite the tariffs imposed by the USA on Chinese goods, the trade deficit with China has hardly changed (I7). Meanwhile, the dispute is having a negative impact on producers and consumers (Eugenio, Gopinath & Adil, 2019). This development was also confirmed by every survey expert who said that consumers are now paying higher prices for goods. Furthermore, certain products are no longer available to consumers.

The trade war between July 2018 and December 2019 also leads to massive changes in international trade flows. Steel serves as a good example. While steel imports from the USA fell sharply, more and more steel is finding its way into the EU (Industriemagazin, 2018a).

Effects of the trade war on Voestalpine HPM

In March 2018, the US introduced a 25% tariff on steel imports from the EU and many other countries (Alosi & Rocha, 2018). US tariffs have a major impact on global steel trade. While more and more steel is flowing into the EU, steel imports from the USA have declined. The EU has taken safeguard measures to protect its domestic industry, but the results so far are not impressive and steel imports have reached a new peak (EUROFOR 2019, p. 6).

Managers of steel producers in Europe sent a letter to the EU warning that steel would be diverted to Europe because of US tariffs (Reuters, 2019e). Steel products were also targeted by China as the country increased tariffs on stainless steel products. While this development only affects Voestalpine to a minor extent, the increasing protectionism in many countries is having an impact on the global economy (Industriemagazin, 2019b).

Voestalpine's profit fell by 60% in the first quarter of 2019, and the revenues of all four divisions declined. Overcapacities from China and the declining demand from the automotive industry are causing problems for the company (Die Presse,

2019). The Voestalpine HPM Division is also feeling the negative effects of the trade war. The division's main product segment in China, tool steel, is affected by lower tool exports from China to the USA. International suppliers of tool steel are concentrating more on the European market due to the increased protectionist stance of the USA. The division is also feeling the effects of the reluctance of consumers in China to buy new cars in the wake of the ongoing trade war with the USA (Voestalpine 2019, pp. 72-73).

The price index of steel imports to the USA has risen significantly in the last two years, even before the current tariffs imposed by the Trump administration came into force in March 2018. Therefore, companies using steel as an input for their products are now faced with higher costs for the production of their goods. Rising costs mean that these producers will have to raise their prices to achieve the same profits as before. The analysis in the quantitative part showed a price elasticity of -0.35% for all imports, which means that a price increase of 1% on average leads to a 0.35% reduction in imports. This means that consumers are not prepared to pay higher prices at least for everyday goods.

Strategies to mitigate the negative effects of tariffs

One example of a company suffering the effects of the trade war is GE that estimates the cost of tariffs at up to \$400 million (Leonard, 2019). Companies like GE have a variety of options to try to reduce the cost of tariffs depending on their products and markets. One of their strategies is to replace the components affected by tariffs with components that are not subject to tariffs. In addition, they GE purchased certain goods before the customs duties came into force (Leonard, 2019).

Another possible strategy for companies is to change their supply chain (Business Insider, 2019) by shifting procurement and having more than one supplier for important goods or by importing from elsewhere. The establishment of new sourcing sites is the strategy advocated by several experts from the clothing and footwear industry (Butler-Young, 2019). Companies can also set up production facilities in other countries in order to avoid customs duties. It is also important for companies to be flexible and to be able to make decisions based on new developments and to talk to decision-makers.

Conquering new markets by diversifying the product portfolio is also a way for companies to compensate for problems in other markets. A reduction in the cost of tariffs is also possible through the "first sale rule". However, this requires a middleman and multiple sales of a product before it is brought into a country where duties apply (Zhang, 2019).

The choice of the best strategy depends very much on a specific company. In addition, the best strategy also depends on the industry, the products of a company and the competitors and customers of a company.

Voestalpine, just like GE, implemented several strategies to resist the tariffs imposed by the USA. The company has completed over 5,000 applications for exclusion of products from the duties. The requests were granted in the majority of cases. It can therefore be assumed that this strategy is working well for the company. In addition, Voestalpine passes on part of the cost of the tariffs to its consumers. Last but not least, the company has the option of relocating parts of its production from the USA, for example to Mexico (Industriemagazin, 2018a).

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Trgovinska vojna med ZDA in Kitajsko: vpliv na avstrijsko podjetje v jeklarskem sektorju

Izvleček

Namen članka je podati informacije o trgovinski vojni med Kitajsko in ZDA. Članek analizira posledice trgovinskega spora, razpravlja o vplivu na avstrijsko podjetje v jeklarskem sektorju, daje pregled mogočih strategij, s katerimi lahko podjetja zmanjšajo negativne učinke carin, in razpravlja o strategijah, ki predstavljajo dobre izbire za podjetja v jeklarski industriji. Uporabljena metodologija obsega teoretično in empirično raziskavo, ki temelji na kvantitativni analizi, vključujoč intervjuje s strokovnjaki. Rezultati kažejo, da je bila trgovinska vojna med Kitajsko in ZDA v popolnem zamahu do januarja 2020. Učinki ne zadevajo samo vključenih strani, temveč tudi druge, kot npr. Evropsko unijo. Podjetja lahko uporabijo različne strategije, da bi ublažila negativne učinke trgovinskih vojn. Najboljša strategija za podjetje temelji na njegovi strukturi, njegovih proizvodih in njegovih konkurentih. Članek prispeva nove vpogleda k obstoječi literaturi o trgovinski vojni med Kitajsko in ZDA in njenih učinkih, o strategijah za blaženje negativnih učinkov carin ter k razpravam o optimalnih strategijah za podjetja v jeklarski industriji.

Ključne besede: trgovinska vojna, Kitajska, ZDA, carine, EU, strategije

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Traditional Procurement versus Public-private Partnership: A Comparison and Synergies with Focus on Cross-Border Contracts

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Abstract

Government purchases represent an important part of the world economy. Selling to the public sector is a key business activity for certain industries or service providers. The public procurement segment's attractiveness is also underlined by the security of payment and large extent of supplies. With globalisation as a worldwide phenomenon, businesses do not have to rely only on domestic institutions; they can enter international B2G markets as well. However, the ability of private companies to do business with foreign governments is limited by various national legislations as governments settle the procurement regulation with respect to their national interests. In the following overview article, the authors analyse the two main and typical procurement types – traditional procurement and public-private partnership – with regard to recent development trends, international regulatory framework, opportunities and barriers to entry for European businesses. The main goal of the paper is to define, based on this analysis, the main differences and possible synergies of the traditional procurement and public-private partnership while focusing on cross-border contracts. This paper can be regarded as useful for business, academia as well as the public sector.

Keywords: public procurement, public-private partnership, cross-border contracts, cross-border bidding

Introduction

Government purchases account for a significant share in the world gross domestic product. The government has to decide whether to obtain the desired goods/services/works externally or internally (Pavel, 2013). When choosing the so-called external production, the government has two main options – traditional procurement and public-private-partnership projects, the two main procurement types. However, each of these has its own specificities and regulation.

Selling to the public sector is a key business activity also for certain industries or service providers depending on their entrepreneurial activities. However, the public procurement segment's attractiveness is also underlined by the security of payment and large extent of supplies. With globalization as a worldwide phenomenon, businesses do not have to rely only on domestic institutions; they can enter international B2G markets as well. However, the ability of private companies to do business with foreign governments is limited by various national legislations as governments settle the procurement regulation with respect to their national interests.

Therefore, in the following overview article, the authors first analyze the traditional procurement and public-private partnership with regard to their specificities, recent development trends, international regulatory framework, opportunities and barriers to entry for European businesses. Secondly, they compare the traditional procurement and PPPs. The main goal of the paper is to define, based on this analysis, the main differences and possible synergies of the traditional procurement and public-private partnership while focusing on cross-border contracts.

Cross-Border Public Procurement

International public procurement markets

Public procurement, or in other words, the purchase of goods, services or construction services by governments, state-owned enterprises or other public entities, is increasingly used by these institutions as a strategic tool to deliver their mandates and achieve broader policy objectives (OECD, 2017). In the past years, governments of OECD members spent on average almost one third of the total general government expenditure on public procurement (OECD, 2015). This level of spending suggests that governments can exert significant influence on the outcomes of markets in their country by means of public procurement (Gourdon & Messent, 2017). Variations in the structure of public procurement spending reflect each country's specific public service portfolio. Health expenditures on average represent the largest share, accounting for almost one third of public procurement spending in OECD countries (29.8%). Economic affairs (17%), education (11.9%), defence (10.1%) and social protection (9.8%) represent significant shares of public procurement spending across OECD countries as well (OECD, 2017).

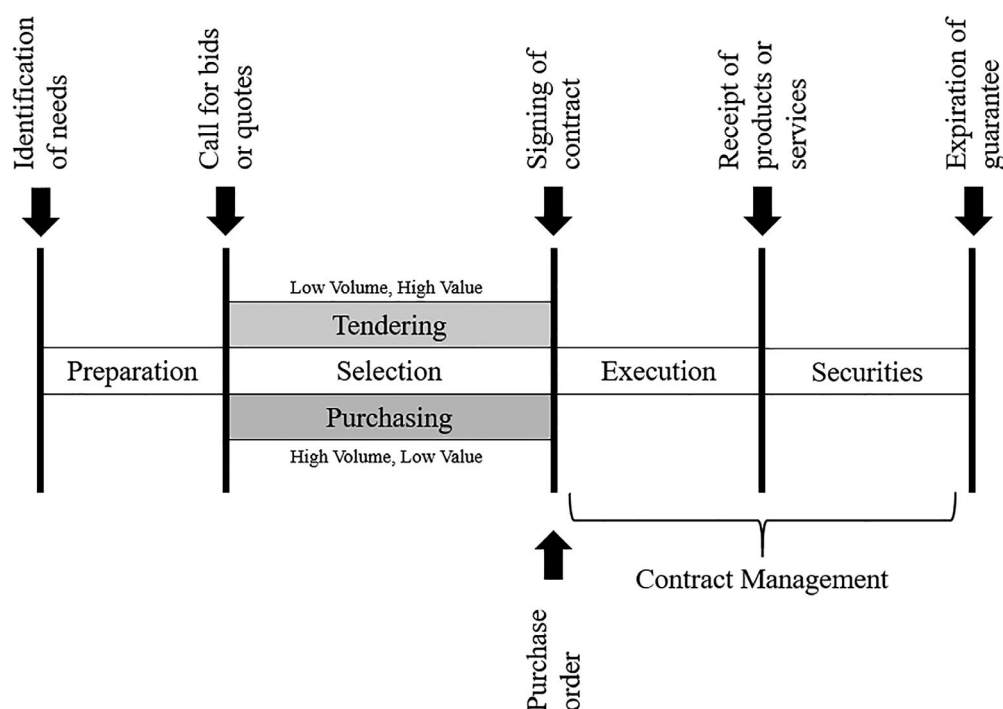
Traditional public procurement processes usually follow four consecutive steps (World Bank, 2004). The first phase of the process is preparation, when a government or a public entity determines and identifies the needs that have to be

met and the desired works, goods or services. The results of the first phase are a precise specification of the product, budget and the procurement method. The preparatory phase is followed by the selection process, which means searching for the best-evaluated bid through procurement methods. The methods typically used include tendering (procurement of specialized products with a high economic impact as it involves low volume and high value contracts) and price quotation (procurement of standardized products involving high volume and low value contracts).

The second phase concludes with the signing of the contract, in the case of a tendering process, or with the issuance of the purchase order or the delivery of the service, in the case of a price quote (World Bank, 2004). After this, the process of implementation takes place and the supplier delivers ordered goods or services while the purchasing public entity makes the corresponding payment. The whole procurement process is completed with the phase of securities that ends when the guarantee expires. The above-mentioned process is also depicted in Figure 1.

The estimations of the size of the international public procurement markets vary depending on the data sources used. Trionfetti (2000) calculates the size of the public procurement market for nine OECD members and arrives at 7-9% of the GDP, when the calculations are based on the data of the United Nations, and at 10-18% of the GDP, when the calculations are based on the data of the International Monetary Fund. The most recent calculations of the OECD say that the size of the public procurement approximately represents 12% of the GDP in OECD members ranging from 5.1% in Mexico to 20.2% in the Netherlands (OECD, 2017). More details are presented in Figure 2, which also reflects the fact that the higher the general government expenditures, the bigger the size of the public procurement market. Pavel (2013), however, points out that this relation is complicated by differences in structure of general government expenditures – e.g. high public investments increase the size of the procurement market, whereas social transfers do not.

Government procurement policies are typically made up of procedures and rules that government entities must follow in order to meet the objectives of their procurement while minimizing the costs of taxpayers (Gourdon & Messent, 2017). Pavel (2013) states that there are also goals other than economic goals referring to the so-called Green Public Procurement or Social Public Procurement. One of the important goals may also be favouring domestic businesses, which can be the reason for the low level of cross-border procurement or cross-border bidding. Direct cross-border procurement represents a relation of a government or a public entity with a foreign contractor. Indirect cross-border procurement, on the other hand, represents a relation with a

Figure 1. Government procurement processes

Source: World Bank, 2004, author's drawing.

domestic contractor who, however, has a foreign partner or subcontractor, supplies goods or services from abroad, or the contractor itself is a foreign subsidiary (Kommerskollegium, 2011). According to Kubátová et al (2013), who analysed the public procurement market in Slovakia, the participation of foreign businesses decreases the costs in case of construction services (the same was not proven for goods and services). Despite this, the share of cross-border procurement remains limited. The share of direct cross-border procurement in the EU in its member states usually accounts for 0-6% in the total number of contracts (European Commission, 2011). Therefore, the authors further analyse, in the following chapters, the international regulatory framework, opportunities and barriers to entry.

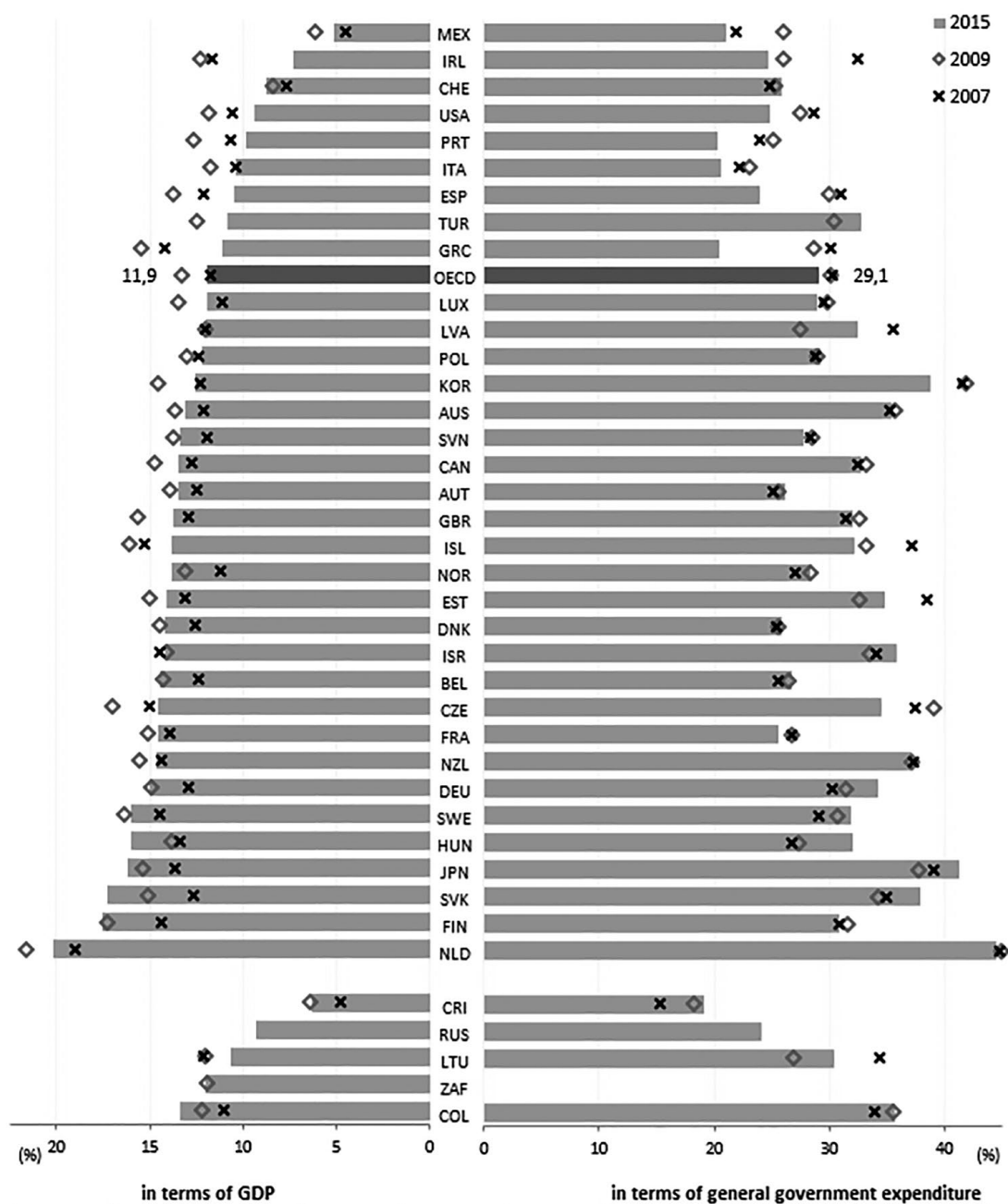
International regulatory framework

National regulation on governmental procurement belongs to an area that in developed countries complies with the international trade agreement which became a part of the multilateral trading system under the World Trade Organization. The Governmental Procurement Agreement (GPA), however, is not signed by all WTO members as are other agreements of the system. The reason lies in the history and in the complexity of the topic. Developing low-income countries found it difficult to be committed to procurement rules effected by central and sub-central government

entities and they do not see reciprocal concessions from GPA members as a valuable outcome of the membership (Hoekman & Kostecki, 2009). GPA is currently implemented in 47 countries, including the EU Member States, and other ten countries are in process of acceding to it. Nevertheless, it is the most extended international framework that provides compulsory rules for governmental procurement policies and, according to the WTO (2019), it opens a procurement market of 17 trillion USD annually to international competition. The GPA has been re-negotiated several times and the most recent revision comes from 2006. It simplified the rules, reflects advances in information technology and expands coverage of the agreement while opening additional government procurement to international competition.

The GPA imposes non-discrimination while applying the National Treatment and the Most Favoured Nation Clause upon member governments. Those have to provide the same treatment under governmental procurement to the products, services and suppliers of the other signatory party that is accorded to goods, services and subjects coming from other signatories or procured domestically. For procurement, any measure, including the electronic one, and any contractual means can be used, but it has to be conducted transparently. Contractual option includes purchase, leasing, rental and hire purchase. The provisions of the GPA are applied only if the value of the contract exceeds a certain threshold level (Wouters & DeMeester, 2007). GPA states that the

Figure 2. General government procurement spending as a percentage of GDP and total government expenditures, 2007, 2009 and 2015



Source: OECD, 2017.

technical specification of the procurement should not become an obstacle to international trade, it means that the characteristics of the products or services to be procured must not discriminate or favour any supplier in the process of preparation, adoption or application of the procurement. The transparency principle should be applied to tendering procedures, qualification of suppliers, invitation to tender, selection procedures, time limits, documentation requirements, procedures for the award of contracts and negotiations with tenderers. Moreover, the GPA also rules specific procedural obligations.

The rules stated by the GPA text are accompanied by the schedule of commitments of all signatories. In the schedule, they specify how their market is open for foreign supplies of goods, services and construction services under the governmental procurement in a form of a positive list. For practical use, the most important role is devoted to the commitments of individual countries, as they state in their schedule the coverage related to the procurement activities and entities, and also list the goods, services and construction services suitable for procurement (WTO, 2019).

In countries non-signatories of the GPA, discriminatory practices in the area of governmental procurement are used, among them bans on participation by foreign bidders or local content and offset requirements. Less distortive effect than above mentioned practices have price preferences that are also more transparent. Those preferences are allowed by multilateral development banks under certain conditions and limits, and the UNCITRAL Model Law on Procurement provides rules for their use (Hoekman & Kosteki, 2009).

Opportunities and barriers to entry for EU businesses

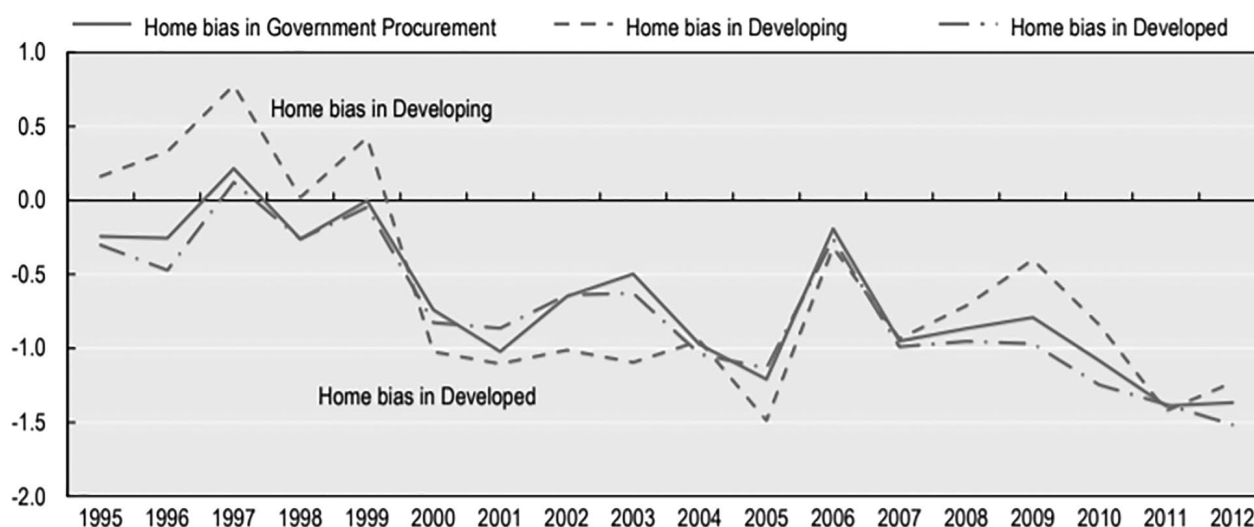
As the authors mention in chapter on International public procurement markets, public procurement can be a way of favouring domestic industries. Despite the existing international legislative framework, home bias in public procurement is a persisting phenomenon. However, measuring domestic bias is complicated as it is usually not explicit. The home bias is not directly observable for it is usually the result of tacit discriminatory behaviour not codified in written rules, or it can be the result of procurement procedures that unintentionally impede foreign firms from applying or winning contract awards (Gourdon & Messent, 2017). What is more, calculations of these authors indicate that the home bias effect even increases throughout the years. As Figure 3 shows, the home bias is more pronounced in developed economies with a coefficient of approximately -1 (-97%), implying that the government discriminates completely, while the home bias is significantly less in developing countries (-66%). Results also indicate that discrimination is becoming more severe in both regions, by 6.6% and 6% respectively.

Besides the trend of domestic bias, businesses have to face many other barriers when entering international procurement markets. Some of them are identical with barriers present in standard international B2C (*business-to-consumer*) or B2B (*business-to-business*) relations, including language barriers, exchange rate volatility or high level of competition. Some of the barriers are specific to B2G (*business-to-government*) relations. The European Commission (2011) conducted a survey among 250 businesses to find their views of different potential obstacles to cross-border bidding based on their experience.

The following barriers were assessed, starting with the one that proved to be the most relevant:

1. Lack of experience in doing business abroad;
2. Language barriers;
3. High competition with national bidders;
4. Legal requirements leading to market entry barriers in the awarding country;
5. Cost level in general higher at home than abroad;
6. Resources necessary for participating in cross-border tender procedures higher compared to procedures in home country;
7. Unfamiliar formal requirements;
8. Risks imposed by possible currency exchange rate fluctuations;
9. Additional costs due to geographic distance, i.e. implementation of contract more costly compared to delivery close to own location;
10. Different kinds of required technical specifications, compared to the experience in their own member state (*the survey was conducted among EU member states);
11. Tax or social insurance differences leading to cost disadvantages.

Figure 3. Trend of home bias in government procurement over years



Source: Gourdon & Messent, 2017.

The same survey also shows that, compared to SMEs, large entities (>250 employees) participate more often in both public procurement tenders in general and direct cross-border public procurement in particular. What is more, high competition leads to lower success rates in public procurement tenders in general, and to lower participation and success in direct cross-border public procurement. In other words, businesses with fewer competitors bid more often cross-border. This is in line with the assumption that cross-border procurement is especially relevant for specialised goods/services/works, where there are only a limited number of potential suppliers, and is less relevant for commodities. Bearing these facts in mind, barriers to entry can be even higher for small- and medium sized enterprises.

This also corresponds with the analysis of the European Bank for Reconstruction and Development (EBRD, 2017) that comes with additional challenges SMEs have to face. The analysis is based on the examination of the public procurement market in Chile. The EBRD (2017) states the following challenges:

1. Very large contracts;
*As mentioned in chapter 2.2, international regulatory framework covers only procurement above certain financial thresholds, procurement below these thresholds are not regulated in this respect.
2. Insufficient access to information on business opportunities in public procurement;
*Information asymmetry can be also one of the reasons why the chances of SMEs on public procurement markets are lower. According to Neumannová & Štěrbová (2018a), there are not always single points of access for procurement notices, which also goes hand in hand with the fact that the notices are not always translated to one of the commonly used languages.
3. Lack of knowledge regarding public procurement procedures;
4. Excessive bureaucracy;
5. Limited experience in bidding;
6. Expensive standards and certification requirements;
7. Disproportionate levels of technical qualification;
8. Disproportionate levels of financial qualifications and incompatible payment terms;
9. Unclear tender requirements;
10. Lack of time to prepare bids;
11. Preference for lowest price tenders;
12. Centralization of public procurement contracts;
13. Lack of feedback from public buyers.

In other words, there are four categories of barriers – legal, complexity, access and capacity.

According to Neumannová and Štěrbová (2018b), one of the opportunities for SMEs consists in future work

programs of the World Trade Organization with regard to the Government Procurement Agreement. This would, however, also be conditioned by increasing the number of the GPA parties. Another opportunity can as well consist in creating synergies with regional trade agreements that usually deepen the commitments of their partner countries with regard to financial thresholds, covered entities and covered goods/services/works. Besides the commitments themselves, the RTAs often establish free online access through a single point to public procurement notices.

Cross-Border PPP Projects

International markets of PPP projects

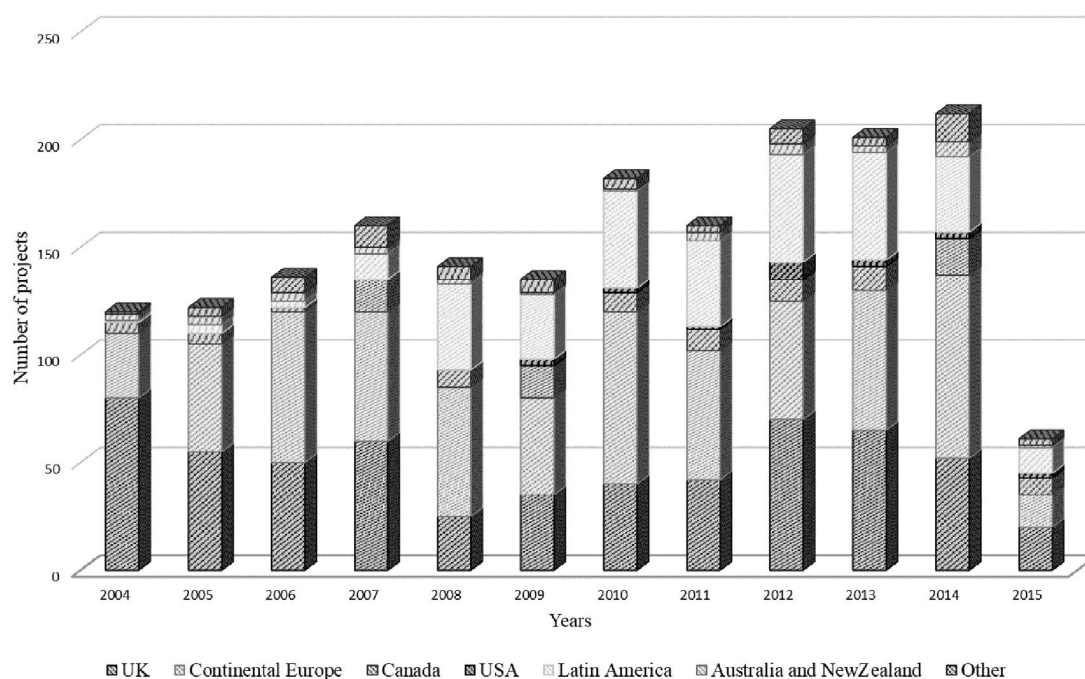
In a country with sustained underinvestment in infrastructure, economic competitiveness can suffer. The global “infrastructure gap” is so wide that closing it by 2030 will require an estimated US\$40 trillion to US\$50 trillion worldwide (E&Y, 2015). Therefore, it is very important to run infrastructure procurement right. One of the ways is a good combination of public procurement project with public-private partnerships (PPPs). Figure 4 shows the geographic spread of the PPP projects in the world.

The UK has long tradition in PPPs, the market is always adjusting to the new methods, and government actively supports its development. In continental Europe, beside the banks, the institutional investors are getting more initiatives that include government-sponsored credit enhancements toward longer-term debt solutions. Canada has an active financial market with government support at all levels, including efficient collaborative procurement. Australia belongs to the world’s pioneers in using the PPP model, the commercial banks, however, still over helm other forms of institutional investment. New Zealand is a small market, but PPPs are playing a constantly growing role with the full support of the government. In Latin America, some countries have been running the PPP programs for more than two decades, however, poor management and unsophisticated legislation is a major challenge. The US has much potential, but it is resistant to using PPP for social infrastructure projects, as most benefits are seen rather in tax concessions and business-oriented projects, like transportation. Asia is expected to be one of the largest markets for infrastructure development over the next decade, and PPPs seem to be widely accepted concept. In Africa, PPPs face significant constraints, as limited financial markets, inadequate legal and regulatory frameworks, an absence of technical skills, and political and national risks.

Typical examples of implementation through PPP are projects in the fields of transport infrastructure (highways, tunnels, bridges, high-speed), administrative possibly (accommodation capacities like offices, courts, dormitories, administrative facilities, prisons), healthcare (hospital,

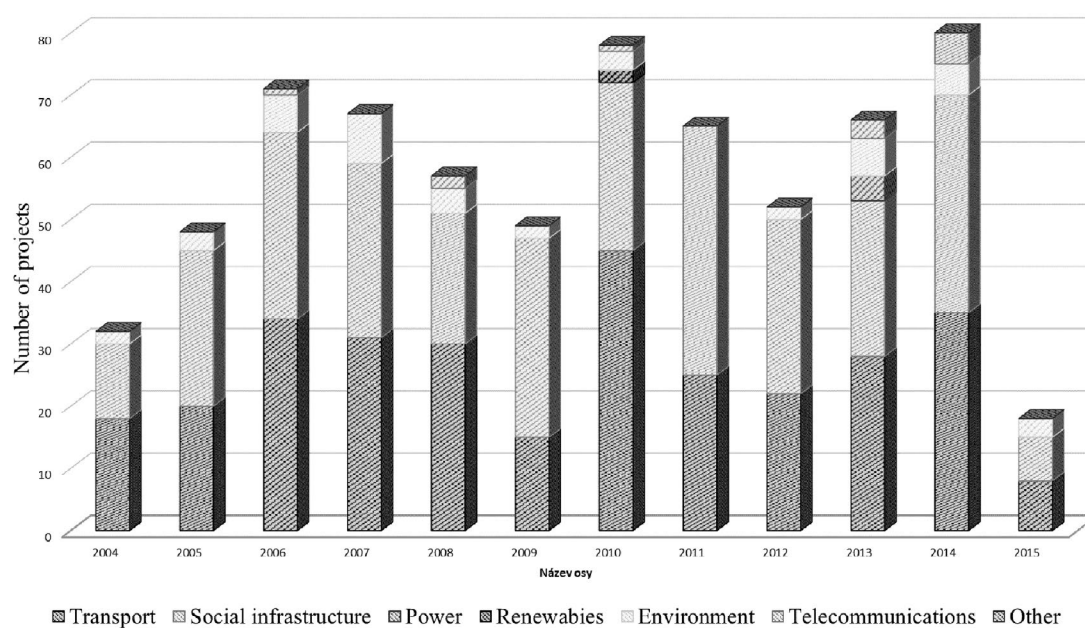
supply facilities), education (university complexes, dormitories, schools), defence (equipment, special infrastructure) and utilities (water supply). Figure 5 shows the sectoral spread of the PPP projects in the Continental Europe.

Figure 4. Number of PPP projects by regions - global



Source: E&Y, 2015.

Figure 5. Number of PPP projects by sectors – Continental Europe

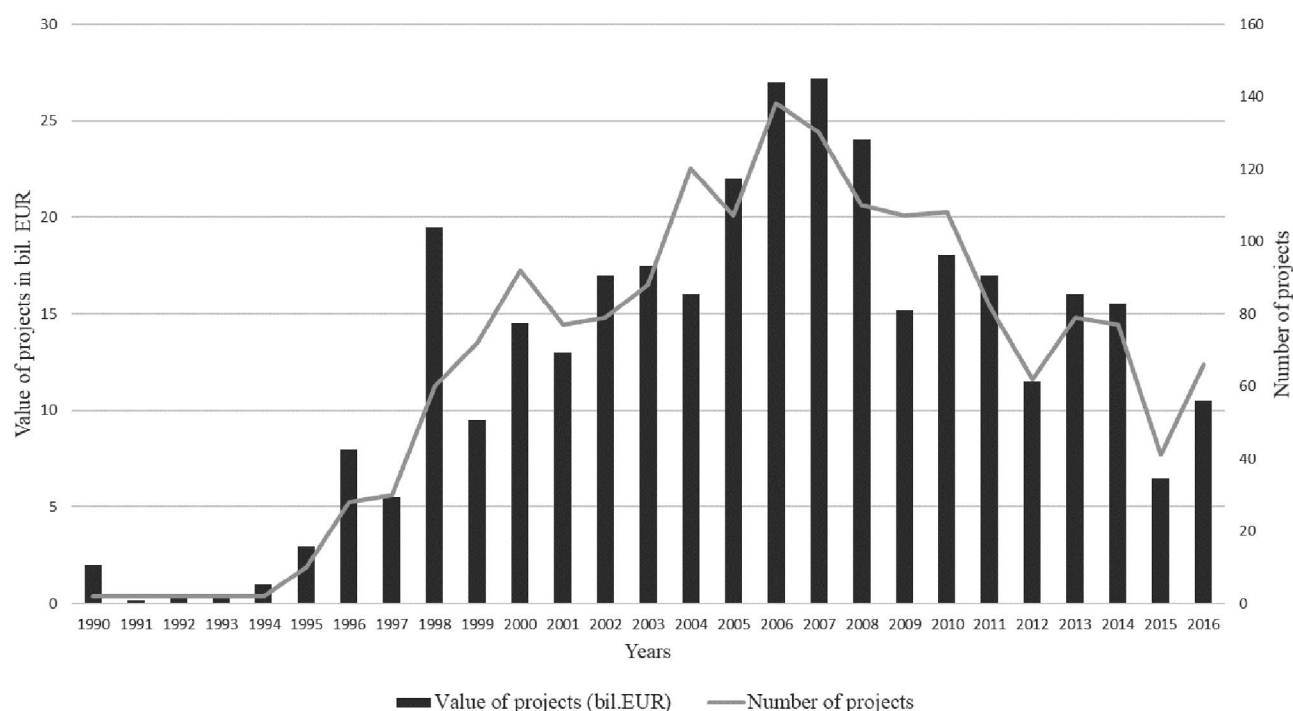


Source: E&Y, 2015.

In terms of the number of PPP projects and their monetary value, there was an increasing growth from 1990s to 2007, followed by a decreasing trend that lasted until 2016. Figure 6 shows the year-by-year development within this period.

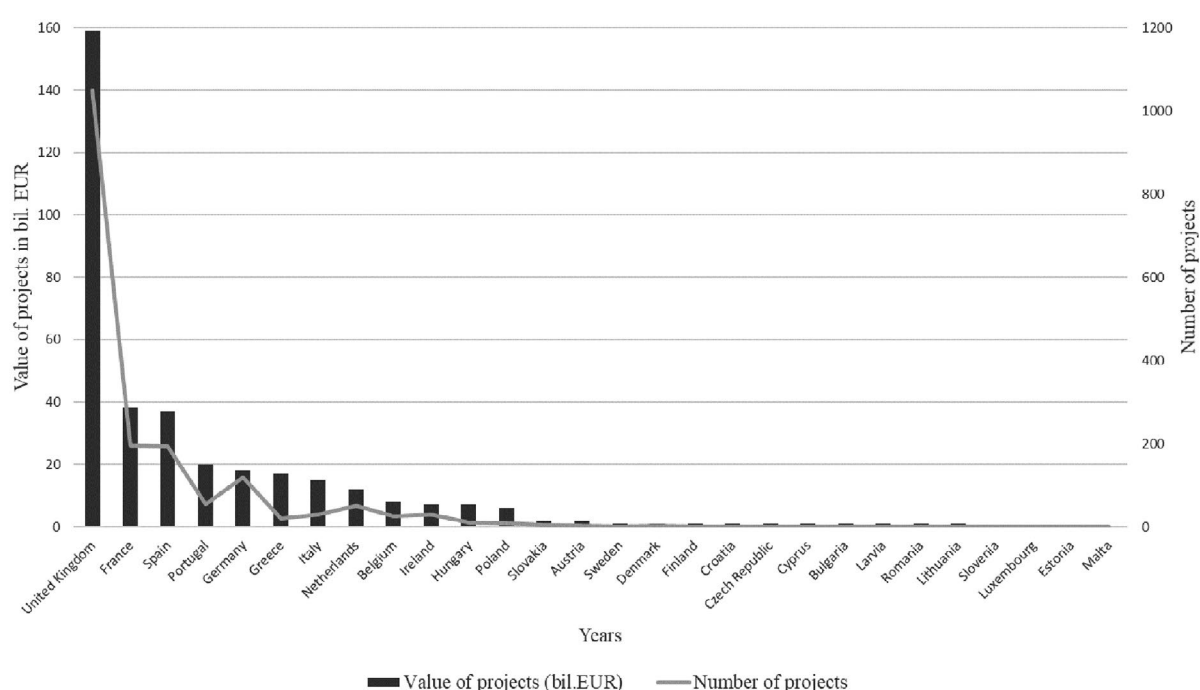
From territorial point of view, the United Kingdom exceeds all other European countries extensively, followed by France, Spain, Portugal and Germany. The smallest number of PPP projects can be seen in Central Europe, Balkan Countries and the Baltic States. Figure 7 shows the overview of the number of projects in Europe in 1990-2016.

Figure 6. The European Union PPP market development from 1990 to 2016



Source: European Court of Auditors, 2018.

Figure 7. The European Union PPP market per countries from 1990 to 2016



Source: European Court of Auditors, 2018.

International regulatory framework

Cross border PPP is not regulated by any multilateral agreement that would provide its principles, rules and conditions. PPP should respect the legislation of the host country that may decide either to enact a specific PPP law or to regulate PPP by other types of legal acts, for example by the governmental procurement law. A specific PPP law gives priority over laws regulating individual sectors, as does the regulation on governmental procurement. In such cases, very often the process of developing, procuring, implementing and reviewing PPP projects is related to an establishment of a clear institutional framework. Even if an international agreement on PPP does not exist, there are still international guidelines that can help each government in the guidance of PPP and laws drafting.

The mentioned international guidelines are provided by United Nations Commission on International Trade Law (UNCITRAL), European Bank for Reconstruction and Development (EBRD) or Organization of Cooperation and Development (OECD). We find also references to PPP in UNIDO Build Operate Transfer (BOT) guidelines. As a matter of fact, the suggested guidelines are respected by individual governments if they decide to do so.

The UNCITRAL's Legislative Guide on Privately Funded Infrastructure Projects of 2000 (UN, 2001) provides legislative recommendations to governments with an aim to clarify and explain the principles of the PPP and to establish a legal framework that would support the participation of private subjects in infrastructure projects. It is namely recommended that the regulation ensures transparency, fairness and long-term sustainability, and eliminates unnecessary restrictions on private sector participation. The Guide also refers to financial, regulatory, legal, policy and other aspects of PPP. The recommendations address the concerns that may arise, namely by private sector when participating in PPP, and offer advice on adequate governmental economic and financial assistance, administrative structures, authorities, practices, organizational capacities, expertise, human resources, and financial and economic stability. A model of suggested legislative provisions is a part of the Guide.

ECRD defined in 2005 a set of principles that should be followed in PPP. The principles are in compliance with the guidelines provided by UNCITRAL, however are aimed more on results that have to be achieved and do not concentrate on the process. They reflect international standards and best practices in order that the foreign private subjects can consider them in their decision to invest into projects in the host country. They are based on transparency and fairness, accessibility of rules and procedures, and aimed

at providing a stable and predictable legal framework. The protection of investors as well as of the public sector are their main goals, through negotiability of PPP agreements and enforceability of them. The principles, even if they are not exhaustive, lead governments to the identification of a need of economic and legal reforms that should be accomplished in order to benefit from PPP.

The ECRD principles were drafted also based on the European Union papers and legislation, in concrete European Commission Interpretive Communication on Concessions under Community Law (2000/C 121/02), European Commission Guidelines for Successful Public-Private Partnerships (2003) and European Commission Green Paper on Public-Private Partnerships and Community Law on Public Contracts and Concessions (2004).

Other guidelines in the PPP are OECD Principles for Public Governance of Public-Private Partnership. According to the OECD, "the Public-Private Partnerships (PPPs) are long term agreements between the government and a private partner whereby the private partner delivers and funds public services using a capital asset, sharing the associated risks. PPPs may deliver public services both with regards to infrastructure assets (such as bridges, roads) and social assets (such as hospitals, utilities, prisons)" (OECD, 2012). The implementation of the OECD guidelines would ensure that the public sector benefit from PPP and that bad projects are not developed. The objectives of the 12 principles are to establish a clear, predictable and legitimate institutional framework and competent authorities while using a transparent budgetary process that would minimize fiscal risks and would ensure the integrity of the procurement process.

Opportunities and barriers to entry for EU businesses

To analyse the opportunities and barriers to entry, the authors examine the Czech PPP project market.

There is a high demand for PPP in the Czech Republic. The main reason is a deficiency in public finances, high share of social spending which reduces public investments and the fact that reduction of mandatory government expenses is unpopular, so PPP projects appear to be a welcome solution (MFČR, 2004).

However, compared to OECD countries, the PPP projects in the Czech Republic are quite exceptional. What is the cause?

The private sector in the Czech Republic is considered as unacceptably risky, particularly for the PPP projects (Transparency International, 2010).

According to the Czech legislation, the terms of PPP projects are not created only for the period of construction, in case of a building, but also for the period of operation of the works and services which extends the time frame to up to 20-30 years. The preparation of the PPP project requires a sustainable consensus relative to the way the project responds to the public interest, splits the risks associated with its financing and relates revenues and operating costs for its sustainability. The condition is therefore a consensus across political representation that is very difficult in the Czech Republic to achieve, and usually does not coincide with the length of one electoral term (BusinessInfo, 2017).

The cost of the PPP project is usually passed on to the user in the form of payments for services, but also to the public sector and its budget. In this context, political representation is usually faced with criticism from the opposition, and sometimes from the public. There is a general reluctance from the authorities to provide the information due to commercial secrets. In many cases, the increase in transaction costs (e.g. external consultants, monitoring) for the projects exceeds the decrease in production costs, therefore the PPP implementation is not viable (Ostřížek, 2010).

Government contracting authorities have neither a strategy nor a methodology how to use the PPP. They are not able to define the requirements for the outputs, and they have no idea about the impact on the state budget deficit and the country's total debt (Sýkorová, 2009).

Additional political support for the PPP projects in the Czech Republic, and if the public sector is willing to use their potential, is a prerequisite for them to become a valid and functional tool to ensure the necessary public services and infrastructure.

Comparison and Synergies of Traditional Procurement and PPP Projects

The public sector in the Czech Republic at present struggles with the problem of ensuring the financing of the necessary investment needs and not increasing the debt of the state (Němec, 2018). This issue also raises the question of the effectiveness of investment projects in the public sector. This can be ensured by the optimal form of cooperation between public and private sectors, where each of the partners ensures maximum efficiency and economic profitability.

PPP stands for public and private sector partnership, resulting from the English term "Public Private Partnership". It is also possible to use the designation PFI – "Public Finance Initiative" (Lexis, n.d.).

The basic characteristics of the PPP projects are:

- Scope of the projects (costs of implementing reach from the tens of millions to several billions)
- Long term (the tens of years)
- Participation of private capital in the funding of the project
- Division of risks between contracting partners (with respect to the ability to control these risks)
- Evaluation of the cost and revenue of the whole project life-cycle
- Measurable outputs based on the objectives, benefits and transaction cost of running the project

The strengths of the PPP projects:

- a) Value for money – the obligation to conduct a comparison of the advantages compared to standard public procurement projects.
- b) The state contractor has the only single counterparty that is responsible for the entire project.
- c) Each party shall bear the risks that they can better manage. The main risks (design, construction, operation, demand risk...) are in part or entirely transferred to the private partner throughout the whole duration of the project.
- d) The involvement of the private partner to provide the motivation to upgrade the agreed service as efficiently as possible, and the resulting effort used to project the best know-how and innovation.
- e) The sponsor provides the payments at the very end of the projects and considers the final assessment of the delivery agreed by both parties.

The weaknesses of the PPP projects:

- a) The considerable complexity of the preparation of the PPP projects.
- b) Lower flexibility of the PPP projects as they are concluded for a long period of time (typically 20-30 years).
- c) The assumption of a competitive environment – in case of lack of competition when entering the PPP project, the offers can become disadvantageous for the sponsors.
- d) The projects where operating costs are substantially lower than the cost of the investment are not ideal for the PPP as they offer only limited scope for innovation of the private partner.

The strengths of the Public Procurement projects:

- a) The public sector has extensive experience with public procurement and is able to use it without difficulty.
- b) The process of entering and execution of public procurement projects is not that much regulated by the government as in case of the PPP, the entire process is less administratively demanding.
- c) Public procurement projects are typically bound to a relatively short period, therefore, its preparatory phase as compared to the PPP is noticeably shorter.

The weaknesses of the Public Procurement projects:

- a) The main risks (projection, production, risk demand...) remain on the side of the public sector.
- b) There has been a massive crossing of the planned costs of the construction within the public procurement projects.
- c) It is common in the Czech Republic that there is a frequent crossing of the planned schedule of construction.
- d) The contracting authority is gradually assigning work to various sub-contractors, which brings an additional risk.
- e) Cash flow of the project – the sponsor must have the financial resources available, covering the total investment cost of the project, at its beginning. For the contracting entity, it might generate a considerable financial burden, concentrated into a short period.

The involvement of the private partner in the project (ideally from the preparatory phase to the final implementation of operation of the project) usually brings valuable know-how and innovation that result in a higher value for money, and greater efficiency of project implementation and the quality of service being delivered. The public sector using the PPP will ensure a more efficient control over the cost and better future projects, aspects of the distribution of risks and greater transparency compared to the traditional public procurement contract.

With regard to the presented comparison of traditional procurement and PPP, the authors observe that these two types of procurement evince a lot of differences. The strengths of traditional procurement tend to be the weaknesses of PPP, and vice versa. Therefore, these two types of procurement are not interchangeable, and both also have an indisputable role for government purchases; both types should complement each other, not compete with each other. The long-term goal of public entities should consist in being able to distinguish and identify from which type of procurement they can profit more (not only economically, but also with regard to innovations, time of delivery, etc.) for every concrete purchase. Whereas the traditional procurement can be a tool of supporting SMEs, PPPs are extensive projects taking a

longer period of time – they, however, open up opportunities for cooperation of the main contractor with various subcontractors (even though the government has only one single counterparty).

Even though there is no multilateral agreement for PPPs, such as the Government Procurement Agreement for traditional procurement, the WTO in its negotiations to revise the GPA agreed to undertake a future work program related to PPPs. What is more, three GPA parties already added certain types of PPPs to their coverage under the revised GPA – namely, work concessions in the European Union, construction projects under the Private Finance Initiative in Japan and BOT (*build-operate-transfer*) contracts in South Korea.

Conclusion

Procurement of goods, services and works by public entities accounts for a significant part of the world economy. Governments or other covered public agencies have several ways how to procure – the two main procurement types are traditional public procurement and public private partnership projects. Traditional procurement is a standard tool used by governments to fulfill their goals; governments can use this tool for favouring their domestic industries as well, which corresponds with the growing home bias. Calling for openness of the international public procurement markets, however, led to the establishment of a regulatory framework by the Government Procurement Agreement under the auspices of the World Trade Organization. When entering international procurement markets, businesses have to face barriers similar to barriers on B2C or B2B markets but there are also additional barriers specific for traditional procurement.

Public private partnership is a tool that is not so commonly used in comparison with traditional procurement. Nevertheless, PPPs offer a unique opportunity, especially in case of complex, long lasting projects. The analysis shows that there are barriers to PPPs, mainly for governments because of the complexity and complicatedness of these projects – this applies to several particular countries, including the Czech Republic. On the other hand, the involvement of a private partner can lead to a relatively extensive use of new technologies and best possible know-how; also, the payment is provided at the end of the project. Even though there is no multi- or plurilateral agreement on PPPs, there is a future work program on how to include PPPs in the existing GPA.

The two analysed types of procurement – traditional procurement and PPPs – are not interchangeable and have an indisputable role for government purchases; both types should complement each other, not compete with each other.

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Tradicionalna javna naročila in javno-zasebno partnerstvo: primerjava in sinergije z osredotočanjem na čezmejne pogodbe

Izvleček

Vladne nabave so pomemben del svetovnega gospodarstva. Prodajanje javnemu sektorju je ključna poslovna dejavnost za nekatere industrije ali ponudnike storitev. Privlačnost segmenta javnih naročil izražajo tudi varnost plačil in velike količine dobav. Z globalizacijo kot svetovnim pojavom podjetja ne računajo samo na domače institucije; vstopajo lahko tudi na mednarodne trge B2G. Vendar pa je zmožnost zasebnih podjetij, da poslujejo s tujimi vladami, omejena z raznovrstno nacionalno zakonodajo, saj vlade uvajajo regulative javnih naročil glede na njihove nacionalne interese. V tem članku avtorji analizirajo dva ključna tipa javnih naročil – tradicionalnega in javno-zasebno partnerstvo, z vidikov nedavnih razvojnih trendov, mednarodnega regulativnega okvira ter priložnosti in ovir za vstop evropskih podjetij. Ključni cilj prispevka je definirati ključne razlike in mogoče sinergije tradicionalnih javnih naročil in javno-zasebnega partnerstva z osredotočanjem na čezmejne pogodbe. Ta članek je mogoče obravnavati kot uporabnega za podjetja, akademsko skupnost, kot tudi za javni sektor.

Ključne besede: javna naročila, javno-zasebno partnerstvo, čezmejne pogodbe, čezmejni razpisi

Financial Crises in Comparative Perspective – Crisis Management and its Phenomenon of Repetition/Return

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Abstract

Crises cause attentiveness in our society and awaken, depending on the degree of consternation, our ongoing interest. These events include financial crises, phenomenal incidents that shock the economic world and pose significant challenges for the governments. Two crises which stand out in this context are the Great Depression in 1929 and the financial crisis in 2007/2008. In addition to the comparative approach, the paper focuses directly on the typical repetitive mechanism ("recurrent pattern of banking and sovereign debt crises" (Reinhart & Rogoff, 2011): overheating, the forming of a bubble and the bursting of the bubble, largely started in the USA. Specific aspects included in this research area are crisis management in the decades mentioned above, the role of governments and banks, as well as the observation as to which crisis can be expected next. We can conclude that the current monetary systems led by complex financial instruments and addicted to low interest rates are prone to deliver another serious financial crisis.

Keywords: financial crises, comparison of crises, crisis management, government measures, future inevitability

Introduction

Topical introduction

Crises trigger attention in society and arouse our further interest, depending on the degree of the concern raised. In the recent past, this was the case with the financial crisis which started in 2007 in the USA and in 2008 in Europe and became the primary topic in domestic as well as foreign news unlike any other before. The causes of the crisis are unambiguous and focus on the dramaturgical structure of the real estate bubble in the USA, whose bursting should prove particularly momentous (Zeise, 2010, p. 9). In the context of the evaluation of its background and time factors, its origins can be traced almost a decade back, to March 2000, when the bubble forming around "new economy" companies burst. Emerging investor interests in this segment became dependent variables in the process of corporate start-ups and

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increased the emergence of initial public offerings. Investors' expectations in technology-oriented companies were often unrealistic and fictitious. Under the escort of commercializing circumstances, they provided a clue to exaggerated valuations of the companies, which came to a substantial end with the bursting of the so-called "dotcom" bubble (Chorafas, 2009, p. 89; Zandi, 2009, p. 5; Bischoff, 2008, p. 61; Jahnke, 2008, p. 5; Glebe, 2008, p. 104).

The terrorist attack in New York on September 11, 2001 is also categorized as a burdening factor, as planes hijacked by terrorists caused the collapse of the World Trade Center towers and contributed to the downturn of the world stock markets (Henkel, 2009, p. 70). Consequently, global financial markets were considerably impacted and the economic circle reacted nervously. In order to prevent a prolonged decline on the American stock exchange, including the consequential effects of weakening the US economy, the Federal Reserve System used the instrument of low interest rate policy as a countermeasure (Jahnke, 2008, p. 5). The effects of the financial crisis were visible not only at the national level, but also had harmful consequences for the global economy, in particular Europe and thus also Germany. The Federal Ministry of Economics and Technology even categorized it as "the worst economic crisis since the Federal Republic of Germany" (BMW, 2012).

It was therefore only a matter of time before economists, politicians, political scientists and contemporary, were inclined to compare the current crisis and the crisis of the 1930s. "Black Friday" and the resulting stock market crash, the beginning of the US economic crisis as well as the suffering of the national economy led to many perspectives in crisis awareness, and at the same time evoking memories of sad scenarios (Jahnke, 2009, p. 9). The origin of the crisis in the USA is obvious and opens space for some relevant commonalities in both events. The topic of this paper is based on a comparative crisis debate induced over a couple of years. The paper aims to evaluate the essential parallels and distinctions regarding both the great financial and economic crisis, and additionally, to illustrate the phenomenon of repetition that is their characteristic mechanism.

Research question

The discussion concerning the comparability of both periods, including their causation and impacts, considers both economic and political aspects, and looks for similarities and divergences. Reflecting on the above object of investigation, the research question is as follows:

What are the main parallels and differences between two major crises that are distant in time, and what insights do they allow regarding future repetition?

Methodological approach

The author uses the methodology of qualitative research and, partially, the service of comparing political science. Something that cannot be neglected in the comparison of the financial and economic crisis, however, is that this is a difficult and very complex topic, of which individual parts have already been addressed by a wide variety of scientific disciplines. Its interdisciplinary approach includes, in addition to economic science as the main field, also political science affected by historical elements. The examination of financial crises offers – because of its complex content – a wide range of experimental opportunities, including a descriptive, analytical, empirical or comparative approach. This is further indicated by the fact that a variety of works and publications are available among others in the subject area of crisis management, trade cycle policy, globalization as well as comparative economic history. In this context, the following versions of Bellers and Kipke are suitable for the research plan. They use the example of a "relatively late arised political science" to describe that "no science ... – quasi self-sufficient – can evolve from itself" (Bellers & Kipke, 2006, p. 221). As a result of this, a recourse to the located methods there is appropriate. As the research question has a comparative character, comparative examination methods should be applied. It should be noted that comparative methods take effect both in economic and political sciences, only the positioning diverges. Nohlen remarked that, in social science, the comparative studies can be the method that is most relatable to political science (Nohlen, 1994, p. 507). A good example is a comparison regarding different government policies, which is suitable in many ways, where policy results ("outcome") can be compared. In this regard, it is possible – on the basis of comparative illustration and declaration – to learn from experiences, successes and failures of previous periods and time sections (Schmidt, 1988, p. 2).

Along with the systematical comparisons, Berg-Schlosser and Müller-Rommel noticed that, in the discipline of comparative political science, complementary applications could also come into effect, for example historical comparative methods (Berg-Schlosser, 2013, p. 14). For example, the "comparative science of history" – according to the explanations of the historian Marc Bloch – looks "for similarities and differences in analogue rows from different social areas in order to explain them." In fact, the compared objects – in the present investigation, the two crises – will be analysed separately to compare them subsequently in certain aspects (Bloch, 2000, p. 115-116).

Comparisons

Crisis of the 1930s

Before the outbreak

The origin of the 1930s crisis goes back to the First World War and its events. The war and its consequences led the industrial countries in Europe, such as France, England and especially Germany, to forfeit large parts of their positions (Rothermund, 1993, p. 22-23), causing the death of over 10 million people and twice as many injuries (Rattner & Danzer, 2007, p. 20). In addition, there were countless losses of labour as well as an enormous increase in debt (Ullmann, 2003, p. 226). The USA entered the war in 1917 and profited from the economic destruction in Europe. This includes the economics of war which helped large American companies to increase their production capacities and lay the basis for double added value from 1914 to 1919. Further developments appeared in form of a change in the leading currency from British Pound to US Dollar, and simultaneously, the shift from the major financial centre in London to New York (Jaeger, 1973, p. 49-55; Menzel, 2010, p. 98). The postwar period in the USA was characterized, due to these developments, by a conspicuous balance of payments surplus, in particular relative to higher exports of goods and capital towards Europe (Rothermund, 1993, p. 48). According to Galbraith, the nineteen-twenties and the subsequent years were, not accidentally but as expected, economically successful for the USA. Production figures from 1925 to 1929 showed an increase of over 10%, and the automotive industry registered a rise of 25% in incoming orders (Galbraith, 2009, p. 34-35).

The defeat in the First World War led to Germany's predicament to settle reparation payments (Plumpe, 1984, p. 56). To build up liquidity in subsequent years, Germany was dependent on American credits that were responsible for the reconstruction and an upswing in the German economy. Blaich described this period with terms like "dollar bill blossom" or "living off credit", even though investment activities in the mid-nineteen-twenties were increasing, for example in transport infrastructure, administration buildings, schools, flats and hospitals (Blaich, 1990, p. 79). This economic recovery entered history as the "roaring twenties" in which the USA and many European countries were in upswing, mainly driven by credit financed speculation fever (Plumpe, 2011, p. 80-81). Especially in the USA, the irrepressible economic confidence led to a property boom and intensive speculation in shares. Galbraith marked this short cyclical recovery as a "speculative illusory world" whose existence could be characterized only as short of breath (Galbraith, 2009, p. 35-36). At the end of the nineteen-twenties, the growing prosperity, supported by optimism and speculation fever, reached a size

where small investors and companies borrowed more and more money to invest in short-term expected returns on the stocks (Jaeger, 1973, p. 66-67). This optimism and financing were also reflected in technological inventions like radio sets or automobiles (Blaich, 1990, p. 79).

At the end of the nineteen-twenties after the consumer goods market was saturated, the reality came to light. Money was put more in investments than in the needs for replacement. These manufacturing overcapacities turned out to be the result of an excessive trust in the worldwide upswing. The general oversupply of industrial goods exceeded the demand by far and led to price declines (Born, 1967, p. 31). The simultaneous credit-financed speculation fever led to a dangerous combination and problems especially in USA and West-Europe, beginning with first nervousness at stock exchanges and then leading to price slumps. Kindleberger identified the market peak in September 1929, which began to decrease in October, ending on the so-called "Black Thursday" (October 24) with the New York stock exchange panic reactions and start of the economic downturn (Kindleberger, 1973, p. 121-122). Europe adjusted the date to Friday 25 after receiving the news of the stock market crash in Europe. The sense of a stock market crisis caused a significant panic selling in Europe as well (Blaich, 1990, p. 7).

Effects and reactions after the outbreak

A beginning recession connected with slumps on the capital markets (Galbraith, 2009, p. 17; Blaich, 1990, p. 7) quickly led to a depression in December 1929, accompanied by a massive downturn of stock prices in the amount of 15 billion USD (Galbraith, 2009, p. 89). If the index was 191 points at the beginning of 1928, a doubling to 381 points was recorded by September 1929 (Kindleberger, 1973, p. 111), which then dropped to a low in July 1932 reaching only 41 points (Zschaber, 2010, p. 71; James, 2008). These were the first numbers indicating that the USA was hit the most by the crisis. Galbraith characterized this depression as lasting, more or less, ten years, with changing intensities confirmed by the following data: the GDP in 1933 was one third lower than in 1929. It did not achieve the 1929 level until 1937, when it immediately dropped again. Until 1941, the production volume stayed at the level of 1929, but at least the unemployment rate declined below eight million for the first time after the crisis outbreak. Almost thirteen million people were unemployed in 1933, meaning one out of every four Americans. In 1938, one out of five people were still without a job (Galbraith, 2009, p. 207; Economic Indicators, 1953).

While production capacity utilization plummeted, a rise in the number of bankruptcies was evident, as well as increased profit declines in many companies. Reflecting

the four-year development in the USA from 1929 to 1932, the fall in wholesale prices for agricultural products in particular, weighed 50% and the decline in total industrial production also nearly 50% (Junker, 2004, p. 131-132). In connection with the price drop, a credit systemic crisis was revealed as debts had to be settled by lower profits (Rothermund, 1993, p. 40). This lack of money blazed the trail for a banking run and their deposits, leading to a banking collapse. Investors lost confidence and demanded deposits in cash, forcing banks to liquidate loans. From 1929 to 1933, thousands of American banks had to file for bankruptcy (40% of all banks), which led to a loss of control within the US financial system which was under the influence of international money transactions, and stepped over to the European markets. With successive withdrawal of American capital, the banking crisis in Europe began. Additionally, steps were taken in the form of custom duties and import restrictions in order to save the local products from the outer world (Mußler, 2008). Thereupon, the global trade volume suffered until 1933 a dramatical collapse (Kindleberger, 1973, p. 179-180; League of Nations, 1934, p. 51) as, in addition to the USA, many other countries arranged protectionist measures based on the "Run for your lives" principle, and thus the crisis took a turn for the worse (Junker, 2004, p. 131). The gross national products of the seven leading industrialized economies decreased by 20% between 1929 and 1932 (Temin & Voth, 2001), and unemployment figures followed a similar pattern. James elaborated that, during the worst part of the crisis, almost every third employable citizen was unemployed in Germany, and every fourth in Great Britain (James, 1988, p. 24; Mitchell, 1978, p. 67-69, 180-181). After the USA, Germany was second most affected by the crisis and dependent on American (foreign) credits after the First World War. Additionally, there were reparation requirements of the Young Plan which had to be fulfilled. Both marked cash flows amounting to billions that were not offset by goods or services (Blaich, 1990, p. 81-82). With the depletion of domestic finances and the "Run on Germany" by foreign creditors, the banking crisis began in Germany. At the same time, a run took place by the citizens on their savings deposits (Kindleberger, 1973, p. 163-164). To avoid a total bank crash, the government nationalized major banks as the last resort, Dresdner Bank at a rate of 91%, Commerzbank 70% and Deutsche Bank 35% (Born, 1967, p. 167-176). James sees the banking crisis and its eruption in the summer of 1931 as the main initiator of the transition in the German Great Depression, showing comparable examples and parallels with other European countries. Similar crises happened in Central and Eastern Europe with banking crashes in Austria and Hungary. France was afraid to lose the stability of their banking system after the collapses of the Banque Adam in Boulogne-sur-Mer in November 1930 and the bankruptcy of the Banque Nationale de Credit. In

Italy, the bigger banking crisis was able to be avoided only after the government's intervention (James, 1988, p. 275).

In addition to the banking crisis, other key figures reflecting the German economy in the period reveal a rather straightforward result: a decrease of the national income by almost 40% from the end of 1928 until 1932. Similar numbers are registered in the area of wages and salaries as well as in trades and industrial production (Wagemann, 1935, p. 50, 95, 176-177; Länderrat des Amerikanischen Besatzungsgebiets, 1949, p. 600). Rationalisation measures in the form of numerous redundancies, closures of banks and rise of unemployment affected over six million people (Wagemann, 1935, p. 16ff.). The beginning of crisis management implemented by the German government included an austerity policy with instruments like tax increases, restrictive monetary policy and public expenditure reductions primarily in the form of reduced civil servants salaries or social benefits (Blaich, 1990, p. 65, 96). Citizens' dissatisfaction with these harsh programs shifted from the economic crisis to a new crisis after, in January 1933, Hitler came to power and paved the national-socialist way in Germany (Hüwe, 2007, p. 46).

Political direction in the US was coloured by the economic and political program "New Deal" initiated in 1933 by the then President Franklin D. Roosevelt. It lasted five years (until 1938) and was characterized in established literature as a road to recovery, marking a simultaneous political turnaround in which "the power of the federal government was expanded". It consisted of public work projects, stabilizing industrial and agricultural production, and a reform of the financial system, including a regulation of the stock market to prevent events like the 1929 crash (Smith, 2014, p. 2; Soboczynski, 2005).

Crisis of 2007

Before the outbreak

The causes of the subprime crisis are manifold and have their origin again, like in the 1930s, in the USA. There are a number of causes which, through their interaction, provoked this crisis. In order to comprehend the complete background, a monocausal point of view will not apply (Elschen & Lieven, 2009, p. V). In terms of a concomitant framework and conditions of origin, it has to be considered that the concept of optimism is a significant part of the American culture and way of thinking. This includes not only a positive belief but also hopes (Gerbert, 2009), as reflected in the classic "American Dream" and the campaign slogan of the former President Barack Obama "Yes, we can!" (Mieder, 2009, p. 119). As a result, concerns about the future and livelihood

were much less frequent in the US than in other countries, as illustrated, among other, by the more permissive consumer behaviour (Czaykowski et al., 2009, p. 43). The savings activities of American households have accounted for a significant decline since the 1980s, the focus was on consumption, which often led to debt (Rickens, 2005, pp. 135-136). With the bursting of the “Internet bubble” in 2000 (Schumann & Grefe, 2008, p. 90) and the terrible terrorist attacks in 2001, the American economy was on the verge of collapse (Harrison, 2008, p. 79). As a countermeasure, central banks led by Alan Greenspan cut interest rates from 6.5% to 1% in 2003. In a situation with an interest rate level below the rate of inflation, it was quite understandable that every American lent money rather than to save it. So they reacted quite logically to the incentives they had been given. The rate cut allowed credit institutions to provide credit at a low cost, which was extremely well received and resulted in a negative savings rate for the first time in US history. An economist would sum up the situation from an economic perspective in the following way: “Economists say real interest rates are negative, that is, interest rates taking into account inflation expectations. That is, anyone who had money in the bank and saved every year lost value. Anyone who lends money, however, made a profit every year, because the interest payable is less than the loss of value.” (Russell, 2008; Münchau, 2008, pp. 6-7). The often already indebted American citizens were therefore not unmotivated to take on these terms and new debts (Rickens, 2005, p. 138). Invitational circumstances prevailed, triggered by tendentially lapidary credit checks, in which the debtors did not necessarily had to show equity capital (Schäfer, 2009, p. 155).

After the economic situation in the USA began to recover and the terror attacks have been processed step by step, the key interest rate from 2004 was raised gradually from 1% to 5.25% in June 2006 in order to prevent an inflationary threat. This move also affected the mortgage rates (Bloss et al., 2009, pp. 155-156) and led to an increasing real estate demand. With regard to increased property prices, homeowners felt safe and were not averse to further consumer lending offers. Finance distributors concentrated on low-income “subprime” citizens because of higher interest gains in this expanding segment and sold them as particular investments. These “second-class” loans are secured worse than “normal” real estate loans with the effect that their interest rate is higher. Not only borrowers wanted to benefit from favourable interest rates. Banks and other investors were investing in the booming American real estate market, concretely in financial instruments like mortgage-/asset-backed securities. These mortgage bonds covered with subprime loans offer higher interests but also much higher price-risks (Stroisch et al., 2009, p. 1). Some economists addressed this area critically as a further part that participated in the emergence of the crisis. This trend-like development unfolded in

the run-up to the crisis of such magnitude, contrary to the expectations and imagination of all those involved. Many finance economists see their starting point in 2002, when Alan Greenspan explicitly welcomed the introduction of financial instruments like securitizations or Collateralized Debt Obligations (Krassin et al., 2009, pp. 69-72): “These instruments have been used to disperse risk to those willing, and presumably able, to bear it. Indeed, credit decisions as a result are often made contingent on the ability to lay off significant parts of the risk. Such dispersal of risk has contributed greatly to the ability of banks – indeed of the financial system – to weather recent stresses. More generally, the development of these instruments and techniques have led to greater credit availability, to a more efficient allocation of risk and resources, and to stronger financial markets.” (Greenspan, 2002). Securitisations like asset-backed securities are defined in general as securities in which original receivables from bank loans, lease and credit card contracts, mortgages or risky bonds are converted into tradable securities with the aim of selling them to interested investors. Here also, financing companies can be interposed and thereby in addition to the investors to a spreading of the credit risk (Braunberger & Fehr, 2008, p. 200). It should be noted that, in the context of these newer forms of financing, lending processes have been defused in practice (Huth, 2009 p. 49). The original concept of securitization was to better manage and spread the risks associated with lending by outsourcing credit claims to special purpose vehicles. The result was seen after 2007 (Krassin et al., 2009, p. 69-72): “an innovation genie was first let out of the bottle and eventually devoured the system, to the horror of its creators.” More terms such as “the mortgage time bomb” (Tett, 2009), financial hydrogen bombs built on computers by 26-year-old MBA graduates (Krassin et al., 2009, p. 69-72) were the order of the day.

The low level of interest rates combined with the excessive lending practice finally led to a huge increase in real estate sales since the turn of the millennium, which reached its climax in 2006 and then declined again thereafter (National Association of Realtors, 2014). The borrowers were now exposed to very high repayments and interest rates, as the initially favorable interest rates from the loan relationship based on the development of the capital market at that time only existed in the initial phase. The initial interest rates had long since been overtaken by the US Federal Reserve's interest rates. The variable and thus unpredictable interest rates are now revealed to be high and put into effect risk factor. Particular problems presented citizens who took a real estate loan and left the property as collateral with the bank. After the non-payment of the credit installments, the banks used the deposited as a pledge houses and initiated, inter alia, forced sales. Over time, these documents have become more dynamic and have lowered real estate prices. The decline in house prices was so dramatic that the proceeds were unable

to pay off the loan. The indebted borrower not only had to deal with the situation of a home loss, but also retained his debtor status, as part of his real estate loan was not paid. The high default rate of the so-called subprime loans created an oversupply in the real estate market and, correspondingly, further price drops (Bartmann et al., 2008, p. 15).

Just before the crash in 2007, dramatic events have turned over as payment defaults of borrowers led directly to the crisis. The resulting economic consequences were evidenced by high depreciations of companies to bankruptcy filings, in particular American real estate banks proclaimed (Bischoff, 2008, p. 11.). In 2007, a number of German banks had to deal with these consequences, caused by verse speculation on the financial market and depreciations in their balance sheets in billions (Strotz, 2007). Investors all over the world lost within an extremely short time billions (Salzman, 2018). The citizens, who were heavily indebted by the real estate loans, now had to put up with the restriction of other consumer activities. The resulting reduction in demand for all types of products experienced their highest profile in the automotive sector. The acquisition of an automobile on installment credit was expected to decline sharply as a result (Berndt, 2009, p. 8; Hirschel, 2009, p. 91). In addition to the strained financing situation on the part of the customers, the hitherto increased oil price also provided a tangible dampener in the demand situation of automobile manufacturers (Dill & Lieven, 2009, p. 205). Global automakers such as Toyota, Chrysler or General Motors suddenly fell into a crisis situation – in the subsequent step, the market for accessories was vulnerable (Henkel, 2009, p. 150).

In summary, it can be shown that the determinants of global financial crisis from the US mortgage market are presentable. Since the real estate market in the US has been a lucrative investment for a decade and promised high returns through investment in financial instruments as a result of the “real estate boom”, German and other European banks have also found this market for themselves. Despite known and potential risks, many bank advisors have been encouraging their clients or retail investors to invest their capital in the US mortgage market. As a result, the crisis, which was initialized as a subprime crisis in the USA, was able to expand into the international capital markets (Huth, 2009, p. 49).

Effects and reactions after the outbreak

At first glance, the economic consequences of the current crisis were no less serious. At the latest with the insolvency report of the formerly powerful investment bank Lehman Brothers on 15 September 2008 in the USA, the financial crisis got into more than a purely commercialized position. Only one day later, the rescue of the world's largest insurance

company American International Group (AIG) by state-run bridging loans amounting to US \$ 85 billion was at the centre of economic activity. Other financial institutions escaped such fate only with great difficulty or, alternatively, got involved in acquisition processes of competing companies (Brunner, 2009, p. 48). The business journalist Ulrich Schäfer attested to the situation a degenerate drama and expresses himself openly critically in a capitalistic context: “The bosses of America's leading banks hit the 'Mother of All Slaughterers' tonight. They're trying to save Wall Street this Sunday. The heart of capitalism. It's about the fate of Lehman Brothers, one of the five big investment houses. And it's about the fate of all the big banks, the future of the world financial system. For almost a year and a half, everyone believes the financial crisis is an American problem. And the USA would have to solve this. But when the American investment bank Lehman Brothers goes bankrupt on September 15, 2008, a huge hurricane breaks out, which affects the entire globe within a few weeks.” A summary and conclusion of his statements allows speculation space for a crisis repeat after almost 80 years, in Wall Street –as the centerpiece of global capitalism – was initially exposed in early 2007 to the insolvency of numerous homeowners in the US real estate market and degenerated into a financial market crisis, closely followed by the banking crisis. The climax in autumn 2008 was the outbreak of the second finance world crisis, whose outflow was felt by the entire global economy as a result (Schäfer, 2009, p. 187-188).

The economic impact of the financial crisis was impressively visualized in the October 15, 2008 news: the USA raised \$455 billion in the largest budget deficit in its history. The economic situation, expenditures on the labor market and support on the financial market have left their mark (dpa/Reuters, 2008). Ultimately, the crisis became a global affair, regardless of whether the states concerned were in favour of being classified as an industrial, emerging or developing country (Sinn, 2009, p. 52-53).

At the beginning of the crisis, there was still some optimism in Germany to be able to withstand the crisis. In his government statement of 25 September, 2009, the former Federal Minister of Finance Peer Steinbrück was still inclined to attribute a relative triviality to the situation in Germany: “Overall, it shows that the German 3-pillar system is relatively robust in international comparison. The German supervisory authority, BaFin, is convinced that the increased risk-bearing capacity of German institutions in recent years is sufficient to offset the losses and to ensure the safety of private savings. ... What the US is now doing on a massive scale with the US \$700 billion rescue program is something that we did in Germany quite deliberately for affected banks such as IKB, Sachsen LB, Bayern LB and West LB months before to have. Therefore, and because the conditions are

different for us, a similar program in Germany or Europe is neither necessary nor useful. It is still true that the financial market crisis is above all an American problem!” (Steinbrück, 2008). Schäfer has falsifyingly positioned himself to Steinbrück's statements in this way: “If only it were so. That same evening Steinbrück squats with Germany's most important bankers. A small circle that knows how to report something disturbing. ... They warn that a major German bank is in danger: Hypo Real Estate, a powerful real estate financier and one of the key players in a boring market, namely mortgage bonds. For days, Hypo Real Estate has been struggling to get money from other banks - without much success. ... Steinbrück and his followers quickly realize that there is not just a small problem here, but a very big one. The Minister of Finance informed Federal Chancellor Angela Merkel. ‘Hypo Real Estate threatened to literally dry out,’ he says later. Stay 48 hours to get fresh money. Otherwise, BaFin's financial supervision would have to close down the bank ... if ... HRE could no longer service its business.” The reaction and intervention of the Federal Government then took place on 29 September, 2008 in the form of guarantees and transfer payments in the tens of billions (Schäfer, 2009, p. 203.). The stronger perception of crises among the citizens – especially due to the intensity of the media coverage – led to increased saving behaviour as well as a lack of consumption and had a suboptimal impact on the economy (Brunner, 2009, p. 51). The search for adequate solutions to overcome the crisis and its consequences was accompanied by ever-increasing discussions between experts (Krugman, 2009, p. 212).

The course of the crisis took its toll on the one hand through the increased number of personal bankruptcies (Schüdemage, 2011; Elschen & Lieven, 2009, p. VIII) and on the other hand by writedowns amounting to billions of dollars of the big banks, which meant that their balance sheets had a considerable impact on earnings. In the fall of 2007, the British building society Northern Rock first served as a victim of the global financial crisis and subsequently had to be nationalized. Numerous major American banks such as Bear Stearns or Morgan Stanley were not defensible, especially triggered by previous existence-threatening depreciation (Otte, 2009, p. 218-219). Bear Stearns' rescue in March 2008 was provided by the acquisition of investment bank JP Morgan Chase, which was accompanied by the strong support of the US Federal Reserve in the form of a \$30 billion guarantee. The state intervention allowed for a brief relaxation in the financial market and left the impression that the American government would not abandon a bank (Münchau, 2008, p. 40-41).

However, alarming signals became visible from the second quarter of 2008 onwards due to the development of the unemployment rate in the US, as it soared from initially 5% within

one year to almost 10% (Dill & Lieven, 2009, p. 213). This development has also been preceded by a general turbulence on the stock markets, which, since the terrorist attacks in 2001 at the beginning of 2008, has slipped into the highest price collapse zone. Although the subsequent US\$150 billion first-quarter US economic stimulus package served as a temporary reassurance, it was not powerful enough to prevent the events after the second quarter. The two largest US mortgage banks, Freddie Mac and Fannie Mae, were unable to avoid the umbrella of sovereignty, as their viability was not secured without capital support, and their stock prices registered a near-50% decline. The bankruptcy filing of Lehman Brothers in September 2008, the fourth largest investment bank in the US, opened up global stock market concerns and pessimism among banks and intensified the global financial crisis. Even the DAX was not without consequences by his loss of points to less than 6000. A punctual overshadowing of the events caused the breakdown transfer of the German Kreditanstalt für Wiederaufbau (KfW) on 15 September, 2008, whose monetary transfer despite the above-mentioned insolvency report amounted to more than 300 million euros and thus formed the basis for further losses. On the same day – the so-called “Black Monday” (Hellerforth, 2009, p. 142) – another takeover in the major US banking industry emerged through the acquisition of Merrill Lynch by Bank of America for \$50 billion (Elschen & Lieven, 2009, p. 368). The year 2008 may go down in history as the year of the great bank dying, as no fewer than 83 banks worldwide have disappeared or been nationalized by bankruptcies and takeovers this year. Despite a collective interest rate cut by the six leading central banks (ECB, Fed and the British, Canadian, Swedish and Swiss central banks) in October 2008, the Dow Jones Index and the DAX saw a continued decline on the international financial markets this month alone a loss of double-digit percentage points (Sinn, 2009, p. 65-66). Another bad news was caused by the AIG, which in the meantime kept a US\$100 billion government loan from illiquidity (Hässig, 2009, p. 186). The beginning of 2009 marked figuratively the immense effects of the recession on the key figures of the American labor market, which recorded the highest unemployment rate in 15 years. This negative side effect did not stop even on German territory and generated an increase in the number of unemployed again in this country over the three million mark (Hellerforth, 2009, p. 155).

The 13th of November 2008 sealed the official announcement day, when the public heard the news that Germany was in recession for the first time in five years. The Federal Statistical Office confirmed this statement with the help of the available data that the German economy reported declining economic output for two quarters in a row (Jackisch, 2008). Even in Germany, the banking sector was threatened by the financial distress of numerous credit institutions, in which

the state-owned regional banks, in particular, participated in the preliminary stages of the crisis event by investing in sub-prime securities of various US mortgage lenders (Hader et al., 2009, p. 148).

As the first German institute, the Mittelstandsbank IKB had succumbed to the maelstrom of the US real estate crisis and found itself in an existential emergency that affected the crisis with an expansion towards Europe. Only three weeks later, Sachsen LB suffered a comparable fate due to bad investments in the American real estate market, which could only be obstructed by a guarantee loan from the Free State of Saxony of over 17 billion euros. Subsequently, the bank was sold to Landesbank Baden-Württemberg. Bayern LB and West LB also faced losses in the billions due to speculative credit derivatives (Schäfer, 2009, p. 170-171, 181), while Deutsche Bank recorded the first quarterly loss in five years in 2008 with a loss of €141 million (Kazim, 2008). The state-owned KfW banking group also recorded a loss for the first three quarters of almost 1.8 billion euros, while Citigroup proclaimed austerity measures in the form of 53,000 job cuts. Not only was the banking sector exposed to such repercussions, but also in the automotive sector, and in particular at Opel, a request for state aid was made at the end of 2008 (tagesschau.de, 2008). This emergency was preceded by industry-specific declines in exports and production in the amount of 20 percent, which were made public by the announcement of the end-of-year figures for 2008 of German carmakers. Significant for this branch of the economy was the arrangement of short-time working for tens of thousands of employees. In addition to the car manufacturers, the decline in incoming orders and exports was also noticeable at the beginning of 2009 for the other German companies (tagesschau.de, 2009). At the beginning of June 2009, two other large corporations also played a key role in the German news landscape: Opel parent company General Motors and retailer Arcandor. The first one announced its insolvency on June 1 and the second on June 9 (Handelsblatt, 2009).

The macroeconomic perspective quickly reveals that the application of the instruments has focused in particular on a gradual reduction in central bank interest rates, fiscal policy instruments such as government guarantee transfers and extended credit facilities.

Discussion on Crisis Endings

The previous work on the comparatistics of both crises has certainly led to the presentation of an abundance of opinions with multi-faceted possibilities of analysis to give a character to the characteristic features of both crises. These findings need to be channeled, also against the background

that crises must sooner or later come to a conclusion or at least should. This is exactly where the current chapter opens. It is important to repeat or find out from the examination context certain nuances for the evaluation of crisis ends that others have not or only selectively considered.

Accordingly, the focus of the investigation lies both in the exploration of the respective crisis end phase and the inspection of comparability criteria of both, combined with the question of whether the term “crisis end” is at all entitled to its terminology. The determination parameters can follow various sub-questions or discussions. So one could question, especially in relation to Germany, whether in the 30s world economic crisis can only speak of a delay in a political crisis due to the dictatorship of Hitler or whether it is a relocation process in the Second World War. An initial nod to the newer or latest crisis reflects the current research situation and presents itself as highly questionable as to whether it is over. The turnaround by the short-term reaction of the policy manifested itself as promising and promoted a successful course, the events around the euro crisis led but a shadowy existence, so that the question itself nominated as presentable, whether the crisis was only deferred and overflowed into a community currency crisis. The comparison of the two ends of the crisis ultimately also allows access to the philosophical discussion according to which the above questions are also explored in the same way.

A first ubiquitous thesis was that a “ruthless gang” of crooks has the financial world in their hands and that “they would rather get caught up in a severe economic crisis than to forego a chance to win”, additionally without their activities the “recent upheaval” on the capital market would have spared us. For the economic historian Werner Plumpe, these statements bear more doubt than certainty and condense into a kind of fallacy. This finds particularly good breeding ground if one takes the past into widespread remembrance, in which social turbulence has rocked to economic crises and relaxed again. Because economic crises are, as Plumpe convincingly states, “among to the recurring, formative events of history; their significance has been and is often so great that they radiate far beyond the economic sphere and cause serious political and social problems.” By implication, this means that economic crises do not legitimize themselves as a new experience (Plumpe, 2011, p. 7-8).

Looking back to earlier eras, comparable events were even handed down in the Old Testament with the Joseph story of the seven lean and the seven fat years, in which the biblical formula “seven good episodes always seven bad years” became regular. Thus, the “fat” years were accompanied in regular sequence by subsidiary climatic characteristics that had a beneficial effect on the harvest, while these stayed in the “lean” years and were flanked by hunger and distress

(Kulke, 2011). Fluctuations in crops also served in the wake of the history of Old Europe as an initiator of crisis states, undermined by economic and social hardship. Despite overcoming and increasing agricultural productivity since the 19th century, these crises did not end, as the economy's development has since been subject to rolling economic disruption. One should, however, avoid damaging reality and dismantling and polarizing the fluctuations of harvests and the economy as well-known plagues of society. In addition, there are speculation crises, which also represent no new phenomenon, but at least allow driving new research approaches (Plumpe, 2011, p. 7). Be it the then “tulip scam” in the Netherlands in the 1630s, where, according to Weber, to lighten up this “fraud” tulips as luxury and speculation junk “fantasy prices” achieved (Weber, 2011, p. 258-259), the Mississippi speculation about John Law (Rothengatter & Schaffer, 2006, p. 204) or the same time “South Sea Soap Bubbles” in England from 1718-1720 (Born, 1982, p. 131-132). In addition to a further stacking of speculative bubbles of the 19th, 20th and 21st centuries –e.g. the Australian banking crisis of 1893 or the Scandinavian Crises 1984-1992 (Schnabel & Brunnermeier, 2014, p. 23) – they mark an almost inescapable abundance of crisis-like downturns, which to this day more or less repeat. On the one hand, this admiration requires that such crisis processes repeatedly manage to iterate as “obviously a normal part of the economic process” (Plumpe, 2011, p. 8). For others, its proportions are an indicator of political apathy, whether and to what extent reactions of the respective governments have been pronounced (Schnabel and Brunnermeier, 2014, p. 23).

In addition to the actual economic crises, it should be permissible to draw up a series of thoughts in which, due to the topical nature of the issue, state bankruptcies are also profiled as normative crisis drivers, even if these are not necessarily cataloged in the context of economic crises in the narrower sense (Plumpe, 2011, p. 8). If one obeys the results of the investigations of the American economists Carmen M. Reinhart and Kenneth S. Rogoff, de facto long-term financial difficulties and over-indebtedness of states as well as resulting difficulties qualify as multiple crisis producers of the last centuries (Reinhart & Rogoff, 2009, p. xxvi-xxx). When mentioning the history of sovereign debt crises, however, one should not get the impression that these events are to be regarded as *usus* of national careers. By way of example, Reinhart and Rogoff cite “Australia and New Zealand, Canada, Denmark, Thailand and the USA” as states that have been able to prevent foreign debt crises so far in their history (Reinhart & Rogoff, 2009, p. xxx).

In summary, based on the previous crisis reflections of the previous century, it can therefore be postulated that they can be roughly sequenced over time. The crises of the “pre-modern” world are characteristically interpreted as agrarian and

food crises, while at the beginning of the 19th century, with the infiltration of modern capitalism, bankruptcy and the appearance and raging of speculative bubbles have serious consequences for the overall economy. The transition from climate and weather as crisis-determining factors of the “premodern” time to rhythmic economic cycles, which have not infrequently caused crisis by speculative bubbles on the capital markets, reveals the crude historical subdivision of antiquarian and novel crises (Plumpe, 2011, p. 9).

Final Conclusions

Findings

According to the contributions from the representatives of economics, political science and political economy, at least ten parallels between the two main crises can be found:

1. Both crises are known to set out on the world's largest financial market – the USA (Jahnke, 2009, p. 9).
2. In both cases, a recession accompanied the price falls on the capital market, from which “a long-lasting depression – comparable to the global economic crisis in the first third of the 20th century – was developing” (Bischoff, 2009, p. 27-28; Hollnagel, 2009, p. 41; Galbraith, 2009, p. 9-10, 17).
3. The outbreak of both crises was preceded by a real estate boom – regarding the first crisis, it was the so-called Florida crisis and property boom of the mid-twenties (Jahnke, 2009, p. 9; Galbraith, 2009, p. 35-36).
4. Both crises were characterized by high levels of borrowers and investors' indebtedness (Braunberger and Fehr, 2008, p. 9; Mußler, 2008, p. 81).
5. In both crises, overproductions emerged in the consumer goods market (Köhler, 2009, p. 68; Glebe, 2008, p. 80), in the newer crisis especially noticeable in the automotive sector (Kirchhof, 2009, p. 8).
6. In both crises, the share of corporate payouts in relation to US economic output peaked up to gross values of 5% (Jahnke, 2009, p. 23).
7. The renowned economist John Kenneth Galbraith indicated for both crises an unequal distribution of income and wealth in the USA. In 1929, five percent of all households registered approximately one third of the whole national income; in 2004, it was six percent of all households who registered the same dimension (Galbraith, 2009, p. 13).
8. Banks were hit by the most destructive consequences of the crisis: “The banking crisis as the core of the global financial and economic crisis.” Countermeasures were essential here (Paul & Kösters, 2009, p. 41-42; Soros 2009, p. 25-26).

9. Both crises caused a jolt in the entire world economy (Zeise, 2009, p. 11).
10. In both crises, specialized financial instruments were responsible for tightening the stock market, after 2000 for example "Hedge-Fonds", "Private Equity" or asset backed securities, before 1929 "Investment-Trusts" (Galbraith, 2009, p. 10), as a result of which, "a new service industry has emerged, the financial investors. They took ... mainly three strategies:
 - They engaged in risky speculative transactions in which they use large amounts of credit, ...
 - They change company policy and focus on the short-term realization of high returns (shareholder value control), ...
 - They put a lot of pressure on states (governments and parliaments) where they invest to enforce tax cuts and privatizations" (Huffschnid, 2009, p. 109-110).

Summary and outlook

Initial findings have shown that more parallels between the two crises could be worked out than many expected (compare 4.1). Whether the elaborated enumeration of the preceding parallels – resulting from the statements of various disciplinary representatives – gives sufficient affirmation in order to be regarded as prevailing and conclusive, doubt may be expressed. The political scientist Uwe Andersen reads a first relativization of the apparent parallels: "In the dimension of both the systemic threat and the real world impact, the current global economic crisis is comparable only to the global economic crisis of 1929, even if there are important differences (crisis origins, reactions and time course) are to be considered. ... Even the answer to the central question of whether the current global economic crisis is a systemic crisis must be differentiated and depends to a large extent on one's own basic perspective" (Andersen, 2009, p. 5). In addition, there were other factors that spoke against comparable effects on the crisis as in the 1930s. For example, in times of the Great Depression, existing customs walls for transnational interactions were constructed as an incommoded hurdle faced with imports and exports. In times of globalization and the increasingly interdependent markets, such "disruptive factors" are more and more depleted (Kindleberger, 1973, p. 77.; Plumpe, 1984, p. 56-57; Hoffmann, 1965, p. 150; Junker, 2004, p. 131; Svennilson, 1954, p. 292, 304-305). Not only that, compared to 1929, governments are increasingly cultivating closer and more cooperative relations. The exemplary existence of international organizations such as the International Monetary Fund, which was founded together with the World Bank to promote global monetary policy cooperation and the expansion of world trade after the Second World War in 1945, supports this thesis. Namely that protectionist constructs such as the

then foreclosure of isolated countries had long since become the obsolete model and after all brought the states nearer (Woyke, 1985, p. 25).

At the same time, the political framework conditions and effects of crises in both epochs are structurally only partially comparable. Although in both events displeasure in the population and the mistrust in politics are recognizable, the political structures of the present and the past are still too divergent. Today's democratic structures are more stable than they were before the Second World War, and thus gave the citizens realistic hopes for a better situation in their own country, so – as a special example – that Germany was spared a similar political catastrophe as at the end of the Weimar Republic. Despite these anatomical peculiarities, parallels can be found in terms of crisis management to some extent, which were particularly related to nationalization. In both eras, conspicuous state commitments were observed here, which led to abundant support payments for bank bailouts and were not uncritically seen. The previous work on the comparatistics of both crises has certainly led to the presentation of an abundance of opinions with multi-faceted possibilities of analysis to give character to the characteristic features of both crises. These findings need to be placed also against the background that crises contain, sooner or later, a conclusion or at least should.

Another cognitive criterion is revealed in the observed development flows of said crisis events. Their progress also saw a loss of their apocalyptic dimensions. Instead, the phenomenon of the economic crisis into a cyclical construction with "upswing, boom, recession and depression" shaped, which according to Plumpe – who also refers to the views of Karl Marx and Clement Juglar – "no longer followed external irritations, but apparently a kind of inner lawfulness of capitalist development" (Plumpe, 2011, p. 9).

Surely, with an all-round view of the whole investigation, it appears that in the coming years there will be greater sensitivity on the financial markets and that the policy of observation should be sharpened. A look at the recent past has shown, on the one hand, how vulnerable the current financial system is and, on the other hand, what new and complex financial instruments can do – combined with a low interest rate policy. Here, it is important to learn from past mistakes so that we will not face a new crisis soon. Among other things, this should be due to the fact that, with the issuance of costly and extensive stimulus packages, the new indebtedness of the respective states has grown into a dimension whose numerology not only creates a dizzying character for the inclined reader, but also imposes inherited burdens on succeeding generations, which remain as elementary regulatory criticisms of the recent crisis and which will confront them with challenging tasks in the future.

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Finančne krize v primerjalni perspektivi – krizni menedžment in fenomen ponovitve/vrnitve

Izvleček

Odkar obstajajo krize, njihov izbruh sproža pozornost v naši družbi in tesnobo glede naših tekočih interesov. Finančne krize, ki so incidenti pojava, šokirajo ekonomski svet in vladam postavijo znatne izzive. Krizi, ki izstopata iz tega konteksta, sta velika depresija 1929 in finančna kriza 2007/2008. Poleg komparativnega pristopa članek namenja pozornost tipičnemu mehanizmu ponovitve (npr. Reinhart in Rogoff, 2011: »ponavljajoči se vzorec bančnih kriz in kriz suverenega dolga«): pregrevanje, oblikovanje mehurčka, pok mehurčka, kar se je večinoma začelo v ZDA. Posebna področja te raziskave so krizni menedžment v gornjih desetletjih, vloge vlad in bank, kot tudi ocena, katero naslednjo krizo lahko pričakujemo. Zaključimo lahko, da je trenutni monetarni sistem, ki ga vodijo kompleksni finančni instrumenti in je odvisen od nizkih obrestnih mer, nagnjen k nastanku še ene resne finančne krize.

Ključne besede: finančne krize, primerjava kriz, krizni menedžment, vladni ukrepi, prihodnja neizogibnost

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

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