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Special Economic Zone Constitution According to Cluster Analysis

František Lipták[a,*], Slávka Klasová[b], Viliam Kováč[b]

[a]*Faculty of Law, Pavol Jozef Šafárik University in Košice, Košice, Slovakia*
[b]*Faculty of Economics, Technical University of Košice, Košice, Slovakia*

Abstract

Globalisation trend has been clearly rising in the last decades of the twentieth century. Besides this, the huge reforms occurred in the many economies all over the world. The special economic zone idea introduces a concept for new thinking about the economic policy. This phenomenon has caused a lot of debates not only among economists, because of its broad influence. This paper offers a legislative view on constitution process of creation a special economic zone within the areas of the European Union and the European Free Trade Association. The applied methodology consists of a cluster analysis with the inputs in the form of the macroeconomic indicators and its interpretation in the present situation. The results show the divisions of the observed countries. Finally, there are the suggestions related to the constitution of a special economic zone in the explored area.

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1. Introduction

Globalisation and internalisation of the world economy puts the incentives on the transformation processes of the constitutional structures, the economic regimes in the individual countries and their public policies in general. The current globalised world environment of the economy contributed to creation of the special mechanisms, which were intended to provide an institutional environment that could be described as more business friendly and preferential in the terms of business conduct, offering the more advantageous conditions for running of business, mainly in its early stages. This attribute is a general feature of countries' manners demanding to appeal the foreign direct

* Corresponding author
E-mail address: ferocius86@gmail.com (František Lipták), slavka.klasova@tuke.sk (Slávka Klasová), viliam.kovac@tuke.sk (Viliam Kováč)

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investments and to reform its institutions to more market reasonable and up to date that should satisfy the needs of the current globalised economy.

While debating the institutional modifications, there is one fact that should be considered is the large volume of scientific papers has been already written on the different variations of an above mentioned phenomenon.

Although, special economic zones as a policy concept and tool were tested over long periods of time in countries like India or China, being the most visible examples, we should remind that in a large number of different parts of the world this kind of policies were in various levels or modifications used for accomplishment of the same or the alternative policy goals in both developing and industrialized countries. These policies brought diverse experience and policy implications in the different countries (Akinci, Crittle, 2008).

In general, there is to note that issues regarding a policy of special economic zones are really not simply interpretable ones. They are surrounded by a number of versatile risks (Gopalan, 2007). Though, the richest empirical instances of application of these tools are related to the economic transformations and the institutional experiments with the market mechanisms, whilst some of these instruments are being applied also in the certain European Union member states in the present time (Tiefenbrun, 2012; Torres, 2007).

Altogether, such an approach puts special economic zones under number of questions. What is the context of these instruments in the terms of the cluster policy, the path dependency and what are the outcomes to be expected, taking into account these, within the economic geography and the European Union?

2. Legal Regime under European Union Law

There are a lot of risks that should be taken into consideration in a case of constitution of a special economic zone. One of the most important fields of possible risks creates the set of legal risks. Although, the special economic zones are not panacea, they might possibly improve the living conditions and the chances in the poorer regions and contribute to poverty reduction in the underdeveloped regions not only in the world, where such a scenario is common, but also in the developed world. Another indicators involved indicators are variance of productivity, employment rate and disposable income. They are significant even if we look to European regions and income distributions within the European Union and within the other European countries. On the other hand, we have to take into account that compliance and regulatory risks for establishment of such policies are under regulatory supervision of the European Union bodies. It is just a positive statement of the situation de lege lata, which means that in the area of a state aid, these are not significant with unlimited autonomy for founding such policies by designating a special economic zone via combination of the financial resources provision and adopting the legal acts or decrees, which are able to establish such institutional settings. Although poverty remains problem in many regions of the developed countries, discussion is open regarding question, which policies remain more successful and which of them are less useful in the long-term view. Also, we have to add that another question, which should be discussed, is a size and a number of zones, as effects of this policy may vary across the comprising regions.

Special economic zones under the European Union law are possible, but have to comply with the existing rules that are valid in the system of the European Union regulation.

Under the European Union law regime, economic relations are specifically regulated. It is evident that the common legal framework and the legislative process at the European joint level limits economic sovereignty of the European Union member states in some particular extent. In general, it is being assumed that the overall European Union legislative activity has an impact on law making process at the national state level at about four fifths, although the various methodologies of the quantitative estimations of this impact vary in its results (Toeller, 2012).

To be more specific, we should at least point out basic principles valid for establishment of the potential free zones in the European Union member, to make operating these economic and legal constructs in the comparative contexts more transparent. Firstly, there is to say that there are already existing the free zones in the observed area, which are legally regulated and are connected to a space of international trade. According to the library briefing held at the Library of the European parliament, seventy-four free zones are defined under the Community Customs Code (European Commission, 2014). These are the special areas, which are in essence exempted from the classical regime of customs in the European Union. Therefore, there is the special regime for more benevolent operation with some exemptions on customs and duties. However, tax breaks are not automatic and have to comply with the existing

European Union state aid legislation provisions and also the European Court of Justice‘s decisions within the existing framework. This special regime may suit the trade stimulation, but cannot be made equal or identical to the special economic zones regimes all over the world. There are also operating the special economic zones, and even, in the European Union countries. Although, we have to note that they are based on the national initiatives. There is needed one note to say that free zones do not automatically presuppose tax breaks provision, which is quite common in most of the special economic zones worldwide.

But what does look like the taxation process? Tax breaks constitute form of the state aid and can impact both, an attractiveness of the particular area, where these incentives are offered too, and also a signal of a business friendly environment. There are different degrees of autonomy in the area of state aid provision in the different jurisdictions.

The issues related to the tax incentives in the free zones or the other comparable types of the special zones, which could be possibly formed under the national legislation in their nature, are more complex. Although, it can be concluded that member states in area of taxation and fiscal policy enjoy great autonomy in their decision making processes in general. Nevertheless, a great degree of sovereignty of the European Union member states occurs in these strong domains. The tax subsidies or other similar mechanisms are directly related to state aid and the national laws providing this kind of support, which is obliged to comply with the European Union law system that regulates state aid provision. Altogether, we can say there are criteria of internal market and competition in this field. State aid is implicitly defined among the European Union legislatives norms. Basic provisions are established under the treaty.

If we look at the Treaty on the Functioning of the European Union articles related to state aid prohibition, we are able to come to identification of the frame of the model relevant for its provision.

Successively, there is to remind that the particular economic policy tools do not operate absolutely autonomously within freely chosen economic policy considerations of sovereign countries, but take place in the various contexts. As a classical instance of this contextual approach can be introduced consecutive specific role as mediating instruments at the same time among economic policy concepts, which have to face legal barriers and obstacles surrounding and regulating the economic relationships including the policy instruments.

As our paper deals with special economic zones topic and questions regarding the European Union legal personality in this field, we should discuss these limits, at least in the terms of the general framework. Under the Treaty on the Functioning of the European Union, particularly the article numbered 107 contains provisions regarding providing of state aid. Although, there is to remind that under the Treaty on the Functioning of the European Union articles, state aid is prohibited. However, there are exemptions, which are related to economic development, social reasons and so on. They can be applied for donation of state aid. The only case, when granting state aid is possible, is approval of this step by the European Commission. This, in essence, creates the constraints to an absolute autonomy in providing of economic stimuli in the particular territories of the European Union member states, which would otherwise be possibly autonomous, as there the limits exist that can be externally approved or cancelled. However, on the other hand, wording of the Treaty on the Functioning of the European Union enables to use tools of state aid, where other values and benefits outweigh the issues related to distortions of the competition article numbered 107. It is legally and economically relevant argument that these principles can be overweight by the other legitimate interests and, thus, prohibition is also not absolute, but offers flexibility and plasticity in the rational situations. The specific numbers or possibility of tax breaks and their duration will hence be based on evaluation of the European Commission in the process of granting exemptions. This legal framework reflects a value of legitimate interests of the different parties involved in this lawful relationship, whilst the particular exemptions exist (Consolidated version of the Treaty on the Functioning of the European Union – Part Three: Union Policies and Internal Actions – Title VII: Common Rules On Competition, Taxation and Approximation of Laws – Chapter 1: Rules on competition – Section 2: Aids granted by States – Article 107 (ex Article 87 TEC), 2008).

In principle, the other legitimate interests under the conditions of the European Union regulation are compared to distortions of international market and trade effect between the European Union member states.

3. Methodology

Our model methodology comes from a combination of more qualitative and quantitative approaches. On the one hand, a qualitative attitude is based on theoretical analysis of the conceptual methods. We examined not only the substantial point of this field, that is ratified legislative process, but also the general overview of the special economic zones policies all over the world. On the other hand, a quantitative analysis is considered to be not only the one part of the whole study, but it performs as the proofing point of an above mentioned theoretical concept too.

Cluster is defined as a geographically proximate group of interconnected members in a particular field linked by externalities of various types (Porter, 2008). This definition was later expanded in the successive way. Cluster refers to a group of district of comparable specialization levels instead of being a geographic concentration of the interconnected companies (Bertacchini, Borrione, 2013).

We chose five macroeconomic parameters, which we consider to be ones of the most influencing in the terms of the institutional change in the field of economic policies:

- gross domestic product – calculated at market prices per one inhabitant in euro;
- inflation – in the terms of the Harmonised Index of Consumer Prices;
- wage – in the form of real income per one inhabitant in euro;
- employment – by the means of employment rate of population over twenty years and under sixty-four years;
- expenditures on research and development – computed per one inhabitant in euro.

All the explored data come from the Eurostat database. For each model input parameter only the latest available values are applied. In the case of gross domestic product we applied the mean value of the quarterly data from the first quarter 2013 to the third quarter 2013. For the Harmonised Index of Consumer Prices parameter mean value of the monthly data from January 2014 to November 2014 is perceived. Real wage values are taken from 2013 observation. For the fourth input parameter of employment the mean value of the 2014 observations for the first quarter till the third quarter is applied. Research and development is investigated by the costs spent in this area in 2012.

All the European Union member states and all the European Free Trade Association member stats are comprised among the countries involved in the study. The applied abbreviations of the countries are following: Austria – AT, Belgium – BE, Bulgaria – BG, Croatia – HR, Cyprus – CY, Czech Republic – CZ, Denmark – DK, Germany – DE, Estonia – EE, Finland – FI, France – FR, Greece – EL, Hungary – HU, Ireland – IE, Italy – IT, Latvia – LV, Lithuania – LT, Luxembourg – LU, Malta – MT, Netherlands – NL, Norway – NO, Poland – PL, Portugal – PT, Slovakia – SK, Slovenia – SI, Spain – ES, Sweden – SE, Switzerland – CH and United Kingdom – UK. These shortenings come from the Nomenclature of Territorial Units for Statistics standard. This represents statistical geocode norm for referencing the particular area in Europe for statistical purposes. We had to omit one member of the European Union, that is Romania, and two members of the European Free Trade Association, Liechtenstein and Iceland, because there are not available all the statistical data needed for the clustering process in the Eurostat database.

4. Results

Our investigation is based on a cluster analysis. We did one clustering procedure for each observed parameter in two tiers. After the first level of the cluster analysis, there is another one clustering procedure that is applied on all the first-tier clusters. According to the elbow method, we chose a number two for an amount of created clusters (Thorndike, 1953).

In the case of the first parameter, which gross domestic product was, the countries sorted themselves as follows.

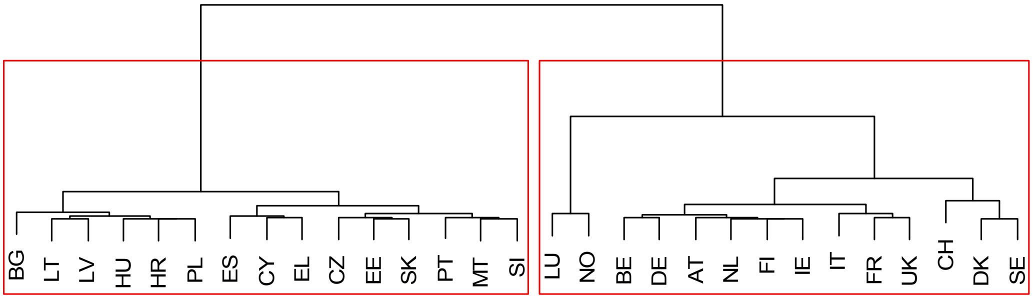

Fig. 1. Clusters according to the expenditures on research and development parameter

By the second parameter – inflation, two created clusters are divided unevenly in contrast to the previous parameter.

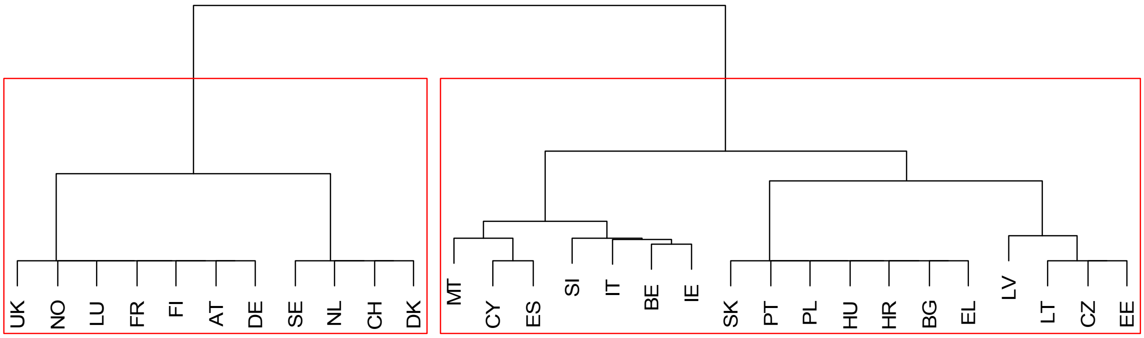

Fig. 2. Clusters according to the inflation parameter

Wage as the third parameter classified the observed countries as follows.

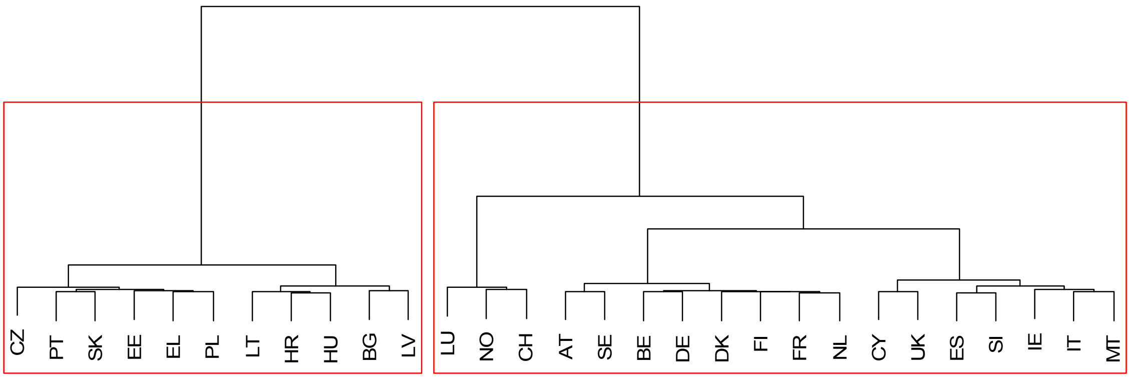

Fig. 3. Clusters according to the wage parameter

Employment rate as the fourth parameter separated all the countries to the almost equally large clusters with partially symmetrical distribution.

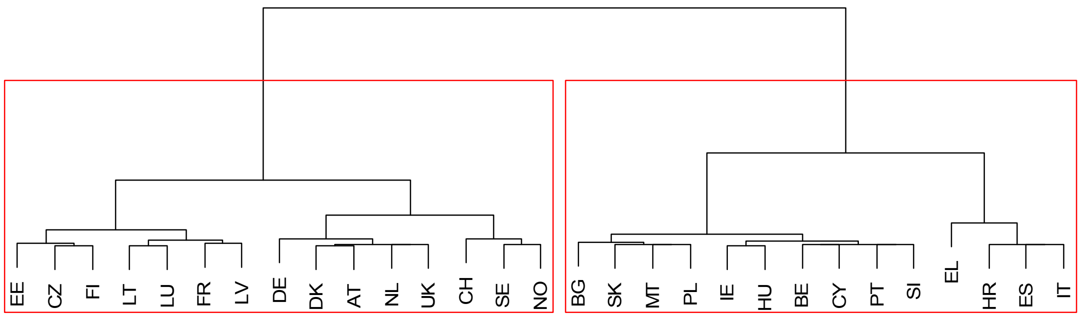

Fig. 4. Clusters according to the employment parameter

Expenditures on research and development performs as the fifth parameter as shown below.

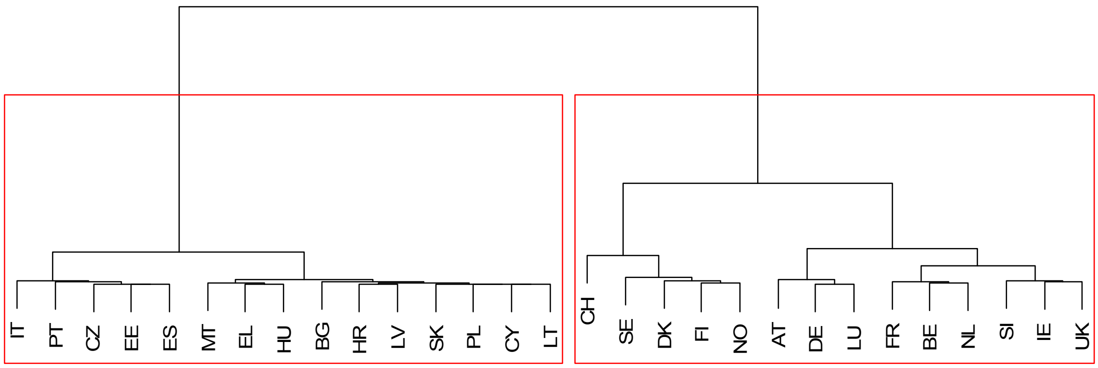

Fig. 5. Clusters according to the expenditures on research and development parameter

The final clustering process was done with input in form of the outcomes from all the previous clustering processes. It means the mutual localisation into the clusters from previous separate parameters is taken into account as the input for the last clustering procedure. Such an approach with two-level hierarchy in the clustering technique is quite new in this field of economic science.

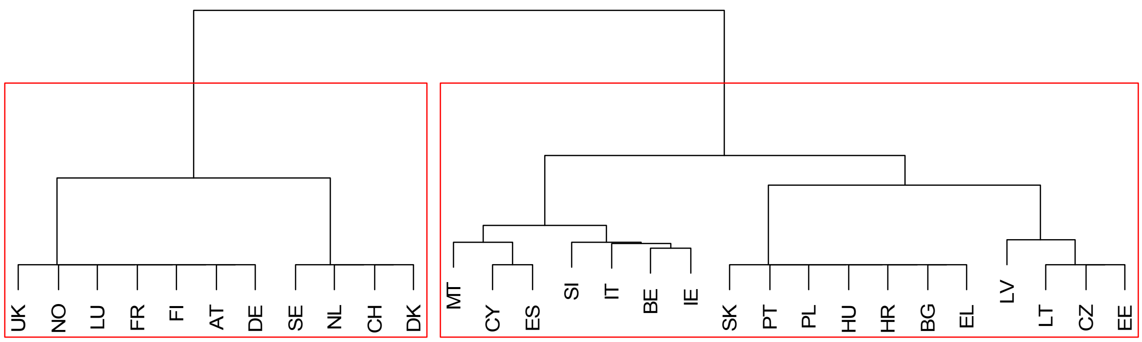

Fig. 6. Clusters according to the second-level expenditures on research and development parameter

As we can see on the final dendrogram, the first cluster comprises countries United Kingdom, Norway, Luxembourg, France, Finland, Austria, Germany in the first group and Sweden, Netherlands, Switzerland, Denmark in the second group. Successively, the second cluster involves countries Malta, Cyprus, Spain in the first group, Slovenia, Italy, Belgium and Ireland in the second group, Slovakia, Portugal, Poland, Hungary, Croatia, Belgium and Greece in the third group and finally Latvia, Lithuania, Czech Republic and Estonia.

The second tier clusters quite precisely reflect current economic situation in Europe. Countries from the western part of the European Union – westwards from Austria – plus Norway and Switzerland belong to one cluster, while all the other countries belonged to the European Union, located in the eastern part of Europe, create the second cluster.

Because of limited space available for this paper, we do not offer numerical view of the explored data. But this is not decisive, whereas the cluster approach output is influenced by the mutually relative values of the parameters rather than their absolute numbers. Displaying the tables full of the observed data is not beneficial for this kind of analysis from a view of the clustering approach.

5. Discussion and Conclusions

Our analysis shows an outcome from hierarchical cluster-based approach. It means the final clustering process is built on the first tier of the clustering procedures. We chose this methodology because this way we avoided an issue related to the interconnections between the applied parameters. By this we mean modification the inputs for the first tier clustering process before merging them into one dataset. During such a procedure error in the term of applying the exact interpretation of the data can be undergone.

One of the potential aims of our analysis is to determine the areas of the so-called two-speed Europe (European Commission, 2010). Taking into an account two-cluster division, it is a bright illustration of the practical application of our analysis‘ outcome. Although, there are many variations of such a division of the European Union, one of the most discussed is a variant with border lying between the northern part and the southern part of the European Union. At a rough guess, the first cluster of the second tier of our cluster analysis performs as the northern part, where only Belgium misses. Question to debate is enlistment of countries Slovenia and Slovakia. These two European Union members own the strongest potential to get into the more elite group. In addition, there is one more country, which could be assigned to this group – Czech Republic. But its biggest disadvantage from this point of view is a lack of the euro currency as a legal tender. All the other above mentioned countries belong to the second set representing the southern part.

If we have a look at our final outcome, we are prepared to receive two basic conclusions – already mentioned division of the countries according to the two-speed Europe theory and creation of a special economic zone within the European Union. Predominantly, four segments of the second cluster of the second tier clustering procedure invoke possible potential for establishment special economic zone at the international level. Probably, the most typical instance looks like the Visegrád Four, where Slovakia, Poland and Hungary belong with Czech Republic in the neighbouring segment of the same cluster. Another representative instance is construction of the special economic zone as the whole area for new euro currency – either for the so-called quicker euro or for the so-called slower euro. Although, one notice should be reminded that the southern area with the slower euro is considerably heterogeneous anyway. This brings complications because diverse evolution acts as a disturbing element.

To sum all up, there is a space for construction of a special economic zone in Europe. Theoretical concepts are sufficiently ready to be applied in practical life. Issue related to this topic approaches in a step of their real application.

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References

Akinci, G.; Crittle, J., 2008. Special Economic Zones: Performance, Lessons Learned, and Implication for Zone Development. World Bank Working Papers (45869). Washington: World Bank. Available at http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2008/10/07/000334955_20081007064814/Rendered/PDF/458690WP0Box331s0April200801PUBLIC1.pdf.

Bertacchini, B.; Borrione, P., 2013. The Geography of the Italian Creative Economy: The Special Role of the Design and Craft Based Industries. Regional Studies 47 (2), p. 135-147. Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1321222.

Consolidated version of the Treaty on the Functioning of the European Union – Part Three: Union Policies and Internal Actions – Title VII: Common Rules On Competition, Taxation and Approximation of Laws – Chapter 1: Rules on competition – Section 2: Aids granted by States – Article 107 (ex Article 87 TEC). 2008. Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:12008E107&from=EN.

European Commission., 2010. Proposal for a council decision authorising enhanced cooperation in the area of the creation of unitary patent protection. Brussels: European Commission. Available at http://ec.europa.eu/internal_market/indprop/docs/patent/COM(2010)790-final_en.pdf.

European Commission., 2014. The Community Customs Code (CC), implementing provisions and guidelines – Current legal provisions. Brussels: European Commission. Available at http://ec.europa.eu/taxation_customs/customs/procedural_aspects/general/community_code/index_en.htm.

Gopalan, K., 2007. Special Economic Zones – Economic Panacea or Legal Nightmare? A Discussion on Elements of Public Law in Special Economic Zones. Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2393391.

Porter, M. E. 2008. On Competition. Watertown: Harvard Business Press.

Thorndike, R. K., 1953. Who Belong in the Family? Psychometrika 18 (4), p. 267-276. Available at http://homes.mpimf-heidelberg.mpg.de/~mhelmsta/pdf/1953%20Thorndike%20Psychometrika.pdf.

Tiefenbrun, S. 2012. Tax Free Trade Zones of the World and in the United States (Introduction). Thomas Jefferson School of Law Research Paper (2209438). Cheltenham: Edward Elgar Publishing. Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2209438.

Toeller, A. E., 2012. Claims that 80 per cent of laws adopted in the EU Member States originate in Brussels actually tell us very little about the impact of EU policy-making. London: The London School of Economics and Political Science. Available at http://blogs.lse.ac.uk/europpblog/2012/06/13/europeanization-of-public-policy/.

Torres, R. A., 2007. Free Zones and the World Trade Organization Agreement on Subsidies and Countervailing Measures. Global Trade and Customs Journal 2 (5), p. 217-223. Alphen aan den Rijn: Kluwer Law International. Available at http://www.freezones.org/GTCJ_03-offprints%20TORRES.pdf.