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Economic and environmental side of the use of biotechnologies Case Study: Synthesis of some bioplastics from algae

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Abstract

Disposal of plastic waste is a serious problem, because plastics accumulate in the envi¬ronment and cause significant pollution due to their degradability.
Therefore, the main objective of this research was to reach the biodegradable plastics industry as alternatives to non-biodegradable plastics. And the existence of such bi-ode¬gradable plastic must contribute in reducing the emission of harmful greenhouse gases and keeps the environment clean, and reduces the cost for pollution from the accumulation of plastic waste.
Algae was used as a raw material for the production of bio-plastics because of its unique properties such as it grows rapidly and in large quantities at a low cost and grows in a variety of water environments throughout the year, which means that there is no risk in the difficulty of securing the raw materials needed for the production of bio-plastics
The study concluded that the tested samples partially decomposed in fresh and alkaline water during a period of 26 days, which means a high dependence on algae to the produc¬tion of bio plastics as an environmentally friendly industry.

Key words

Biotechnologies, Environmental Economics, Bioplastic, Algae.

JEL Classification: Q01, Q5, 013

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Introduction

Talking about the economic dimension of biotechnologies, it should be noted that any discovery itself may not have a direct and rapid economic impact; but when its practical applications are commercialized, it has a clear impact.

Biotechnologies have gone through several economic phases, they have been the fastest in the field of drug production, which has a clear economic impact, and as soon as the researcher gets a patent he can get a company to market this product.

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These biotechnologies have had a significant impact on the US economy since 2000, with 437,400 employees employed, 150,800 of which were created directly bybiotechnology companies, while the remaining 286,600 jobs were supported by materialand service supported companies, and the net additional revenue was $ 47 billion (Kapiel,2016).

Biotechnology industries can be linked to the achievement of the Sustainable Development Goals, which seek to reduce poverty and hunger, because there are goals and objectives that require the work of the entire community: To achieve the goal of ensuring environmental sustainability (Swaminathan, 2010). Such as producing bio plastic of Algae to prevent the damage caused by plastic waste (Anbuchezhian et a., 2015). also addressing water scarcity by recycling and treating wastewater before being reused in agriculture in developing countries (Swaminathan, 2010).

Plastic waste is one of the most prominent environmental problems in the world as it takes thousands of years to degrade naturally, if it decomposes completely, it contributes to the pollution of the environment elements of soil, water and air, and distort the landscape and the loss of soil fertility and susceptibility to agricultural investment (Wang & Nomura, 2010)

Industrial plastics consume fossil resources, in addition to the high economic cost associated with changing world oil prices, as well as the release of large quantities of harmful greenhouse gases during production and combustion (Shamsuddin et al., 2017).

Due to the wide and large use of this material and its rapid transfer to the environmental media causing serious damage, therefore, in this research has been produced biodegradable plastics from algae to replace petroleum-based industrial plastics because of its safe uses of the environment in general and living organisms in particular (Rajendran et al., 2012).

Algae are classified into three types: brown - green - red. Red algae are the most important species used in the production of bio-plastics due to their high protein content (50-70%) of their original content (Ali, 2010). In this study, red algae of "Jania Rubens" were selected in the marine research area in Lattakia because of their spread and the effect of the physiological and chemical composition of these algae on the synthesis of bio plastics. And the biodegradable properties of this algal bio plastics were also studied.

1 Materials and Methods

1.1 Sample Preparation

The algae were thoroughly washed with tap water and then dried in the oven at 60 ° C until the weight is constant, then ground and stored away from moisture.

1.2 Agar extraction

Agar (polysulfur polysaccharides) is a gel extracted from some red algae (Rhodophyta), consisting of long chains of agarose and agar pectin. The physical and chemical properties of agar are affected by the extraction method, while the temperature and time of extraction and alkaline treatment affect the yield and quality of the agar.

Native agar

16 g of dry algae were applied in a unit containing 800 ml distilled water at 100 °C for 4 hours. The extracts were filtered using a cotton cloth with holes diameters 10 urn. The filtrates were at room temperature and then placed in the freezer until the next day. The water was removed from the frozen extract using freezing-Thawing Method (Armisen & Galatas, 2000), until agar powder was obtained.

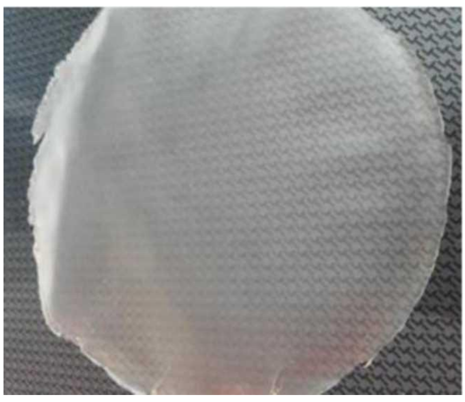
Alkali-modified agar

16 g of dry algae were applied in a unit containing 800 ml alkaline solution (NaOH 5%) at 100 °C for 1 hour. The alkali-treated sample was then washed with tap water and placed in 800 mL of distilled water and the mixture was adjusted to pH 6.4-6.8 using hydrochloric acid (Hcl). The extraction was then carried out at 120 °C for 2 hours (Chirapart et al., 1995).

1.3 Preparation of bioplastics films

First, 6.8 g of corn starch is placed in 240 ml distilled water in a 90 °C water bath with constant stirring. Then add 1.2 g of agar powder and 2 g of glycerin to homogenized starch solution with stirring for 5 minutes. The solution is poured into petri dishes and allowed to dry at 50 °C until the next day (Wu et al., 2009).

Figure 1 Physical appearance of bioplastic film



2 Results and Discussion

2.1 Extraction yield

Extraction yields vary depending on the type of moss and its life cycle, growth season, environmental conditions and extraction methods (Abbas, 2010).

Table 1 properties of agar produced by natural and alkali extraction

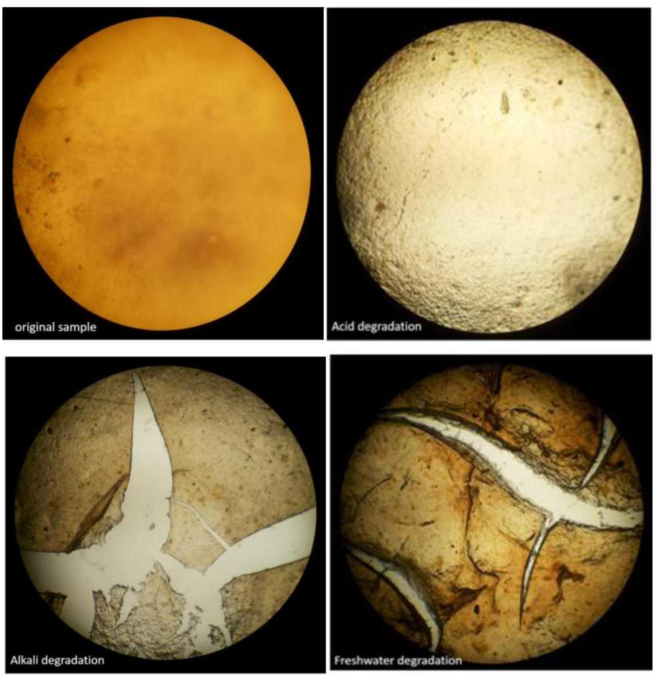
Alkali extraction	Native extraction
Lower yield (%16)	Greater yield (36.8%)
Higher gel strength (900 g/cm^2)	lower gel strength (400 g/cm^2)
Higher cost	Lower cost

Natural agar was extracted in a common, comfortable and effective cost (36.8%), while Alkaline treatment before extraction improves of strength (900 g/cm2), giving the produced agar a great importance because it can be used in wide range of applications.

2.2 Biodegradation test

The biodegradation test was carried out by applying 2 g of bioplastics membranes prepared in this study in different water media (fresh water - acid water - alkaline water). After 26 days, we notice that the films are not affected by acidic media and therefore not suitable for biodegradation.

Figure 2 Microscopic images of bioplastics films; biodegradation test in different media



While grooves and scratches are formed in the films placed in the alkaline and water mediums, this is evidence of the decomposition of the sample and consequently lower biodegradation costs since fresh water (tap water) is suitable for the biodegradation of the films prepared in this way.

Conclusion

In this study, agar was extracted from algae in two ways with high yield and good gelling strength, making it a suitable source for many medical industries, especially the environmentally friendly bio-plastics industry. The bio plastics films prepared in this study show excellent degradability in fresh and alkaline water over a period of 26 days, thus reducing their degradation costs. Finally, Knowledge-sharing and information dissemination in the areas of technology development, assessment and transfer, including biotechnology using ICTs in the development of technology databases, information management systems and funding source, manuals of agricultural research institutions, biotechnology and biosafety protocols and communication supported activities, contributes directly in achieving sustainable developing objectives.

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The Brexitologic of Competitiveness[1]

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Abstract

Adam Smith finalised his magnum opus An Inquiry into the Nature and Causes of the Wealth of Nations between 1773 (Boston Tea Party) and 1776 (Declaration of Independence), and in its final paragraph Britain should "endeavour to accommodate her future views and designs to the real mediocrity of her circumstances". The Wealth of Nations was "aimed to influence British MPs [Members of Parliament] to support a peaceful resolution to the American colonies' War of Independence", A. Smith "urged legislators to awaken from the "golden dream" of empire and avoid "a long, expensive and ruinous war"", and "rejection of the protectionist Corn Laws in favour of opening up to the world economy marked the start of an era of globalization which contributed to Britain's prosperity", as Yueh (2019, p. 16f) puts it. Over the years, industrialization brought about by the Industrial Revolution has been challenged by deindustrialization, globalization by deglobalization. So with the "Brexit issue" at stake, what has been the "Brexitologic of Competitiveness"? In an earlier relevant series of analyses published by Čiderová et al. between 2012-2014 our focus was on the Global Competitiveness Index (alias the GCI by the World Economic Forum) in a spectrum of territorial and temporal perspectives related to the European Union. Now, in this follow-up comparative study zooming out to globalization and zooming in to competitiveness, our focus is streamlined to the "open-ended Brexit issue" on the background of updates of the GCI (alias GCI 4.0) and the KOF Globalisation Index (the latter by ETH Zürich).

Key words

Brexit, competitiveness, globalisation/globalization, European Union, UK, USA

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Introduction: "Brexit alias Make Great Britain great again."

"Radical doubts are gripping the global economy. The world appears to be wavering between two alternatives: either a wave of backlash and deglobalization, with nationalism and market segmentation, and national priorities set against "globalism"; or a transition to a very new kind of globalization, sometimes referred to as globalization 2.0. The Brexit referendum and the election of Donald Trump have brought a new style of politics. […] While the United States and the United Kingdom were the main architects of the post-1945 order, with the creation of the United Nations system, they now appear

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to be pioneers in the reverse direction, steering an erratic, inconsistent – and domestically highly contested – course away from multilateralism." James (2017).

On the grounds of approximately 200 withdrawals of member states from intergovernmental organizations (IGOs) in the post-war era, von Borzyskowski & Vabulas (2019) perceive that "this number of IGO withdrawals is a large number when considering that states have sunk costs in the IGO, including already having paid for policy changes (economically and politically) that were necessary to join the institution in the first place".

In the words of Schimmelfennig (2016, p. 186), ""globalization" pressures on Europe and interdependence within the region" raise the (opportunity) costs of non-cooperation and geographical spill-overs result from externalities between integrated and non-integrated/non-member countries: hand in hand with deepening its economic integration a regional organisation increases its market power, diverts trade and investment away from non-members and imposes its regulatory choices on them – "thus increasing the gains and lowering the costs of joining." It is no surprise that a number of countries (including the UK) "reversed their initial decision to stay out of the common market", though in the recent case of the UK just to *re*-reverse it (unless it will be *re-re*-reversed…). Brexit chronology has been a story of "pro-Leave" campaigning in favour of the so-called "hard Brexit" as a symbol of the change of status quo versus "pro-Remain" campaigning in favour of the so-called "soft Brexit" with participation in the Common Commercial Policy of the EU (Staněk et al., 2018, p. 89).

On the individual level, having examined the 2015-16 waves of the UK Household Longitudinal Study (Understanding Society) for subjective wellbeing around the time of the June 2016 EU membership referendum in the UK, Powdthavee et al. (2019) reported that persons with lower life satisfaction in 2015 were more likely to express a preference for leaving the EU in 2016. On the corporate level, exposure of UK firms to Brexit as an event, which resulted in an unprecedented rise in political uncertainty, was addressed by Hill et al. (2019). In their findings internationalization has a moderating effect on Brexit exposure, with international activities acting as a diversification mechanism for domestic risks. Vis-à-vis the post-Brexit competitive performance on the UK level, Culkin & Simmons (2019) concentrated on the policymakers' portfolio of remedial measures targeting the impact of Brexit. In their analysis of transactional change as regards the pre-Brexit (1 May 2015 – 23 June 2016) and post-Brexit polling (24 June 2016 – 28 December 2017) effects on the UK economy Jawad & Naz (2018) classify Brexit as "the biggest transactional change of the twenty-first century […] accrued or taking place in the most developed economic hub when world and economies are facing serious challenges".

Poiană & Stretea (2018) coined "Brexitology" (*alias* a story of renegotiations, referendums and "bregrets"), "emphasizing the differences and similarities between the two British referendums (1975, 2016) while drawing parallels between the arguments that the two Prime Ministers at the time (Harold Wilson and David Cameron) used for granting the British citizens the right to decide upon leaving or remaining within EU". Our analytical approach on the quest for "Brexitologic of Competitiveness" rests both on normative economics *alias* normative economic statements, and positive economics *alias* positive economic statements. In order to properly comprehend competitiveness, the respective setting, which is nowadays represented by globalisation, is of utmost importance; this is why we shall zoom out our focus in part 1.1 (Globalisation revisited) before zooming it in in part 1.2 (Competitiveness revisited). Subsequently, on the background of updated methodology of both the *Global Competitiveness Index* (World Economic Forum) and the *KOF Globalisation Index* (ETH Zürich) we shall discuss the scale of globalisation and competitiveness of the UK as compared with the USA in part 2 (Global Britain). Finally, we shall proceed to conclusions in the final part (The Brexitologic of Competitiveness). Our research has been conducted in the framework of the VEGA research projects No. 1/0654/16, No. 1/0897/17 as well as No. 1/0812/19 and we wish to acknowledge our research visits at Université Catholique de Lille, France (in 2015, 2018 and 2019).

1 Methodology

1.1 Theoretical background: Globalisation revisited

"[A]lthough Hume and Smith had proclaimed the economic efficiency of free commerce, they were essentially "economic liberals but political realists," convinced of the enduring qualities and patriotic attachment of citizens to nation-states."

R. Sally (2008) in Bannerman (2015), pp. 41-2.

The study of globalisation – as a rapidly growing field – is necessarily one of an interdisciplinary nature. Globalisation (explored by key thinkers as indicated in Tab. 1 in Annex) is usually associated with its economic and/or political aspect; nevertheless, it also encompasses other spheres of life due to increasing interdependence of countries and communities, including features that Dudáš et al. (2017) identify as: political; industrial; financial; economic; informational; military; legislative; ecological; cultural; and social.

Though there have been numerous definitions of globalisation, we wish to accentuate the most comprehensive one of a multidisciplinary nature formulated by R. Urzua (2000) and included by UNESCO: "Globalisation is a multi-dimensional process characterised by: the acceptance of a set of economic rules for the entire world designed to maximise profits and productivity by universalising markets and production, and to obtain the support of the state with a view to making the national economy more productive and competitive; technological innovation and organisational change centred on flexibilisation and adaptability; the expansion of a specific form of social organisation based on information as the main source of productivity and power; the reduction of the welfare state, privatisation of social services, flexibilisation of labour relations and weaker trade unions; *de facto* transfer to trans-national organisations of the control of national economic policy instruments, such as monetary policy, interest rates and fiscal policy; the dissemination of common cultural values, but also the re-emergence of nationalism, cultural conflict and social movements.".

W. I. Robinson (in Ritzer, ed., 2007) and Dudáš et al. (2017) speak of many different approaches and even disputes amongst scholars on what is perceived as the optimal theoretical tool in explaining globalisation, including the meaning of globalisation. The matter of fact is that globalisation represents one of the key concepts in the 21st century, and it will without any doubt be analysed and discussed in time ahead. Currently, in the context of the theory on globalisation we shall only indicate several theoretical approaches: World-System Theories; Theories of Global Capitalism; The Network Society; Theories of Space, Place and Globalisation; Theories of Transnationality and Transnationalism; Modernity, Postmodernity and Globalisation; and Theories of Global Culture. Furthermore, one can also differentiate between the: Theory of Liberalism; Theory of Political Realism; Theory of Marxism; Theory of Constructivism; Theory of Postmodernism; Theory of Feminism; Theory of Transformationalism and Theory of Eclecticism that represent eight globalisation theory categories as listed on the Political Science (2017) website. Held & McGrew (eds., 2007) speak of Hyper-globalist, Sceptic and Transformationalist Globalisation Theories; B. F. Shareia (2015) refers to theories of development that include: World-Systems Theories (yet again), Modernisation, Dependency Theory and Globalisation Theory.

Although some of them are not "clean-cut" theories that lie within the borderlines of one particular feature, but are spread over economic, political, social, cultural aspects of life, we have strived to categorise theories of globalisation according to their *economic* and *political dimension*. The third aspect of globalisation theory that automatically imposes itself herein is the *social* one, forming the "globalisation theories economic-political-social trio".

In terms of accolades versus critique, proponents and opponents of globalisation are many (see e.g. Gledhill, Dolan & Snyder, 2019) – with both groups representing equally strong arguments. Hence, out of fifty key theorists of globalisation mapped in Tab. 1 in Annex we are going to dwell on the views of the 2001 Sveriges Riksbank Prize in Economic Sciences (*alias* Nobel Prize) laureate J. E. Stiglitz over the course of time. Having believed that globalisation could be reshaped (and if it indeed was), there would be a possibility that it would assist in creating a new global economy with growth not just being more sustainable and less volatile, but also more equitably shared (Coleman & Sajed, 2013, p. 232). In his *Globalization and Its Discontents Revisited* 2018 edition Stiglitz portrays the new status quo of the contemporary fast-changing world as follows: *"In the last quarter century we've had the Argentine crisis, the Russian crisis, the East Asia crisis, the global financial crisis, and the euro crisis. […] While the standard model a quarter century ago was based on rational households and firms interacting in competitive markets in ways that achieved efficiency and stability, each of the underlying assumptions has come to be questioned: firms and households often act in a far-from-rational manner; markets are often not competitive; and the outcomes often seem far from efficient or stable."*. Thus, globalisation is not to be understood as *"an end in itself, but, possibly, if it's made to work right, a means to an end* [i.e. higher living standards on a more extensive (*alias* inclusive) rather than a more intensive (*alias* exclusive) basis, as a result of more equitably shared benefits of globalisation – authors' remark]*. Too often, the advocates of globalization confuse ends and means. They continue to glorify globalization, even when it appears to harm a majority of the citizenry, or at least a large portion of it"*, Stiglitz (2018, p. 76) emphasises.

Since we introduced the theoretical background with a reference to D. Hume, "whose influence is evident in the moral philosophy and economic writings of his close friend Adam Smith" (Morris & Brown, 2019; see also Holman et al., 2005), and A. Smith himself (NB: both Scottish; for "evolution before devolution" in the case of the UK see Čiderová, 2016), the reader might possibly wonder how the contemporary status quo of the world economy would have been perceived. As this question puzzled L. Yueh, too, we shall now provide the reader with a brief authentic account of her assumptions on the lines of thought of a number of Great Economists:

"For *Adam Smith* and *David Ricardo*, pursuing free trade would be at the top of their priorities. […] Consistent with his policies to reduce inequality, *Alfred Marshall* would urge using moderate redistribution in terms of taxes and transfers to help the losers from globalization. […] *Irving Fisher* would be watching for signs of major economies turning inward, which would add to the risk of repeating the 1930s. That's when protectionist measures such as the Smoot-Hawley Act imposed high tariffs on imports into the United States, which worsened the Great Depression. […] For *John Maynard Keynes*, an active government which spent to help the losers from globalization would be an answer. […] His contemporary *Joseph Schumpeter* would concur with the need for all nations to maintain their global outlook. […] *Friedrich Hayek* and *Milton Friedman* […] would advocate for free markets, in particular, ensuring that political events such as Trump's America First policy and Brexit did not mean that the US and Britain turned inward and compromised the operation of markets. […] *Douglass North* would urge an examination of where the current trade deals have failed to address the concerns of losers and reform them where appropriate. […] *Robert Solow* […] would presumably support a push to set common standards on investment and liberalize or open up the services sector, for which rules and regulations are more important than tariffs. […] *Paul Samuelson* […] would have recommended that […] redistributive policies be judged through the lens of an ethical observer to decide which policy was better than another. The challenging practicalities of implementing such an approach also helps explain why good policies are not always adopted." (2019, pp. 292-296).

Although Tab. 1 in Annex maps links to authorship of selected globalisation-related concepts, we are aware of the trajectory moving on from "globalisation so far" on the wave of "trends changing globalisation" as framed by the European Commission, the McKinsey Global Institute and the OECD in the following Tab. 2.

Table 2 Globalisation then and now

Globalisation so far	**Trends changing globalisation**
Tangible flows of physical goods	Intangible flows of services and data
Demand for more, and more diverse goods and services	Demand for more fair trade, sustainable and local products
Global supply chains	Global value chains
Flows mainly between developed economies	Greater participation by emerging economies and megacities
States and big multinational companies drive flows	Growing role of small enterprises, non-state actors and individuals
Easily monetised transactions	Rise of open-source and shared content
Technology transfer from developed to emerging economies	Technology transfer in both directions

Source: European Commission, 2017, p. 10.

As regards the "look of a global outlook" outlined in Tab. 2, in the course of the so-called "White Paper process: from Rome to the European Parliament elections in 2019" the European Commission issued its *Reflection Paper on Harnessing Globalisation*, underlining that *"[m]ost products are no longer made in one country alone but are rather "made in the world""* while *"[t]he fact that other countries do not all share the same living, social, environmental, tax and other standards as Europe means that companies can use these differences to their competitive advantage"* (European Commission, 2017, pp. 6-9). In this respect we wish to underline that both an "altruist solidarity-seeking zero-sum win-lose levelling-off" comprehension of the 2015 United Nations Sustainable Development Goals (SDGs) and a "rationalist win-win poverty-alleviation-turning-into-export-market-expansion" perception are likely to proceed in parallel in line with the human nature. Just like the development of the human society has been fuelled by inventions and innovations, the history of economic thinking has been one of addressing reinforced competition and newly-arising benchmarks of performance, as could be seen in part 1.1. Hence, in our pursuit of the "Brexitologic of Competitiveness" we shall address the novel nature of the concepts of competitiveness in part 1.2.

1.2 Research objective, methodology and data: Competitiveness revisited

"The term competitiveness belongs to the most frequently applied terms in the contemporary economic policy of individual countries as well as with relevance to the European Union economy as a whole. In an economic perspective the term as such is not an issue as long as it is meant to express the ability of a particular enterprise to produce goods or services demanded on the market, at a price, which the customers are willing to pay. However, if we refer to the national or regional economy, application of this term becomes an issue. [authors' translation]"

Krpec & Hodulák (2012), p. 372.

Since in the theoretical background focused on globalisation we considered authorship both before (2007) and after (2017) the outbreak of the recent global economic crisis (*alias* the Great Recession), we shall proceed in an analogical manner in the introductory passage to the research objective, methodology and data. Hence, vis-à-vis our statement oriented on interpretation (i.e. the *"altruist solidarity-seeking zero-sum win-lose levelling-off"* point of view & the *"rationalist win-win poverty-alleviation-turning-into-export-market-expansion"* point of view) of the theoretical background in the previous part we unfold the argument further.

First, let us recall the claim by Waisová et al. (2007, p. 128) that the development of the human society has been accompanied by rising performance of individual countries along with internal changes in the sectoral structure of their economies (i.e. in terms of shifts in the production and employment structure) taking place. Next, we consider the following line of reasoning by Šikula (2017, p. 63): *"The position of countries prevailingly in the position of actors adhering to and implementing rules of the global environment simultaneously invokes among them a special sort of competition, and,* *thus, also a need of assessing their competitiveness. […] In the 1990s various international economic institutions started to undertake regular assessments of countries' competitiveness on a multi-criterial basis. […] The significance and impact of assessing countries' competitiveness is also documented by the fact that while in 1979 the World Economic Forum [WEF] evaluated merely 16 European countries in its initial assessment, in 2013 the assessment was undertaken for up to 148 countries of the world on the basis of 112 criteria. [authors' translation]"*.

In an earlier relevant series of analyses published between 2012 and 2014 (Čiderová & Repášová, 2012; Čiderová et al., 2013a; Čiderová et al., 2013b; Čiderová et al., 2013c; Čiderová & Drobcová, 2013; Čiderová & Kovačević, 2013; Čiderová & Majerníková, 2013; Čiderová & Šimorová, 2013; Čiderová & Šeptaková, 2014; Čiderová & Štubniak, 2014) our focus was on the *Global Competitiveness Index* (*alias* the GCI by the WEF) in a spectrum of territorial and temporal perspectives related to the European Union. In this follow-up comparative study we have already introduced assessing countries' competitiveness as viewed by Šikula, which we wish to complement with the comment by Ardinat (2013, p. 52): *"Les rankings, dont la subjectivité est patente, constituent donc une représentation de la competitivité et non sa mesure à proprement parler."*. Now, our focus is streamlined to the quest for "Brexitologic of Competitiveness" in the context of the status quo of the "Brexit issue" as well as updates of both the GCI (*alias* GCI 4.0) and the KOF Globalisation Index (the latter by ETH Zürich).

Marking 10 years since the Great Recession with social and economic consequences "of a magnitude unprecedented in recent generations" had broken out, the WEF launched GCI 4.0. Such "much-needed economic compass, building on 40 years of experience in benchmarking the drivers of long-term competitiveness" is based on the role of human capital, innovation, resilience and agility as drivers and defining features in terms of the Fourth Industrial Revolution (4IR), and GCI 4.0 results "reveal the sobering conclusion that most economies are far from the competitiveness "frontier" – the aggregate ideal across all factors of competitiveness" (Schwab et al., 2018). GCI 4.0 is a composite index comprising 98 indicators and combining traditional components (macroeconomic stability, property of rights, ICT and physical infrastructure) with new concepts such as: multistakeholder collaboration, entrepreneurial culture, companies embracing disruptive ideas, critical thinking, social trust. Though not included in the computation of the GCI, four overarching components: *Enabling environment* (institutions; infrastructure; ICT adoption; macroeconomic stability), *Human capital* (health, skills); *Markets* (product market, labour market, financial system, market size), *Innovation Ecosystem* (business dynamism, innovation capability) facilitate presentation and analysis of these 12 pillars. Hard data from international organisations are complemented with soft data originating in the WEF Executive Opinion Survey (detailed meta information as well as datasets are available at http://gcr.weforum.org). A new progress score on a scale from 0 to 100 (100 was set as the ideal) is meant to convey the message of competitiveness not being a zero-sum game between countries.

The KOF Globalisation Index is a composite index measuring globalization along its economic (*alias* long-distance flows of goods, capital and services as well as information and perceptions that accompany market exchanges), social (*alias* spread of ideas, information, images and people) and political (*alias* diffusion of government policies) dimension with almost global territorial coverage since 1970. Contrary to the Globalisation Index (Robertson & Scholte et al., 2007, pp. 1514-1515; see also Tab. 1 in Annex) by the Centre for the Study of Globalisation and Regionalisation (CSGR, University of Warwick) and the first revision of the KOF Globalisation Index (KOF, Swiss Federal Institute of Technology Zürich), respectively, the recent second revision of the KOF Globalisation Index (documented in Tab. 3 in Annex) launches a distinction between *de facto* and *de jure* globalisation indices. "Single indicators, often reflecting openness, such as trade as a percentage of GDP, are frequently used as a proxy for globalization. Globalization is, however, a multifaceted concept that encompasses much more than openness to trade and capital flows." (Gygli et al., 2019); in this respect, whilst the *de facto* globalisation index measures actual international flows and activities, the *de jure* globalisation index maps policies and conditions facilitating and fostering (such) flows and activities. Following the initial version of the KOF Globalisation Index (2006) and its update (2008), the most recent revision combining *de facto* and *de jure* globalisation expanded from 23 into the current 43 variables. Besides a split between trade globalization and financial globalization as well as time-varying weights of the underlying variables, variables especially measuring *de jure* characteristics of globalization are a new feature (detailed definitions and sources of variables are available at http://www.kof.ethz.ch/globalisation/).

The "n=1 Brexit-issue" represents a challenge for policy-related research and necessitates methodological pluralism allowing for flexibility in application of social research methods; we believe in pragmatism as a form of methodological pluralism, combining qualitative and quantitative perspectives. In the ensuing part 2 (Global Britain), in our pursuit of the "Brexitologic of Competitiveness" in the framework of problem-based research we shall apply the GCI and the KOF Globalisation Index to the UK and discuss the scale of globalisation and competitiveness of the UK when compared with the USA championing the GCI "competitiveness league".

2 Results and discussion: Global Britain

"Sollten die Briten ernst machen und den Austritt aus der EU vollziehen, dann wird die Brexitannia aufs freie Meer hinaussegeln. Untergehen wird die alte Fregatte nicht, doch ein Zickzack-kurs ist wahrscheinlich. Little England und Global Britain werden um den Kurs streiten, den ihr Schiff nehmen soll."

Szyszkowitz (2018), p. 257.

First and foremost, we wish to prompt the claims made by Krpec & Hodulák (2012) and Ardinat (2013) presented in part 1.2 vis-à-vis the statement by Šikula that "authors of methodology intrinsically imprint interest- and ideology-driven positions into the overall system of the multi-criterial assessment of competitiveness". Though multi-criterial assessments of competitiveness are predominantly addressed to national governments, their media coverage arouses interest of all stakeholders. Interpreted as an icon of a country's credibility, multi-criterial assessments of competitiveness have, on the one hand, been applauded as a prestigious quest for the most welcoming host of investors; on the other hand, however, the most disapproving voices opine that imprudent compliance with a plethora of criteria to maximise the country's appeal to investors leads to a "race to the bottom" (Šikula, 2017, pp. 64-66).

The Economist (2018) lists the UK as *one of the biggest economies* (the UK 5th, the USA as the biggest economy worldwide in terms of GDP in bn. USD, 2016); *one of the biggest exporters of goods* (the UK 5th, the USA 1st in terms of % of the world, 2017); *one of the biggest importers of goods* (the UK 9th, the USA 2nd in terms of % of the world, 2017); *one of the countries with the largest industrial/manufacturing output* (the UK 8th/9th in terms of bn. USD, 2016, the USA 2nd in terms of bn. USD, 2015); *one of the countries with the largest services output* (the UK 5th in terms of bn. USD, 2016, the USA 1st in terms of bn. USD, 2015); *one of the biggest earners from services and income* (the UK 3rd, the USA 2nd in terms of % of world exports of services and income, 2016); *one of the largest bilateral and multilateral donors* (the UK 3rd, the USA 1st in terms of bn. USD, 2016); *one of the countries with the highest total spending on R&D* (the UK 7th, the USA 1st in terms of bn. USD, 2016); *one of the countries with the highest innovation index* (the UK 5th, the USA 4th, 2017); and *one of the countries with the lowest brain drain* (the UK 6th, the USA 3rd, 2017).

According to the pilot 2018 GCI 4.0 edition, the top 10 most competitive economies are in Europe and North America, East Asia and the Pacific region. The USA, commented as "the closest economy to the frontier, the ideal state, where a country would obtain the perfect score on every component of the index" (Schwab et al., 2018), maintained its top position in the GCI 4.0 in comparison with the 2017 GCI (calculated using the GCI 4.0 methodology). Among the G20, Germany, the USA, Japan, the UK and South Korea scored high in innovation. Out of 140 economies assessed in the pilot 2018 GCI 4.0 edition the UK ranks 8th (compared to 6th among 135 economies in the 2017 GCI when calculated using the GCI 4.0 methodology); the UK outnumbered the USA in the overarching component *Enabling environment*, in the case of *Markets* and *Innovation Ecosystem* it was vice versa, and in the area of *Human capital* results were mixed [NB: the UK ranking 9th and the USA 2nd out of 141 economies in the 2019 GCI 4.0 edition; ceteris paribus].

The Global Competitiveness Report 2018 mentions Brexit twice (2018, pp. 28-29): firstly, introducing the status quo by stating that "Brexit remains unresolved"; and, secondly, pointing out that "[i]ndependent of other effects of Brexit, the event will, by definition, weaken the United Kingdom's markets component as integration with the EU is rolled back". Certain aspects of political and economic impact on the UK from Brexit are briefly outlined in Tab. 4 in Annex.

In the context of multi-level governance the Commission's *Reflection Paper on Harnessing Globalisation* explicitly illustrates the respective layers in a top-down manner (EU level; member state level; regional level; local level); nonetheless, in Tab. 5 in Annex we shall draw attention only to the EU level and the member state level, bearing in mind the scope of our focus in this article.

Vis-à-vis the EU's ""no-deal" Brexit preparedness" the European Commission has issued practical guidance to EU member states (European Commission, 2019) concerning: citizens' residence and social security entitlements; police and judicial cooperation in criminal matters; medicinal products and medical devices; data protection; and fisheries. It goes without saying that emphasis was placed on the fact that *"the EU's contingency measures will not – and cannot – mitigate the overall impact of a "no-deal" scenario, nor do they in any way compensate for the lack of preparedness or replicate the full benefits of EU membership or the favourable terms of any transition period, as provided for in the Withdrawal Agreement. These proposals are temporary in nature,* *limited in scope and will be adopted unilaterally by the EU. They are not "mini-deals" and have not been negotiated with the UK",* adding that *"[a] "no-deal" withdrawal will cause disruption and is not desirable, but the EU is fully prepared for it"* (NB: EU member states have been engaged in intensive national preparations, too, and relevant information can be accessed at: https://ec.europa.eu/info/brexit/brexit-preparedness/national-brexit-information-member-states_en).

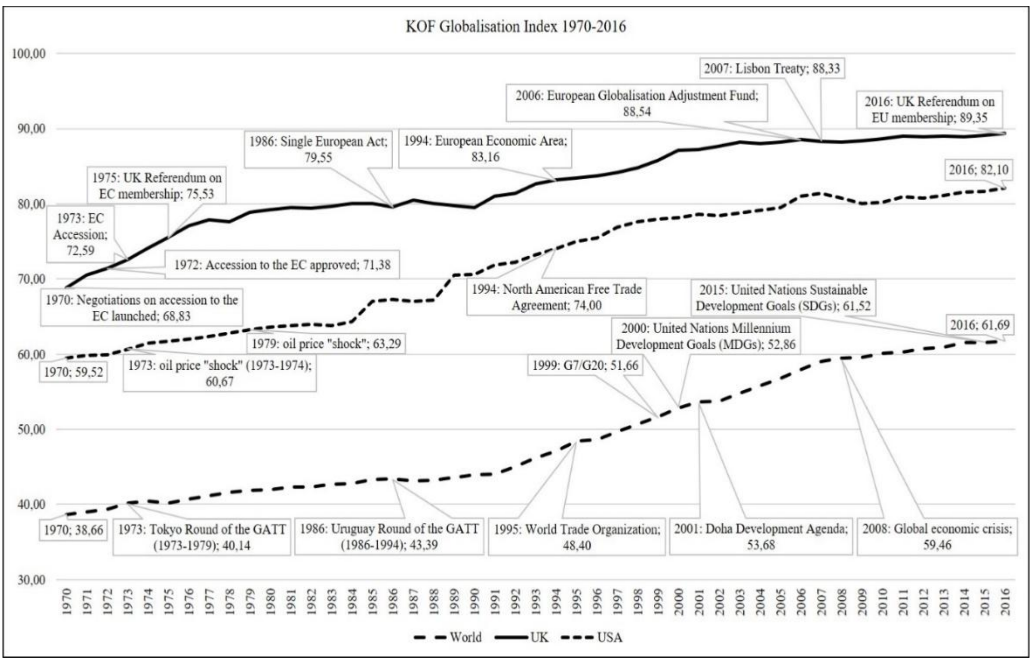
In fact, it is *not unequivocally feasible* to precisely assess *how Brexit will affect EU member states and EU enlargement countries* owing to pending negotiations (i.e. both the EU withdrawal negotiations of the EU and the UK on one hand at the time of writing; and the EU accession negotiations of the EU and EU enlargement countries on the other hand); still, (immediate) stakes are high in the short and medium run in the case of the first. Common sense wisdom, however, claims that (*ceteris paribus*) "you can't have your cake and eat it"; hence, with regard to globalisation harnessing (Tab. 5 in Annex), the UK would beyond any doubt need to prioritise (in terms of strategic planning and/or funding). Acknowledging that "there are, inevitably, tensions – social, economic, and environmental – between the various dimensions of economic progress", *The Global Competitiveness Report 2018* (pp. 1-2) reiterates that "[m]ajor economic challenges need long-term solutions, but short-termism prevails in governments, administrations and corporations around the world". In this regard let us shortly shed light onto the line of thought pursued by Acemoglu & Robinson (2008) before we proceed to any further conclusions related to the global prospects of the UK – as measured by the recently re-revised KOF Globalisation Index (Gygli et al., 2019), which introduces a separate *de facto* and *de jure* globalisation index in every dimension and sub-dimension.

Ascertaining that over the last half millennium different societies have moved onto distinct paths of political and economic development, Acemoglu & Robinson (2008, pp. 673-679) unfold their argumentation as follows: "[B]eginning in the seventeenth century, Britain experienced a series of changes in political institutions which led to the emergence of a constitutional monarchy and a much greater stability of property rights. In consequence, the British economy began to develop rapidly and was at the forefront of the industrial revolution in the 19th century. […] While political institutions determine the distribution of *de jure* political power in society, the distribution of resources influences the distribution of *de facto* political power at time t. These two sources of political power, in turn, affect the choice of economic institutions and influence the future evolution of political institutions. Economic institutions determine economic outcomes, including the aggregate growth rate of the economy and the distribution of resources at time $t + 1$.".

Historically, Adam Smith witnessed the beginning of the Industrial Revolution, which turned Great Britain into the first industrialized country (*alias* the "workshop of the world") in the late 18th and 19th centuries, followed by Germany and the USA. His view of prosperity was chronologically associated with agriculture, manufacturing, and foreign trade, but "[s]ervices weren't valued, as Smith could not have conceived of the technological revolution that would allow output from that sector to be traded as a commodity or a manufactured good on such a huge scale as it is today. […] When Britain specialized in manufacturing as the earliest industrial power, it imported agricultural goods. Smith certainly saw the interconnections between trade and the structure of the British economy. In fact, Smith's beliefs about a circumscribed role for the state were influenced by his deep-seated opposition to the mercantilist policies of that time. He strongly objected to mercantilists distorting international trade by seeking to run a surplus." (Yueh, 2019, pp. 26-28). Regulation and taxation of trade by the British government in the course of the 18th and early 19th centuries (mercantilist trade policy during the Industrial Revolution, tariffs imposed on agricultural goods under the Corn Laws, and English vessels to be used in trade in terms of the Navigation Acts) were succeeded by declining trade barriers in the 1830s [NB: Relatedly, tariffs had amounted almost to 100 per cent of government revenues in the newly-established USA in the late 18th century before they halved in the early 20th century.]. Roughly since the repeal of the Corn Laws, globalization has experienced its "ups" (the 1850-1913 & the 1950-2007 periods) and "downs" (the Great Depression & the Great Recession periods). Individual post-war decades have witnessed tendencies towards multilateralism or plurilateralism.

Namely, in the case of the UK the 1950s symbolised its direction away from negotiating establishment of the European Economic Community (EEC) towards negotiating alternative European Free Trade Association (EFTA); and, the 1960s marked the UK's redirection from EFTA membership towards the EEC/EC (*alias* the European Communities), which (subject to unanimity among EEC/EC members) failed to materialise owing to recurrent veto of the UK's bid. The 1970's were dynamic for the UK, too, when shortly after its 1973 EC accession the UK held a referendum in 1975 whether to sustain its EC-oriented direction, or to redirect it again. If we zoom out from the Anglo-Saxon (UK), through the Anglo-American (the USA) to the global perspective, the year 1973 is to be seen as the one of: the UK's accomplished EC accession, the start of the first oil price shock and launch of the Tokyo Round of GATT negotiations (Fig. 1a).

Figure 1a KOF Globalisation Index (1970-2016): the UK, the USA and the world.



Source: own illustration.

The final Uruguay Round of GATT talks (1986-1994) prior to the establishment of the World Trade Organization (WTO) was paralleled: in the EC/EU (*alias* the European Union) context with the "inward" 1986 Single European Act & the "outward" European Economic Area; and, in the USA context with the North American Free Trade Agreement. Since the formation of the WTO (1995) the Doha Development Agenda has been pending.

Overall KOF Globalisation Index (Fig. 1a) of the UK not only exceeded the one of the USA, but corresponded with almost a double of the world level in 1970 (displaying major discrepancy between the UK & the USA on the one hand, and the world on the other hand); as a matter of fact it has been on the rise throughout the 1970-2016 interval, despite the UK's 1975 Referendum on EC membership & the 2016 Referendum on EU membership.

As for the KOF Globalisation Index *de facto* (Fig. 1b in Annex) and the KOF Globalisation Index *de jure* (Fig. 1c in Annex), both have demonstrated an upward trend in the respective 1970-2016 time span albeit the world, the UK and the USA displayed varying trajectories. When addressed on the world level, *de jure* globalization "overtook" *de facto* globalization around the time of transformation from GATT to WTO. Since 1975 (which coincides with the UK's 1975 Referendum on EC membership), the UK has been more *de jure* than *de facto* globalised, and standing at 93.01 out of 100 in 2016 in *de jure* globalisation terms, it could be expected to retreat to lower levels in the years to come unless it engages in an extent of international treaties/agreements comparable with that of its EU membership. Though *de facto* globalisation was lagging behind *de jure* globalisation in the USA across the 1970-2016 time period, such performance is in line with the causality observed by Gygli et al. (2019) and formulated as: "countries that are most globalized in the de facto indices also tend to be most globalized in the de jure indices". Reversed causality would suggest a shift to bi-/tri-/plurilateralism away from multilateralism, but one ought to be aware that "de facto and de jure globalization describe different characteristics of globalization resulting in distinct country rankings" (Gygli et al., 2019).

Conclusion: The Brexitologic of competitiveness

"Many Britons seem to lack or positively reject a European identity, and may feel a closer affinity with the USA, because of a common language and a substantially shared culture. Yet the sometimes canvassed possibility of the UK exchanging EU membership for membership of the North American Free Trade Area, even if feasible, would substitute an unequal dependent relationship with a superpower, inevitably preoccupied first and foremost with the interests of the Americas, for a partnership between equals."

Coxall et al. (2003), p. 287.

Our analytical approach to the quest for "Brexitologic of Competitiveness" rests both on normative economics *alias* normative economic statements, and positive economics *alias* positive economic statements. In order to properly comprehend competitiveness, the respective setting, which is nowadays represented by globalisation, is of utmost importance; this is why we zoomed out our focus in part 1.1 (Globalisation revisited) before zooming it in in part 1.2 (Competitiveness revisited). Subsequently, on the background of updated methodology of both the *Global Competitiveness Index* (World Economic Forum) and the *KOF Globalisation Index* (ETH Zürich) we discussed the scale of globalisation and competitiveness of the UK as compared with the USA in part 2 (Global Britain).

Our conclusions shall be motivated by the magnum opus *An Inquiry into the Nature and Causes of the Wealth of Nations*, in which Adam Smith advised that Britain should endeavour to accommodate her future views and designs to the real mediocrity of her circumstances, and urged legislators to awaken from the "golden dream" of empire. In the quote above, Coxall et al. (2003) put forward a reversed asymmetry in interdependence from the one of Smith's era. Would, indeed, the "*US*-first" (*alias* single-centred "America First") attitude switch to a "*us*-first" (*alias* dual-centred "America First" & "Britain First") approach? And, this being the case, would the interdependence be on a par (*alias* metropolis-metropolis)? It goes without saying that in the perception (and official rhetoric) of UK political elites steering the "Brexit issue" it would represent a shift from a "tolerated" *win-lose* (*alias* "EU win – UK lose") to the "promising" *win-win* (*alias* "US win – UK win"). Be that as it may, *The Global Competitiveness Report 2018* underlines that "while openness has been a "win-win" between countries it is at times a "win-lose" within countries".

Over the years, industrialization brought about by the Industrial Revolution has been challenged by deindustrialization (just to revert to reindustrialization in terms of 4IR?); globalization by deglobalization (just to revert to globalization 2.0?); and UK preference of alternative integration by UK preference of mainstream EU integration (just to revert to alternative integration?). As a matter of fact, current developments in the world economy are characterised by many contradictory processes and the *modus vivendi* was summarised by Staněk et al. (2018, p. 107) as follows: "Globalisation itself is subject to a process of change. Integration-driven tendencies seek a new shape (EU, NAFTA); simultaneously, there is renaissance of protectionism, tariff barriers (USA) just like a call for the need of a major reform in the sphere of world trade (WTO reform). Encouragement of orientation on ecology (Paris Protocol) has reinforced, too. Developments are also shaped by the ever more extensive impact of 4IR, changes in the environment, the financial sector as well as the overall perception of the society. Acceleration of changes occurring in the environment strengthens the imperative of an environmentally-friendly economy and society. Robotisation, artificial intelligence, big data, digitalisation just like the new concept of production systems result in the reinvention of production systems (customisation of production, new forms of subcontracting and offshoring adapt the entire chain of production processes). Digitalisation of the society not only modifies forms of communication, but also reinvents services, consumption and trade. At the same time, the central concept of societal evolution – in the energy sector, transportation, health care and education is subject to transformation. Artificial intelligence has already permeated a number of areas. Digitalisation also recasts interactions (of societal and economic nature). Ceaseless modification of the course of action translates into consumption marked by flexibility and adaptability.".

A. Smith and D. Ricardo experienced an epoch of vast change, too. In terms of food security, Smith excluded food in his pursuit of free trade – unlike Ricardo who did not mind depending on foreign countries for food supplies and whose campaign against trade restrictions contributed to the repeal of the Corn Laws in 1846, which eventually triggered an era of globalization. Inspired by J. Bentham's definition of utility for a society (*alias* the greatest happiness for the greatest number), Ricardo modelled benefits from international trade for the economy as a whole, which was challenged by J. Schumpeter as the "Ricardian Vice". Still, Ricardo himself was aware of a clash of interests due to a negative correlation (availability versus price of food) between landowners (*alias* proponents of the protectionist Corn Laws) and consumers (*alias* opponents of the protectionist Corn Laws) [NB: J. E. Stiglitz contradicts the current "existing-trade-agreements-challenging America-First campaign" by arguing that *"American negotiators got most of what they wanted. […] The problem was with what they wanted: From the perspective of America as a whole, they wanted the wrong thing. What they asked for was essentially what American corporations wanted. […] They were thinking about what would increase the profits of America's big corporations […] even if it increased the prices that American consumers had to pay"* (2018, pp. xx-xxi)].

The UK as one of the most globally oriented economies has accumulated a trade deficit since its 19th century glory days. One would be prone to assume that A. Smith (*alias* "the father of economics") and D. Ricardo (*alias* "the father of international trade") would seek a complete "health check of the domestic economy" rather than a partial scrutiny of the country's trade position (a trade deficit or a trade surplus) due to the trade balance being linked to a country's comparative advantage. This brings us to the overall concept of competitiveness before we relate it to the "Brexitologic of Competitiveness".

Essentially, argumentation by Krpec & Hodulák (2012, p. 372) that in an economic perspective "the term [*competitiveness*] as such is not an issue as long as it is meant to express the ability of a particular enterprise to produce goods or services demanded on the market, at a price, which the customers are willing to pay" continues as follows: "Classical economists proved that, subject to monitoring of signals on the market, individual economic entities will identify certain products associated with *comparative advantage* in any economy, and international trade will then build up a utility effect for all actors. Strictly speaking, the issue of competitiveness on the country level is not inherently relevant from the viewpoint of the classical theory of international trade. Situation in the *reality* of international relations in an economic and in a political perspective, however, differs. Historically, the most pivotal problem ever was deemed to be a failure to safeguard security. Specialisation in international trade channelled the risk of compromising self-sufficiency. Disruptions in international trade by a rival led to a discontinuity of raw material or food supplies, which as a matter of fact made the essence of statehood vulnerable. *[authors' translation]*".

Globalisation shaped competitiveness then just as now "globalisation revisited" exposes "competitiveness revisited". In introduction we have conveyed our analytical approach to "Brexitologic of Competitiveness" as one resting both on normative economics (*alias* normative economic statements) and positive economics (*alias* positive economic statements). We wish to reiterate that stagnation of living standards was attributed to globalization as well as (implied) "skill-biased technical change", with an interpretation provided by Yueh (2019, p. 21): "Manufacturing output and retail sales, once the mainstay of the economy, have been usurped by specialists advising the world how and where to invest, organizing their companies, proposing better product designs, writing contracts, preparing accounts and offering technical advice in the worlds of engineering, IT, architecture and finance. The output of these activities takes the form of blueprints, designs, specifications, recommendations, computer code, ideas, reports, databases and the like. Business activity increasingly consists of people sitting in front of computer screens and having meetings to appraise projects.". In this domain of both the UK and the USA, competition becomes ever fiercer on the growing market for services. With the "Brexit issue" at stake and being one of crucial exporters of services, the UK as a post-industrial economy would benefit not just from an advanced classification of the so-called "manu-services", but also from progressing service-sector liberalisation.

On the background of the GCI update the results "reveal that countries that optimize their performance on the factors included in the GCI 4.0 are also more resilient to various shocks" (Schwab et al., 2018). In terms of positive economics let us zoom into the GCI 4.0 *Product market pillar* & *Market size pillar* (2018-2019).

Firstly, when we zoom into the GCI 4.0 *Product market pillar*, the benchmarks are: Singapore (7.01 Distortive effect of taxes and subsidies on competition & 7.04 Prevalence of non-tariff barriers), Switzerland (7.02 Extent of market dominance), Hong Kong (7.03 Competition in services; 7.05 Trade tariffs % duty; 7.06 Complexity of tariffs), Germany (7.07 Efficiency of the clearance process/Border clearance efficiency) and Ecuador (7.08 Services trade openness – the latter available in the 2018 edition only). In the respective 2018-2019 GCI 4.0 *Product market pillar* the USA outperformed the UK.

Secondly, a zoom into the GCI 4.0 *Market size pillar* discloses overall leadership (with continuity in 2019) by China (just like in 10.01 Gross domestic product PPP in bn. USD) together with Hong Kong being the benchmark in 10.02 Imports % GDP. In this case both the USA (ranking 2nd) and the UK (ranking 7th and 8th in 2018 and 2019, respectively) have seen an upward trend.

In terms of the "Brexitologic of Competitiveness" the UK would seek measures to reduce its long-term trade deficit introduced earlier, which has been "largely masked by the amount of inward FDI that the UK attracts" [NB: 5-year average foreign direct investment (*alias* FDI) inward flow % GDP of 2.3 in the UK versus 1.7 in the USA as documented in *The Global Competitiveness Report 2018*, and 3.1 in the UK versus 1.8 in the USA in *The Global Competitiveness Report 2019*, respectively] as Driffield & Karoglou (2019, pp. 560-561) put it and continue: "The naïve approach, which was sometimes offered by politicians in the run up to the referendum and indeed by some for the 12 months up to the 2017 UK general election but dismissed almost unanimously by policy makers, academics and the popular press, would be simply to assume that the effect on FDI would simply be zero, with new opportunities offsetting any detrimental effects. And yet, what may happen to (inward) FDI is more than an important concern; it is a centrepiece economic criterion to make a decision to remain or not in a free-trade area or a customs union." [NB: On the background of the KOF Globalisation Index update, the issue features in the financial sub-dimension of economic globalisation: FDI as *de facto* financial globalisation, and investment restrictions as *de jure* financial globalisation]. With reference to our introduction as if the so-called "hard Brexit" epitomised (an uncompromising) change of the status quo and the so-called "soft Brexit" a (compromise) bond with the EU, so in actual fact "the harder the Brexit, the higher the transaction costs". The unconventional nature of the EU tends to be characterised as "sui generis"; subsequently, a conventional "FDI checklist" (*Who* invests?, *What* kind of investment?, *Where* would be an investment appropriate?, *When* would it be appropriate to invest?, *Why* is an investment to be made?, *How* is an investment to be made?) is in case of Brexit likely to incorporate *"Why not?"*, too. It is precisely *"Why not?"* that could lead to the decision to prefer the EU for (re)location of supply chains and to import to the UK from the EU afterwards as Driffield & Karoglou (2019, pp. 578-579) specify: "As such, the lack of new investment is similar in effect to exit, as it implies de facto a relocation away from the UK. It is also likely to cause a move of supporting sectors and supply chains away from the UK, and an increase in imports.". The UK government addressing the *"Why?"* (in contrast to *"Why not?"*) may perhaps embark on cost competitiveness (if labour market flexibility is pursued in opposition to the advancing European social model) or "pull" (in the short term by means of inward investment incentives beyond EU state aid rules, or in a longer term by investing in skills and fostering access to finance for small- and medium-size enterprises).

In line with the earlier observation cited from *The Global Competitiveness Report 2018* of short-termism prevailing in governments, administrations and corporations around the world let us zoom also into the GCI 4.0 *Institutions pillar* (2018) by streamlining our attention to 1.13 Future orientation of government [*alias* the detailed indicators 1.20-1.26 in the 2019 edition]. One might comprehend deflection of the USA from the benchmark (Singapore) as an outcome of the "America First" doctrine, and inclination of the UK to the identical benchmark as a consequence of the previously envisaged two-year "business contingency plan for the Brexit process".

In terms of normative economics we conclude that the "Brexit issue" has had a disruptive impact on business operations; one may wonder if the "Brexit issue" turns into "sui generis creative disruption" (i.e. one beyond Schumpeter's original concept), though only the future will determine the ultimate nature of the "Brexitologic of Competitiveness" as: *win-win* (globalisation and competitiveness revisited by both the EU & the UK); *win-lose/lose-win* (renaissance for the UK and/or the EU); *lose-lose* ("Global Britain" versus "the EU as a global player" both facing global competition). What remains certain is that "it took three UK Prime Ministers to enter the E(E)C" and "it has taken three UK Prime Ministers to exit from the EU".

To conclude our quest for "Brexitologic of Competitiveness" prior to the 12 December 2019 (yet another) UK general election as this article goes to press, when the UK was reserved about pooling its sovereignty upon becoming a member of the E(E)C, the winning (pro-accession) argument was the "price of non-participation" (*alias* having no say in decision-making in case of non-integration). Should one relate the line of thought pursued by Acemoglu & Robinson (2008, pp. 673-679) that *de jure political power* is derived from political institutions in the society whereas *de facto political power* is associated with activities of pressure groups, to the "Brexit issue", both the UK Parliament and the UK Government have been instrumental in the *de jure* budgetary aspects of UK withdrawal from the EU (i.e. in terms of the *Withdrawal Agreement*). Yet, the *de facto* "Brexit profit & loss account" (*alias* an analogy of the intrinsically profit-oriented corporate profit & loss account philosophy echoed in the pro-Brexit campaign) will be on post-Brexit Day 1 topped by sunk costs paid for policy changes (economically and politically) that were necessary to join.

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Annex

Table 1 Links to authorship of selected globalisation-related concepts.

Author	Cf.	Authors of related concepts
ABU-LUGHOD, J.	→	AMIN; ARRIGHI; BRAUDEL; COX; HELLEINER; SASSEN; TAYLOR
AMIN, S.	→	ARRIGHI; BELLO; COX; HARDT & NEGRI; HELLEINER; SCHOLTE
APPADURAI, A.	→	ABU-LUGHOD; CASTELLS; CHOW; ESCOBAR; FALK; HANNERZ; HARVEY; MIGNOLO; ONG; ROBERTSON; ROSENAU; RUGGIE; SANTOS; SASSEN; SCHOLTE; SPIVAK; TAYLOR
ARRIGHI, G.	→	AMIN; BELLO; BRAUDEL; BRENNER; COX; HARVEY; ROSENAU; SANTOS
BAUMAN, Z.	→	BECK; CASTELLS; HARDT & NEGRI; HARVEY
BECK, U.	→	ABU-LUGHOD; BAUMAN; BRENNER; CASTELLS; DIRLIK; ESCOBAR; HARDT & NEGRI; MIGNOLO; SASSEN; SCHOLTE; TAYLOR
BELLO, W. F.	→	AMIN; ARRIGHI; COX; HARVEY; HELLEINER; SANTOS
BRAUDEL, F.	→	ABU-LUGHOD; AMIN; ARRIGHI; BRENNER; COX; FALK; HARVEY; HELLEINER; ROBERTSON; TOMLINSON
BRENNER, N.	→	ABU-LUGHOD; AMIN; ARRIGHI; BECK; CASTELLS; GIDDENS; HARVEY; HELD; ROBERTSON; SCHOLTE; TAYLOR; TOMLINSON; TSING
CASTELLS, M.	→	AMIN; ARRIGHI; BAUMAN; BRENNER; CERNY; COX; DIRLIK; ESCOBAR; HELLEINER; SEN
CERNY, Ph. G.	→	AMIN; HELD; ONG; SASSEN; SCHOLTE
CHAKRABARTY, D.	→	APPADURAI; DIRLIK; GIDDENS; HARDT & NEGRI; MIGNOLO; ROY; SANTOS; SPIVAK; TSING
CHOW, R.	→	APPADURAI; DIRLIK; ESCOBAR; McCLINTOCK; SANTOS; SHIVA; TOMLINSON
COMAROFF, John & COMAROFF, Jean	→	APPADURAI; ARRIGHI; BECK; BRENNER; CASTELLS; CERNY; CHAKRABARTY; COX; DIRLIK; HARDT & NEGRI; HARVEY; HELLEINER; ONG; SEN; STRANGE
COX, R. W.	→	APPADURAI; ARRIGHI; CASTELLS; CERNY; FALK; SCHOLTE

DIRLIK, A.	→	APPADURAI; ARRIGHI; BECK; BRENNER; CASTELLS; CHAKRABARTY; ESCOBAR; GIDDENS; HARDT & NEGRI; HARVEY; MIGNOLO; ONG; ROBERTSON; SANTOS; SASSEN; SCHOLTE; SPIVAK; TAYLOR; TOMLINSON; TSING
ESCOBAR, A.	→	BECK; CASTELLS; DIRLIK; GIDDENS; HARDT & NEGRI; MIGNOLO; SANTOS; TOMLINSON
FALK, R. A.	→	AMIN; ARRIGHI; BELLO; CERNY; COX; DIRLIK; ESCOBAR; HARVEY; HELD; HOWARD-HASSMANN; TSING
GIDDENS, A.	→	BECK; CASTELLS; ESCOBAR; HELD; MIGNOLO; SASSEN; TOMLINSON
HANNERZ, U.	→	ABU-LUGHOD; APPADURAI; BAUMAN; BECK; BRENNER; CASTELLS; ESCOBAR; GIDDENS; HELD; SASSEN; TAYLOR; TOMLINSON
HARDT, M. & NEGRI, A.	→	ARRIGHI; BAUMAN; BELLO; CHAKRABARTY; COX; DIRLIK; ESCOBAR; FALK; HARVEY; HOWARD-HASSMANN; ONG; ROBERTSON; SANTOS
HARVEY, D.	→	AMIN; ARRIGHI; BELLO; BRENNER; CERNY; COX; GIDDENS; HELLEINER; SANTOS; SCHOLTE
HELD, D.	→	CASTELLS; HOWARD-HASSMANN; ROSENAU; SASSEN; SCHOLTE; TOMLINSON
HELLEINER, E.	→	ARRIGHI; BRAUDEL; CASTELLS; HARVEY; HIRST, THOMPSON & BROMLEY; HOWARD-HASSMANN; RUGGIE; STRANGE; WEISS
HIRST, P. & THOMPSON, G. & BROMLEY, S.	→	AMIN; ARRIGHI; BECK; BRENNER; CASTELLS; CERNY; COX; HELD; HELLEINER; HOPKINS; ROSENAU; SCHOLTE; STRANGE; TAYLOR; WEISS
HOPKINS, A. G.	→	ABU-LUGHOD; ARRIGHI; BRAUDEL; CHAKRABARTY; DIRLIK; HELD
HOWARD-HASSMANN,R. E.	→	ARRIGHI; BRAUDEL; COX; FALK; HARVEY; HELLEINER; SANTOS
KLEIN, N.	→	BELLO; CASTELLS; ESCOBAR; HARVEY; McCLINTOCK; MIGNOLO; ROY; SANTOS; SHIVA; STIGLITZ
LEE, K.	→	CERNY; HARVEY; HELD; HELLEINER; SASSEN
McCLINTOCK, A.	→	APPADURAI; CHOW; ESCOBAR; KLEIN; MIGNOLO; SANTOS; TSING
MIGNOLO, W. D.	→	AMIN; ARRIGHI; BRENNER; COX; ESCOBAR; HARVEY; McCLINTOCK; SANTOS
ONG, A.	→	APPADURAI; CASTELLS; DIRLIK; GIDDENS; HARVEY; HELD; ROBERTSON; SASSEN; TSING
ROBERTSON, R.	→	CASTELLS; FALK; GIDDENS; HANNERZ; HOPKINS; HOWARD-HASSMANN; SEN; TOMLINSON; TSING
RODRIK, D.	→	AMIN; ARRIGHI; BECK; BELLO; BRENNER; COX; HARVEY; ONG; ROSENAU; SCHOLTE
ROSENAU, J. N.	→	CASTELLS; CERNY; ROBERTSON; TOMLINSON

ROY, A.	→	BRENNER; FALK; HARDT & NEGRI; HARVEY; HELD; HELLEINER; KLEIN; ONG; RODRIK; SHIVA; STIGLITZ
RUGGIE, J.	→	AMIN; ARRIGHI; CERNY; COX; HARVEY; RODRIK; ROSENAU; SCHOLTE
SAID, E.	→	CHOW; ESCOBAR; HOPKINS; McCLINTOCK; MIGNOLO; SANTOS; SPIVAK; TOMLINSON
SANTOS, B. de SOUSA	→	BECK; BELLO; BRENNER; CERNY; ESCOBAR; HARVEY; HELD
SASSEN, S.	→	ABU-LUGHOD; BRAUDEL; BRENNER; CASTELLS; CERNY; COX; ESCOBAR; HELLEINER; RUGGIE; TAYLOR
SCHOLTE, J. A.	→	APPADURAI; BECK; BRENNER; CASTELLS; CERNY; DIRLIK; HANNERZ; HARVEY; HIRST, THOMPSON & BROMLEY; ROBERTSON; ROSENAU; RUGGIE; SASSEN; TOMLINSON
SEN, A.	→	APPADURAI; CASTELLS; RODRIK; STIGLITZ
SHIVA, V.	→	FALK; ROY; STIGLITZ
SPIVAK, G. Ch.	→	APPADURAI; ARRIGHI; CHAKRABARTY; CHOW; COX; DIRLIK; MIGNOLO; ONG; SANTOS
STIGLITZ, J. E.	→	AMIN; ARRIGHI; BELLO; ESCOBAR; HARVEY; MIGNOLO; ONG; RODRIK; SANTOS; SHIVA
STRANGE, S.	→	AMIN; ARRIGHI; CASTELLS; CERNY; COX; HELLEINER; HIRST, THOMPSON & BROMLEY; SCHOLTE
TAYLOR, P. J.	→	AMIN; ARRIGHI; BRAUDEL; CASTELLS; COX; SASSEN
TOMLINSON, J.	→	APPADURAI; BECK; BRENNER; CHOW; ESCOBAR; FALK; GIDDENS; ROBERTSON; ROSENAU; SANTOS; SCHOLTE; TSING
TSING, A. L.	→	APPADURAI; CASTELLS; CHAKRABARTY; DIRLIK; ESCOBAR; GIDDENS; MIGNOLO
WEISS, L.	→	BRENNER; CERNY; HARVEY; HELD; HIRST, THOMPSON & BROMLEY; ONG; RODRIK; ROSENAU; SASSEN; SCHOLTE

Source: adapted from Coleman & Sajed (2013).

Table 3 Globalisation indices – Overview and main characteristics.

Measure; Countries; Years; Variables		**Description and characteristics**
KOF Globalisation Index – 2018 version	203; 1970-2016; 43	Comprehensive indicator covering the economic, social and political aspects of globalisation distinguishing between *de facto* and *de jure*. Distinction between *de facto* and *de jure* globalisation for each dimension and sub-dimension of the index. Differentiation between trade and financial globalisation. Wide coverage in terms of countries and years.
	207; 1970-2015;	Comprehensive indicator covering the economic, social and political aspects of globalisation. Wide

KOF Globalisation Index – 2007 version	23	coverage in terms of countries and years. Hybrid-measure. No clear distinction between trade and financial globalisation.
Maastricht Globalisation Index (MGI) – 2012 edition	117; 2000, 2008, 2012; 11	Comprehensive indicator covering the political, economic, social & cultural, technological and environmental domain of globalisation. Includes an environmental dimension. Covers only three years.
A.T. Kearney/ Foreign Policy Globalisation Index (ATK/FP)	62; 2002-2007; 14	First composite indicator measuring globalisation. Covers political engagement, technology, personal contact and economic integration on a global scale. Serves as benchmark by many alternative indices.
GlobalIndex	97; 1970-2002; 31	Sociological index of globalisation covering the economic, sociotechnical, cultural and political dimensions of globalisation. Extends existing indices by additional dimensions and indicators representing a sociological concept of globalisation.
CSGR Globalisation Index	119; 1982-2004; 16	Composite index measuring the economic, political and social aspects of globalisation. Weights of variables are determined by principal components analysis. Variables measuring openness are corrected for by fixed country characteristics (initial population size, land area and if a country is landlocked).
New Globalisation Index (NGI)	70; 1995-2005; 21	Comprehensive indicator measuring the economic, political and social aspects of globalisation controlling partly for geographical distances between countries. Controlling for geographical distance helps to some extent to distinguish globalisation from regionalisation.
DHL Connectedness Indicator	140; 2005-2015; 12	Composite indicator measuring depth and breadth of country's integration with the rest of the world. Covers international flows of goods and services, capital, information and people. Distinction between depth and breadth of integration.

Source: adapted from Gygli et al. (2019).

Table 4 Political and economic impact on the UK from Brexit.

If out, ...
the UK could develop new global allegiances through its trans-Atlantic and Commonwealth links and remain a key member of international bodies such as the G7/8 and G20.
Parliament would be obliged to follow some EU laws if the UK joins the European Economic Area (EEA) like Norway. Companies trading in Europe would still have to meet EU legal and technical rules, and comply with its competition policy, none of which the UK would have a say over.
the UK would save its annual payment towards EU regional funds and could choose how much to spend on UK projects. Non-EU member Norway pays a contribution towards NMSs in a deal to smooth access to the Single Market, while Switzerland also makes a payment as part of its agreement with the EU.
Outside the EU but in the EEA, the UK would regain sovereignty over policy areas such as trade and agriculture. The UK could negotiate its own preferential trade agreements, regain the power to decide its own import duties and explore a wider

Commonwealth trading deal. It could continue to deal on preferential terms with the EU through a Free Trade Agreement.
the UK would have a range of attractions to persuade international firms to invest such as flexible and well-educated labour force, quality of life and language advantages, good technology and transport infrastructure, stable framework and comparatively low corporate taxes.

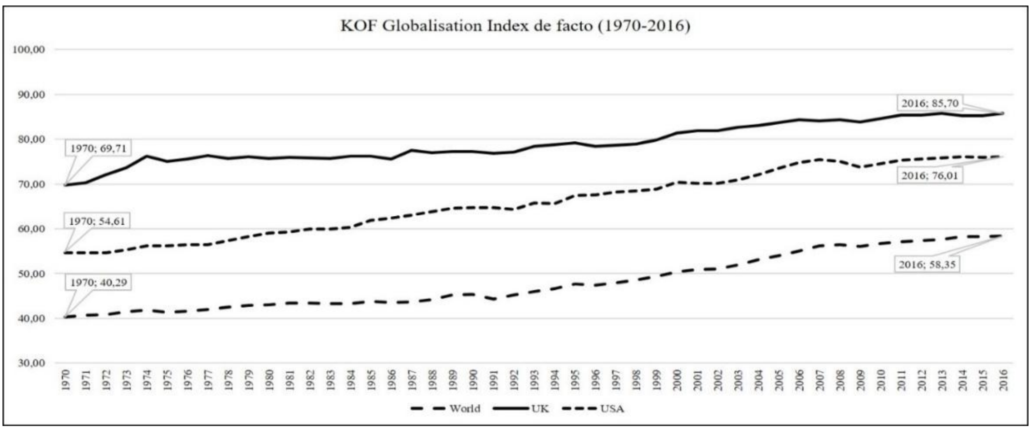
Source: adapted from Charter (2016).

Table 5 Ex ante, i.e. pre-Brexit (EU level and member state level), versus ex-post, i.e. post-"no-deal"-Brexit (*ceteris paribus* non-member country level), globalisation-harnessing approach.

<table>
<tr><td rowspan="8">Ex ante (pre-Brexit)
EU level</td><td>Trade agreements to open markets and enforce a level playing field</td><td rowspan="15">Ex post
(post-"no-deal"-Brexit)
ceteris paribus
non-member country level</td></tr>
<tr><td>Measures to address tax avoidance and evasion as well as tax erosion</td></tr>
<tr><td>Promotion of globally relevant regulatory standards</td></tr>
<tr><td>Trade Defence Mechanisms</td></tr>
<tr><td>European budget (such as EFSI, ESIF, GAF, Horizon)</td></tr>
<tr><td>European external investment plan</td></tr>
<tr><td>Development assistance</td></tr>
<tr><td>Product and food safety</td></tr>
<tr><td rowspan="7">Ex ante (pre-Brexit)
member state level</td><td>Provision of education and training</td></tr>
<tr><td>Active labour market policies and instruments to assist workers</td></tr>
<tr><td>Social fairness through taxation</td></tr>
<tr><td>Development assistance</td></tr>
<tr><td>National investment plans</td></tr>
<tr><td>Infrastructure spending</td></tr>
<tr><td>Research and development</td></tr>
</table>

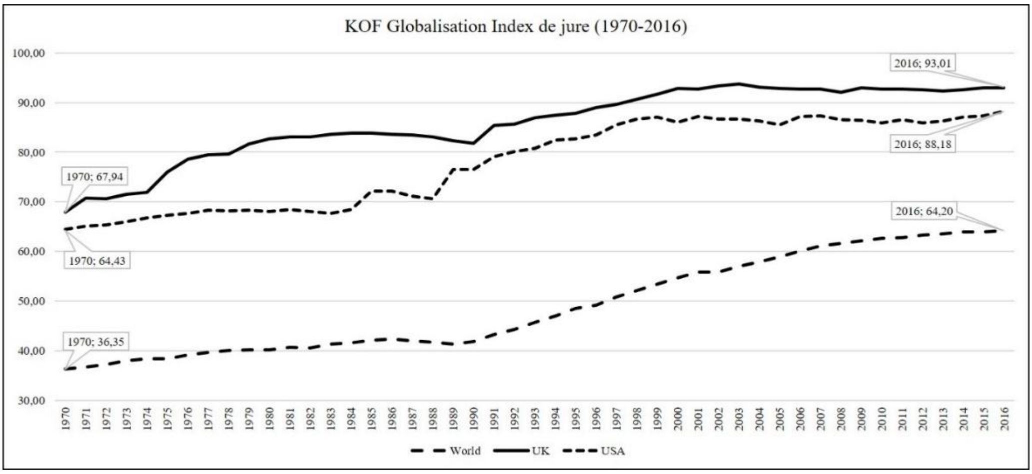
Source: adapted from European Commission (2017), p. 20.

Figure 1b De facto globalisation: the UK, the USA and the world (1970-2016).



Source: KOF.

Figure 1c De jure globalisation: the UK, the USA and the world (1970-2016).



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The License To Perform The Activity Of A Finacial Advisor

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Abstract

Financial advisory is a business activity connected with the financial market. Financial advisors grant services to their clients in order to help them to find a proper financial product. Due to this fact and the resposibility that is linked to this kind of entrepreneurship interference from the side of the state is needed. This is given not only by the regulation, but also through supervision of financial advisors performed by the National Bank of Slovakia. The independ central bank is subject intending to start this kind of business meets all the conditions set by law. The license to perform the activity of a financial advisor is an individual administrative act, a decision of the National Bank of Slovakia, issued in the proceeding in supervisory matters pursuant to Part Three of the Act No. 747/2004 Coll. On Financial Market Supervision Amending and Supplementing Certain Acts as amended.

Key words

finacial advisor, the National Bank of Slovakia, the license to perform the activity of a financial advisor

JEL Classification: K20, K23

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Introduction

The Act No. 186/2009 Coll. On Financial Intermediation And Financial Advisory And Amending And Supplementing Certain Acts, as amended (hereinafter only "Financial Advisory Act") has unified the conditions under which financial advisory can be performed in various sectors of the financial market. These are the insurance or reinsurance sector, the sector of the capital market, the sector of supplementary pension savings, the sector of lending, housing and consumer credit, the sector of deposit-taking and the sector of old-age pension savings. One of the essential innovations introduced by the Financial Advisory Act has been the distinction between financial intermediation and financial advisory. Financial advisory is a type of business in which the remuneration for the service is provided exclusively by the client. It is a business, providing the client an output meeting client´s requirements. Financial advisory is inextricably linked with the independent appraisal of a client or potential client based on the financial situation.

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1 Methodology

The paper is focusing on the analysis of the rules of financial law. Especially the rules of its subdomain, the law of the financial market. The current regulatory framework will be analysed in the context of legal theory and practice. According to the website of the National Bank of Slovakia, only 12 subjects possess the license to perform the activity of the financial advisor.[2] The objective is to provide information concernig the conditions which must be met by the applicant in order to gain the license and to start business activities on the financial market.

2 Results and discussion

The Financial Advisory Act contains in its third part the conditions that must be met for the performance of financial intermediation and financial advisory. The financial advisor is obliged to gain a license in order to start the providing of services. The core of the business of the financial advisor is to provide advice to clients which is based on the impartial analysis of one or more financial services. This kind of enterpreneurship requires specialized skills, technical and organisational preparedness which must be checked by the supervisory body. The National Bank of Slovakia examines whether the applicant meets the conditions set by the regulatory frame in the proceeding in supervisory matters. Its outcome is an individual administrative act.

2.1 Legal conditions to be met

The legislation allows both natural and legal persons to participate in legal relations. The legal order confers legal personality on legal persons as constructed social units. These are entitled to have rights and obligations within the limits set by law. The regulatory framework requires that an applicant- a legal person intending to start a business as a financial advisor has to meet the conditions leading to the performance of business in accordance with the Financial Advisory Act and the related secondary legislation.

If the applicant, is a legal person, the following conditions must be proven, in order to obatain the license to perform the activity of a financial advisor:a) the credibility of a natural person who is the statutory body of the applicant or a natural person who is a member of the statutory body of the applicant, the natural person who is a member of the supervisory body of the applicant and the credibility of the professional guarantor of the applicant,b) professional competence of a natural person who is the statutory body of the applicant, or at least one natural person who is a member of the statutory body of the applicant pursuant to Section 24, Par. 2 of the Financial Advisory Act, and the applicant's professional guarantor,c) the credibility and professional capacity of the applicant's employees who will carry out an activity involving financial advisory, if the applicant intends to carry out financial advisory through its staff,d) a group with close links, which also includes persons exercising control over the applicant

[2] https://regfap.nbs.sk/index.php.

and the qualified participation of persons on the applicant does not prevent the effective exercise of supervision by the National Bank of Slovakia,e) technical and organizational preparedness of the applicant for financial advisory,f) the applicant has not been convicted for an offense.

If the applicant is a natural person, the following conditions must be proven: a) the credibility of the applicant and his full legal capacity, b)professional competence of the applicant,c)the credibility and professional capacity of the applicant's employees who will carry out an activity involving financial advisory, if the applicant intends to carry out financial advisory through its staff,d) technical and organizational preparedness of the applicant for financial advisory.

The conditions laid down by the legislator must be fulfilled cumulatively. Further we are going to focus on the technical and organisational preparedness.

2.2 Technical and organizational preparednesss

Applicants are required to analyze the processes that will be undertaken when performing financial adviosory and consequence, be equiped with the appropriate software and hardware. The information system consists of hardware security (such as workstations, network support, database servers) and software security (e.g. operating programs). Particular attention should be paid to software elements as they are intended to facilitate data archiving and processing, secure transfer to the National Bank of Slovakia.

The applicant is obliged to prove the existence of a set of internal rules which determine the future performance of the financial advisory.

Internal rules on measures to prevent money laundering and terrorist financing

This internal regulation should mainly include the objective and purpose, basic concepts and definitions, obligations of the financial advisor, forms of unusual business operations that may occur in practice when conducting financial advisory, how to conduct customer care, how to evaluate and manage risk assessment, assessing whether the trade is unusual, the procedure for detecting an unusual business operation, reporting an unusual business operation, processing and storing data and determining the responsible person.

Internal rules on how to handle complaints from clients and potential clients

The internal directive in question is submitted in a licensing procedure in order to examine the adjustment of internal processes to their responsiveness to clients. The legislator has laid down in the legislation a 'minimum standard' for handling complaints. At the same time, however, the Financial Advisory Act does not preclude the financial advisor from laying down more rights for his clients in this internal regulation. The internal document dealing with the handling of complaints should contain in particular the objective of the internal regulation, the definition of terms and complaints, as well as a negative definition of what is not considered to be a complaint, and it seems appropriate to establish that submission is being reviewed according to its content and not denomination. Furthermore, it is also necessary to define the manner of filing complaints, its contents, from which it must be clear who is the complainant (the legislation explicitly states that filing an anonymous complaint is excluded), the subject of the complaint, the signature of the person authorized to act on the complainant. In the case of a natural person, the address to which the notification should be delivered, under which circumstances the financial advisor is entitled to postpone the complaint when inviting the complainant to complete it, the organizational unit responsible for receiving and handling the complaint, deadline for handling the complaint, recording of complaints, way of accepting changes and approval of this internal document.A submission that alleges misconduct must also be treated as a complaint.

Internal rules governing the prevention of conflicts of interest

A conflict of interest is a situation where the independence and impartiality of the financial advisor is not given or is threatened. Independence and impartiality are related, but the concepts in question do not overlap in meaning. Impartiality is an attribute of independence based on the absence of reasonable doubt about bias. Subjective impartiality is an internal psychic attitude (Košičiarová, 2013). Objective impartiality is based on external organizational expressions (Košičiarová, 2013).

Independence consists of the fact that the financial advisor assesses financial services by own opinions generated by the factual assessment, on knowledge and without any obligations to financial institutions or third parties. A guarantee of autonomy in making decisions is a matter of staff independence (Medveď et al., 2012).

Regarding the structure of the internal rules, its essential content requirements are in particular: provisions on the mission and activities of the financial advisor, definitions (especially specific to legal provisions following a definition of what constitutes conflicts of interest in company conditions); functions, modifying procedures for identifying and detecting potential conflicts of interest, measures to address conflicts of interest and ensuring equal treatment of natural and legal persons to whom services are provided, procedures used to eliminate the threat of conflict of interest and, where conflict of interest arises, notification of its creation to the client and the subsequent factual preference of the client's interests over the own interests, keeping records of conflict of interest, the organizational unit responsible for the resolution of conflicts of interest, the method of amending and approving the internal rules.

Internal rules governing the regulation of contact with the client and the potential client

The document should reflect some of the basic norms of communication and conduct, namely: priority of client's interests, truthful, objective and complete information about the financial service, adherence to the principles of fair competition, helpfulness towards the client or potential client. In addition, provisions concerning the legal diapazon of information intended for a potential client or client must not be forgotten.

Another essential element of a document of this kind is the imposition of a client assessment obligation on the basis of their individual preferences, knowledge and knowledge in the context of the financial product to be provided.

It should be noted that the applicant for the license to pursue the activity of the financial advisor is obliged to reflect in these internal rules to the specific requirements for the capital market sector, the pension savings sector and the insurance or reinsurance sector.

Internal rule governing the keeping of records about the activities of the financial advisor

This internal rule should contain mainly records of internal directives relating to financial advisory, which are used in relation to a potential client, respectively records of fulfillment of reporting obligations to the National Bank of Slovakia. The obligation of keeping records about the activities of the financial advisor is followed by the obligation to archive. Financial advisors are required to maintain communication with the client by all available means, e. g. mail or paper correspondence. In fulfilling the archiving obligation, the legislation does not determine which material substrate is to be used. The key is the functionality of the medium storing legally determined data and information and ensuring the supervisory authority's future access. It must be possible to access and detect modifications or corrections, as well as the ability to detect the original content of the data before it is executed and to protect against data and information manipulation.

The applicant demonstrates the organizational preparedness to carry out financial advisory by proposing an organizational structure, more precisely by its graphic presentation. The starting point in the creation of the organizational structure is the definition of the main production process leading to the fulfillment of the mission determined by management (Váchal, Vochozka et al., 2013).

The organizational structure is a way of organizing the organizational units, so that the object of business - financial advisory can be fulfilled efficiently.

In current management, the basic classification criteria of organizational structures are:

association of activities forming the content of structural units,
exercise of decision-making power between the structural units - on the basis of which we distinguish between line, staff and combined structures,
degree of delegation of powers and responsibilities - this includes centralized and decentralized structures,
segmentation - number of subordinate structural units in relation to superior structural units,
time - structures are stable and temporary (Vodáček, Vodáčková, 2009).

Regarding the above criteria of organizational structure classification, we consider the aspects association of activities and the degree of delegation of powers and responsibilities to be crucial. The aspect association of activities, we believe that a functional structure seems to be the most appropriate. The functional structure is based on the specialization of partial structural units according to their functions; the same functional activities are accumulated into one organizational unit (Vodáček, Vodáčková, 2009).

In the organizational structure of the financial advisor, we could differentiate the financial services analysis department, customer care department, legal and AML - prevention department, complaints department, marketing and new client acquisition department, and IT department, with a common supervisory body – the director.

In terms of centralization, respectively decentralization, meaning the extent to which management is willing to give subordinates a "free hand" in fulfilling their responsibilities /Dedouchová/, we note that an individual client demands quick responses, recognizing this fact, strictly centralized organizational structures appear to be not flexible. A certain degree of decentralization must be allowed.

The applicant is obliged to submit a proposal of the organizational structure which must make clear the assessment of the distribution and adjustment of powers between the members of the statutory body, the statutory body, and the members of the supervisory board, the supervisory board and the professional guarantors of the applicant.

2.3 The beginning of the proceeding in supervisory matters

In legal theory, the submission on the grounds of which a proceeding starts, is being designated as a submission in the strict sense of the word. On the beginning of the proceeding in supervisory matters the principle of disposal is being applied. Meaning the beginning of the proceeding is at the disposal of the applicant, as this subject is determing the moment of its commencement. The proceeding in supervisory matters starts on the first working day following the day, on which the application has been submitted to the National Bank of Slovakia. The principle of disposal is being applied until the decision of the National Bank of Slovakia is being issued. The applicant is allowed to change the submission or to withdraw the submission until this moment.

The legislator sets a term, 30 calendar days, for the decisionon the applicant's application. The period starts to run only when the application is complete. If the applicant submits an incomplete application, the term for the decision will not start to run. In accordance with the principle of free evaluation of evidence, the National Bank of Slovakia proves whether the applicant has met the requirements set by law. Failure to provide evidence about meeting the requirements does not mean "automatic" non-compliance with the legal conditions and is not resulting in a denial of granting the license. In the absence of documents proving compliance with the legal conditions, the National Bank of Slovakia will call upon the party to the proceeding to complete the application. In this case, optionally, the proceeding may be suspended.

2.4 The decision of the National Bank of Slovakia

The Financial Advisory Act specifies that the proceeding in supervisory matters will be completed with an individual administrative act. It will be a decision of the National

Bank of Slovakia. The Act No. 747/2004 Coll. On Financial Market Supervision Amending And Supplementing Certain Acts as amended (hereinafter only "Financial Market Supervision Act") as amended shows exactly what contentand formal requirements a decision of the National Bank of Slovakia has to have. Formal requirements include data completing the form of the decision (Potásch et al., 2017). The substantive requirements shall include a statement, the grounds of decision and an information concerning appeals against the decision.

For the applicant, the information contained in the statement is of importance. It results in a clear, understandable manner how it has been decided in the matter.

The grounds of the decision contain which factual findings were the basis for the decision, the evidence and considerations in the evaluation of the evidence and the provisions of the generally binding legislation to assess the facts. The National Bank of Slovakia should clarify the thought processes for evaluating the evidence (this will be the 'core' of the grounds of the decision). In our view, the projection of the regulation in question means, in particular, the following: the date on which the supervisory proceedings were initiated, the name of the party (and, where appropriate, the authorized representative) and the subject of the application, specification of annexes to the party's application, details of the possible completion of the application and payment of the fee for the action of the National Bank of Slovakia. It is justified to provide the party with information on the evaluation of evidence individually, clarifying their relevance, truthfulness and legality, as well as evaluating their interrelationship. The evidence concludes factual findings. Finding the facts is necessary for its subsequent subordination to the relevant legal standards.

The information concerning appeals provides data whether an appeal is possible, within what time limit it should be lodged and to what unit it shall be lodged.

When granting the licensne to perform the activity of a financial advisor, the right to engage financial advisory arises. This is a constitutive decision whose validity is given by the new legal situation. In this context, however, it should also be pointed out that the validity of an individual administrative act does not mean the point in time at which the financial advisor takes up business. The legislator connects the commencement of an authorization for financial advisory with the entering in the Register of Financial Agents, Financial Advisors, Financial Intermediaries from another Member State within the Insurance or Reinsurance Sector and Financial Intermediaries from another Member State in the Area of Housing Lending (hereinafter only "register"). The entering is subject to additional legal requirements.

If it is a legal entity, it is obliged to submit the following documents in order to be entered into the register:- a copy of the insurance contract showing proof of liability insurance together with the document proving the payment of the insurance premium,- information on the registration of the authorized activity in the Commercial Register, while not only the relevant activity (ie performing financial advisory as a financial advisor), but also the sectors in which the activity has been authorized must be registered.

Upon submission of documents, the legal entity will be entered in the register within 10 calendar days from the date of submission to the National Bank of Slovakia and is from that moment authorizedto carry out the activity. If only one of the documents requested by the legislation is submitted, the time limit for entry in the register shall not run until the receipt of the other. If it is a natural person, is obliged to submit- a copy of the insurance contract proving the liability insurance together with the document proving the payment of insurance premium.Upon submission of documents, within 10 calendar days from the date of submission to the National Bank of Slovakia, the natural person will be entered in the register and from that moment will be entitled to perform the activity.

Conclusion

Financial advisory is a business activity. The financial advisor is an entrepreneur according to Section 2, paragraph 2 letter c) of the Act No. 513/1991 Coll. Commercial Code as amended. The performance of financial advisory is subject to a license granted by the National Bank of Slovakia within the proceeding in supervisory matters. The conditions that must be met in order to obtain the license are set by the Financial Advisory Act. The provision set by law concerning financial advisory must be fulfilled not only during the proceeding in supervisory matter, but continually, through the whole period of the performance of this activity.

In the interests of the proper performance of financial advisory, entities are required to comply with the conditions imposed by the legislator on these types of business, not only when they enter the market, but during the entire period of their activity. In this context, it seems appropriate to recall one of the supervisory objectives of financial market supervision which is the contributing to the stability of the financial market. This implies that every supervised entity needs to be prudent and secure. A set of properly supervised entities brings the stability of the market. In our opinion, the obligation of continuous compliance with the license conditions is a reflection on the objectives of financial market supervision, formulated in the Financial Market Supervision Act.

The nubmer of entities to which the license to perform the actvity of a financial advisor has been granted is relatively small. This is not due to the fact, that the current regulations set conditions which can not be fulfilled, but due to the concept that the financial advisor must be paid only by the client a not by the financial institution.

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