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## IRELAND'S COMPETITIVENESS PERFORMANCE: CHALLENGES AND PROSPECTS

### ABSTRACT

The modern challenges of the world economy and conditions under which the state operates provide the opportunity to emphasize that competitiveness of national economy in the world market is the key determinant of the state's prosperity. The research is focused on the performance of competitiveness of the Irish economy in global rankings (IMD and WEF). The results thus obtained not only allow for demonstrating the ranking of Ireland, but also for determining specific factors of its economic growth as well as the ones which still should be improved. The study became a benchmark for recommendations to Irish economy in response to the current challenges related to the consequences of financial crisis, with the recommendations also aiming at ensuring the long-term growth.

**Keywords:** competitiveness, Ireland, WEF, IMD, NCC, economic growth

### 1. AN OUTLINE OF THE PROBLEM

The changes taking place in the modern world economy, such as globalization, internationalization, regionalization and integration processes, have led to the growing importance of considering the international competitiveness of the economy over the past few decades. These processes of great changes triggered off the next wave of Scientific and Technological Revolution and determined the new factors of economic growth and socio-economic development. Hence, apart from the traditional factors of production such as natural resources, climate, capital and labour force, nowadays the dominant role should be assigned to knowledge, innovative technologies (including their transfer and dissemination), infrastructure and

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qualified staff. A significant influence on the growth and economic development is exerted by, on the one hand, the sphere of regulations and a model of state policy and, on the other, organizational structures, e.g. international trade, production, capital and technological connections. The international competitiveness has become a common denominator of the above-mentioned quantifiers of the economy.

Throughout the paper the focus is on the study of Ireland's competitiveness. Such research requires caution as the Irish economy was at its peak during the period between 1997–2007 and was named the "Celtic Tiger." (Dorgan, 2006). Ireland progressed from being one of the poorest countries in Europe to one of the richest over the time span of just several years. However, the financial crisis became a consequence of Ireland's hidden fiscal problems and dramatic turn in the Irish economy: from a profitable boom to a nationwide recession. Accordingly, *the scope of the article* is to present the competitiveness position of Ireland in the world economy, to determine the main factors of its economic growth as well as the challenges it meets. The results thus obtained will become a benchmark for recommendations for ensuring the long-term economic growth. *The current research is based upon* World Bank Data, the rankings created by the International Institute for Management Development (IMD), the World Economic Forum (WEF) and the surveys of the National Competitiveness Council (NCC) of Ireland.

## 2. THEORETICAL FRAMEWORK OF THE RESEARCH

Current tendencies of the scientific approaches confirm the fact that scholars focus on the economic competitiveness, viewed as a 'modern' approach, by considering the fundamental problems of economic development, with the problems in question being conceived of in global terms (Reinert, 1995 & Radło, 2008). The definition of the economic competitiveness as well as key factors defining it are not definitively formulated. Among scientists there appear different opinions about how the competitiveness should be estimated. In general, competitiveness of the state can be defined as a certain level of its productivity, which determines the appropriate degree of the nation's welfare and return on investment, and characterizes the potential long-term economic growth. A competitive position could be defined as a country's place in the global economy due to some particular features (Werese, 2008). That is, competitiveness is constituted by a range of features which enable a given country to develop due to its innovativeness and to compete on the global market. What plays an important role in the achieved level of socio-economic development are the following factors: the degree of participation in the new international division of labour, the availability of production factors as well as geographical, political and structural features. The development of the national economy potential depends on the continuous improvement and modernization of all sectors of an economy and the creation of prerequisites for consistent long-standing effects in order to ensure social, economic and technological progress. In light of the global market integration, the increased significance of the export of technologically advanced goods (based on knowledge and innovation) is reflected in a country achieving a relatively better competitive position (Wysokińska, 2001).

An evaluation of 'competitive position' as a starting point in the process of competitiveness' analysis allow us to estimate the degree of a country's integration in the international division of labour (static approach). On the other hand, an analysis of evolution of the position

over time allows for determining the 'competitive capacity' (dynamic approach). Moreover, it is important to look deeper into the factors that ensure achievement of a specific position and the determinants of its ongoing changes via, i.e., an analysis of factor competitiveness (Weressa, 2008; Gomułka & Czajkowski, 2008).

In the long term, an improvement in an economy's competitiveness may come through the evolution of trade specialisation as a result of structural adjustments and changes in quality, mainly based on a country's technological capacity (Miozzo and Walsh, 2006; Majewska-Bator, 2010; Alvarez and Marin, 2010). According to the German concept of locational competition, under the regime of a free flow of the means of production, the competitive battle is manifested in the fierce rivalry for such factors as capital, technical knowledge and expertise (Lorz 1997; Siebert 2006). A more effective use of production factors in general and of non-tangible assets in particular (innovation, technology, organisational and management skills) becomes the basis for structural adjustment and accounts for the variability of leads the sectors' competitiveness (Porter, 1990; Cho and Moon, 1998; Radło, 2008). It may be assumed then that the countries exhibiting the same level of economic growth fight for advantageous conditions for specialised workers and for the location of economic activity in innovative sectors.

Consequently, the growing importance of studying the competitiveness and defining the position of a country relative to the global state of economy led to the creation of world rankings published by scientific institutes. These rankings indicate the competitive position of a country on a global scale as well as identify factors contributing to its competitiveness. In recent years, numerous indicators of international competitiveness of national economies and, simultaneously, measurement methods have emerged. That is, determinants describing the competitiveness of states have become an object of analysis of numerous researchers and international centres.

### 3. IRISH ECONOMIC PERFORMANCE

Considering the main economic indicators, in less than a decade, Ireland went from being one of Europe's success stories – before the financial crisis, experts like Thomas Friedman implored other countries to follow its lead – to a bailout. The most significant source of crisis in Ireland proved to be the under-capitalization of banks, exposure of which had grown extremely rapidly during the 2000s, fuelled by ready access to cheap credit on international markets. The Irish government's bank guarantee in late September 2008, designed to stem what was then thought to be a liquidity crisis, proved enormously costly in what turned out to be a solvency crisis (Clarke and Hardiman, 2012). The assumption of the total cost of the bank bail-out onto the public finances pushed Ireland's debt up considerably after 2010 (O'Brien, 2011). Ireland had hidden problems of revenue weakness, resulting from over-dependence on tax flows arising from the long property boom. Apart from this, exchequer revenue volatility can complicate prudential fiscal planning, and risks undermining the stability and sustainability of the public finances. Generally, volatile revenues are harder to predict, and come with sizable forecast errors (Hannon et al., 2015). From a diversification perspective, Fitzgerald & Bedogni (2019) found that the overall volatility of the State's tax portfolio moves in line with the level of diversification across the seven main taxes (Income Tax; VAT; Excise Duty, Corporation Tax, Stamp Duty; Customs and Capital Taxes). In the

period preceding the crisis, while the tax portfolio was relatively more diversified, it was also more volatile, with greater holdings of more volatile revenue streams such as Stamp Duty and Capital Taxes (Fitzgerald & Bedogni, 2019). Alongside the fiscal consolidation that followed the 2008 economic and fiscal crisis, scientists found that the volatility of the tax portfolio declined, as the portfolio became more concentrated around less volatile taxes (e.g. Income Tax). They also established strong (but time-varying) cointegration among the tax revenue streams, implying that there are generally minimal diversification benefits.

Therefore, the crisis was a consequence and not a cause of Ireland's fiscal problems. Accordingly, in 2008, Ireland was first referred to as one of the 'PIGS' countries in a brief report of Professor Andrew Clare of the Cass Business School at City University of London published on May 13<sup>th</sup> (Clare, 2008). From 2011 until the end of 2013 the European Union and the International Monetary Fund (IMF) provided financial assistance to Ireland. It is subject to post-programme surveillance (PPS) until at least 75% of the financial assistance received has been repaid.

According to the Annual Report on Public Debt in Ireland (2019), public indebtedness, on a *per capita* basis, increased in 2019 to €42,500 per person, which is ranked amongst the highest in the OECD. Given the increasingly uncertain external environment and the prospect that borrowing costs have bottomed-out, the high level of public indebtedness in Ireland remains a source of vulnerability. Unfavourable shifts in the age structure of the Irish population in the coming decades and the associated expenditure pressures add to the need to reduce public debt.

Back in 2012, a few years after the global financial crisis, unemployment rates reached 15.2% (31% for young people) (Thomson, 2017). However, in 2017, unemployment rates had fallen to 7.2% – lows not seen since 2008 – and that downward trajectory looks set to continue, according to estimates from the European Commission (Thomson, 2017). In line of unemployment decrease, according to a recent report from Hays, Ireland has one of Europe's biggest skills mismatches. The Irish have a long history of immigration, but this exodus picked up speed in the years following the economic crisis, as people were forced to leave in search of work. In 2015, one in six people born in the country were living abroad, which is the highest share among OECD countries (Thomson, 2017). But currently that trend finally got reversed: for the first time in seven years, Ireland recorded positive net migration rate, with the number of immigrants there to being at least as high as its number of emigrants. To the extent that lower levels of participation by younger people in the labour force corresponds to overall higher levels of educational attainment, there can be expected to be some positive benefit to future levels of economic growth through higher productivity (Byrne and O'Brien, 2017).

According to the European Commission Post-Programme Surveillance Report, in the absence of major negative external shocks, the risk of overheating could increase in the coming years. The tightening of the labour market and diminishing spare capacity point to an economy possibly operating above its potential. Although residential construction remains of critical importance in the context of persistent housing undersupply, a further acceleration of construction activity could fuel overheating pressures against the background of increasing capacity constraints in the sector (Weise & Kuhnert, 2019). Apart from this, the use of volatile and potentially short-lived foreign-company sourced corporation tax receipts to stimulate domestic demand could also fuel overheating.

In 2015 the government announced GDP growth rates of 26%, which is far higher than the 7.8% that had been predicted (The Guardian, 2016). The general government debt declined to 64.8% of GDP towards the end of 2018 and it is projected to fall further to 61.3% of GDP in 2019 and 55.9% in 2020 (Weise & Kuhnert, 2019). This is contingent on continued stable economic growth and positive primary balances. However, public debt remains high as a proportion of modified GNI, estimated at around 107% in 2018. Although improving, public debt sustainability remains vulnerable to adverse economic shocks (Weise & Kuhnert, 2019).

#### 4. THE COMPETITIVENESS PERFORMANCE OF IRISH ECONOMY. INTERNATIONAL INSTITUTE FOR MANAGEMENT DEVELOPMENT (IMD) SURVEY

The researches of IMD in Lausanne define national competitiveness as the extent to which a country is able to foster an environment in which enterprises can generate sustainable value. It uses a blend of quantitative data and qualitative survey responses to assess and rank the competitiveness of 63 countries over 300+ criteria. According to the results obtained by IMD research, Ireland is among the most competitive economies in the euro area (IMD, 2019). Since 2013, improved macroeconomic performance, the public finances, costs, productivity and the labour market have helped Ireland's ranking progress from 17<sup>th</sup> position in 2013 to 7<sup>th</sup> in 2019 (Table 1). We can observe the progress of economic performance (from 26<sup>th</sup> to 6<sup>th</sup> place), government efficiency (from 17<sup>th</sup> to 11<sup>th</sup> place), and business efficiency (from 13<sup>th</sup> to 3<sup>th</sup> place), while infrastructure (22<sup>th</sup> place in 2013 and 23<sup>th</sup> place in 2019) is still ranked low and needs improvement.

**Table 1. Performance of the Ireland's competitiveness position according to IMD ranking**

	2013	2014	2015	2016	2017	2018	2019
Overall position	17	15	16	7	6	12	7
Economic Performance	26	19	12	6	4	11	6
Government Efficiency	17	14	15	13	9	13	11
Business Efficiency	13	4	13	2	3	10	3
Infrastructure	22	20	24	23	19	21	23

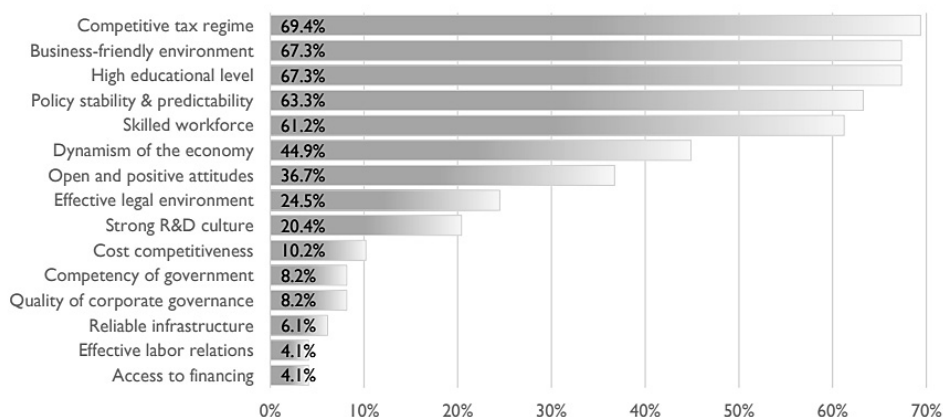
Source: own work, based on IMD (2017) & IMD (2019).

According to the IMD survey, the top 5 challenges for Ireland in 2017 were: Brexit, global economic growth, exchange rate volatility, monetary tightening by the ECB, and enhancing investment in infrastructure (IMD, 2017). Two years later, in 2019, the top 5 challenges for Ireland according to IMD are the following: slowdown in global economic growth, the nature and timing of Brexit, an escalation of trade protection, tightening of financial market conditions and exchange rate volatility (IMD, 2019). The IMD Competitiveness Report underlines the importance of maintaining competitiveness in the context of intense international competition for exports, mobile investment and talents. It is also a timely reminder about

the need to continuously implement policies to improve the performance further in light of significant challenges such as Brexit, exchange rate movements and uncertain global growth.

Another survey was made by IMD based on a list of 15 indicators. The respondents were offered to choose 5 key attractiveness factors of their economy. The results of this research (from the highest percentage to the lowest) for Ireland are presented in Figure 1. Consequently, Ireland's strengths in 2019 are: the competitive tax regime, business-friendly environment, high educational level, policy stability and skilled workforce.

**Figure 1. Key Attractiveness Factors of Ireland, 2019**



Source: IMD, 2019.

Apart from competitiveness investigation, IMD also presents an annual *World Talent Report*. It is based on countries' performance in three main categories – investment and development, appeal and readiness. The three categories assess how countries perform in a wide range of areas including education, apprenticeships, workplace training, language skills, cost of living, quality of life, remuneration and tax rates. In 2017 the report covers all 63 countries in the IMD World Competitiveness Yearbook. According to the report, Europe continues to dominate the 2017 list, with 11 out of the 15 most talent-competitive economies being situated on the continent, following right after a strong performance in 2016. Switzerland, Denmark and Belgium remain the most competitive countries in the 2017 IMD World Talent Ranking. Austria, Finland, the Netherlands, Norway, Germany, Sweden and Luxembourg make up the top-ten. In 2019, Ireland is at 21<sup>st</sup> place (lower than in 2014 – 8<sup>th</sup> place), among other world economies, with the following rankings: investment and development – 42<sup>th</sup> place in 2019, as compared to 20<sup>th</sup> place in 2014; appeal – 11<sup>th</sup> place in 2019 and 4<sup>th</sup> – in 2014; and readiness – 12<sup>th</sup> place in 2019 and 4<sup>th</sup> – in 2014. So, we can observe a significant deterioration of Ireland's position across all categories of World Talent Ranging during 2014–2019 (IMD, 2017 & IMD, 2019).

For the first time, in 2017, the IMD World Competitiveness Center published a separate report ranking countries' digital competitiveness for the 63 economies (IMD, 2017). The indicators for technology and scientific infrastructure are already included in the overall rankings. The new *IMD Digital Competitiveness Ranking*, however, introduces several new

criteria to measure countries' ability to adopt and explore digital technologies leading to transformation in government practices, business models and society in general. The rankings are calculated on the basis of the 50 ranked criteria: 30 hard and 20 survey data. According to the survey, Ireland is on 19<sup>th</sup> position in 2019. The table 2 shows the Irish performance during 2013–2019 for each of the nine sub-factors composing the three Digital Competitiveness Factors (Knowledge (24), Technology (28) and Future Readiness (5) – data, 2019).

**Table 2. Performance of the Irish competitiveness ranking in the Digital Competitiveness Ranking, 2013–2019**

<i>Factor</i>	<i>Sub-factor</i>	2013	2014	2015	2016	2017	2018	2019
KNOWLEDGE	<i>Talent</i>	24	9	21	18	15	14	10
	<i>Training &amp; education</i>	19	17	29	25	34	34	30
	<i>Scientific concentration</i>	37	36	34	32	31	24	29
TECHNOLOGY	<i>Regulatory framework</i>	5	2	13	18	14	20	13
	<i>Capital</i>	53	44	51	49	49	53	49
	<i>Technological framework</i>	20	23	21	18	13	13	24
esFUTURE READINESS	<i>Adaptive attitudes</i>	20	18	14	13	12	10	3
	<i>Business agility</i>	2	4	6	8	2	3	9
	<i>IT integration</i>	23	20	24	22	24	24	20

Source: own work, based on IMD (2017) & IMD (2019).

The strongest sub-factor in 2019 is 'Adaptive attitudes' (3), which contained e-participation, Internet retailing, tablet possession, smartphone possession and attitudes toward globalization. The high position was also occupied by 'Business agility' (9) and 'Talent' (10). The weaknesses manifest themselves in the following sub-factors:

- 'capital' (49) – IT and media stock market capitalization, the funding of technological development, banking and financial services, investment risk, venture capital and investment in Telecommunications;
- 'training and education' (30) – employee training, total public expenditure on education, higher education completion, pupil-teacher ratio, graduates in sciences and women with degrees;
- 'scientific concentration' (29) – total expenditure on R&D, total R&D per capita, female researchers, R&D productivity by publication, scientific and technical employment and high-tech patent grants.

*"There is no single nation in the world that has succeeded in a sustainable way without preserving the prosperity of its people. Competitiveness refers to such an objective: it determines how countries, regions and companies manage their competencies to achieve long-term growth, generate jobs and increase welfare. Competitiveness is therefore a way towards progress that does not result in winners and losers – when two countries compete, both are better off."* – Arturo Bris, Professor of Finance, Director IMD World Competitiveness Centre.

## 5. THE COMPETITIVENESS PERFORMANCE OF IRISH ECONOMY. WORLD ECONOMIC FORUM (WEF) SURVEY

The World Economic Forum, as a non-profit foundation headquartered in Geneva, is the platform for discussions among politicians, business people and other prominent figures in society. The *Global competitiveness ranking*, introduced by the WEF, is based on the Global Competitiveness Index (GCI)<sup>2</sup>. Defining competitiveness as the set of institutions, policies and factors that determine the level of productivity of a country, GCI scores are calculated by drawing together country-level data (114 indicators) covering 12 categories – the pillars of competitiveness – that collectively make up a comprehensive picture of a country's competitiveness. Due to the GCI, all countries are divided into three stages of economic development: factors-driven, efficiency-driven and the innovation-driven stage.

The results thus obtained by WEF for the Irish economy in 2017 are presented in table 3 (Schwab, 2017). Notably, all the values (1–7), in spite of financial market development, are higher than overall competitiveness ranking for Europe and North America. That is, Ireland occupies 24<sup>th</sup> position among 137 economies and is defined as the innovation-driven economy. Ireland scored 75.12 points out of 100 on the 2018 Global Competitiveness Report published by the World Economic Forum. Competitiveness Index in Ireland averaged out at the level of 21.24 points from 2007 until 2019, reaching an all-time highest peak of 75.96 points in 2017 and a record low of 4.74 points in 2011 (Trading Economics).

Furthermore, based on the data represented in table 3 we can compare the changes of Ireland's competitiveness over a decade. As we can see, according to the CCI, the overall competitiveness of Irish economy is practically on the same high level during 2006 – 2017 (24<sup>th</sup> rank in 2017 and 21<sup>th</sup> – in 2006). To the end of 2017 (table 3), the highest ranks are observed for such pillars as: goods market efficiency (8<sup>th</sup>); higher education and training (10<sup>th</sup>); health and primary education (16<sup>th</sup>); technological readiness (18<sup>th</sup>); business sophistication (19<sup>th</sup>); innovation (19<sup>th</sup>); institutions (19<sup>th</sup>), while the lowest apply to what follows: financial market (69<sup>th</sup>); market size (45<sup>th</sup>) and infrastructure (31<sup>th</sup>).

Comparing the pillars' ranking of Irish economy 2006 – 2017 (table 3), the decrease is observed for institutions (–2); macroeconomic environment (–4); the overall efficiency enhancers (–3); market efficiency<sup>3</sup> (–19); and business sophistication (–3), while the progress is recorded for the overall basic requirements (+3); health and primary education (+8); higher education and training (+6); technological readiness (+6) and innovation (+1).

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<sup>2</sup> The report was published for the first time in 1979 and has been systematically extended to new countries (in 2015 it included over 140 countries). Initially, it contained the Competitiveness Index prepared under the supervision of Prof. J. Sachs, in which the hints of mid- and long-term rapid economic development were shown. In 2000, it was renamed into *The Growth Competitiveness Index* to differentiate it from the current microeconomic competitiveness indices issued under various names in various reports. Since 2004, it was replaced by the *Global Competitiveness Index*. It was prepared by the World Economic Forum in cooperation with Prof. X. Sala-i-Martin, while making use of the studies by Prof. M. Porter.

<sup>3</sup> Here, for the sake of comparison, what was estimated was the average (mean) for the following components: goods market efficiency, labor market efficiency and financial market (32,6 in 2017); such indicators were then presented as one component in 2006.



**Table 3. Performance of the 12 pillars of GCI for Ireland over a decade, 2006–2017**

<i>Index Component</i>		<i>Rank/</i>	<i>Value</i>	<i>Rank/</i>	<i>Value</i>	<i>Ranking</i>
		<i>137</i>		<i>117</i>		
		<i>2017–</i>	<i>2017–</i>	<i>2006–</i>	<i>2006–</i>	<i>change</i>
		<i>2018</i>	<i>2018</i>	<i>2007</i>	<i>2007</i>	
<b>The overall Index</b>		<b>24</b>	<b>5,2</b>	<b>21</b>	<b>5,2</b>	<b>–3</b>
<b>Subindex A: Basic requirements</b>		<b>20</b>	<b>5,7</b>	<b>23</b>	<b>5,5</b>	<b>+3</b>
1st pillar	Institutions	19	5,3	17	5,2	–2
2d pillar	Infrastructure	31	5,1	31	4,6	0
3rd pillar	Macroeconomic environment	24	5,8	20	5,3	–4
4th pillar	Health and primary education	16	6,5	24	6,8	+8
<b>Subindex B: Efficiency enhancers</b>		<b>21</b>	<b>5,1</b>	<b>18</b>	<b>5,2</b>	<b>–3</b>
5th pillar	Higher education and training	10	5,8	16	5,5	+6
6th pillar	Goods market efficiency	8	5,3	13	5,2	–19
7th pillar	Labor market efficiency	21	4,9			
8th pillar	Financial market	69	4,0			
9th pillar	Technological readiness	18	6,0	24	4,9	+6
10th pillar	Market size	45	4,5	N/A	N/A	N/A
<b>Subindex C: Innovation and sophistication factors</b>		<b>19</b>	<b>4,9</b>	<b>19</b>	<b>5,0</b>	<b>0</b>
11th pillar	Business sophistication	19	5,2	16	5,4	–3
12th pillar	Innovation	19	4,7	20	4,5	+1

Source: own work, based on Schwab, 2006 & Schwab, 2017.

*“Global competitiveness will be more and more defined by the innovative capacity of a country. Talents will become increasingly more important than capital and therefore the world is moving from the age of capitalism into the age of talentism. Countries preparing for the Fourth Industrial Revolution and simultaneously strengthening their political, economic and social systems will be the winners in the competitive race of the future,”* said Klaus Schwab, Founder and Executive Chairman, World Economic Forum.

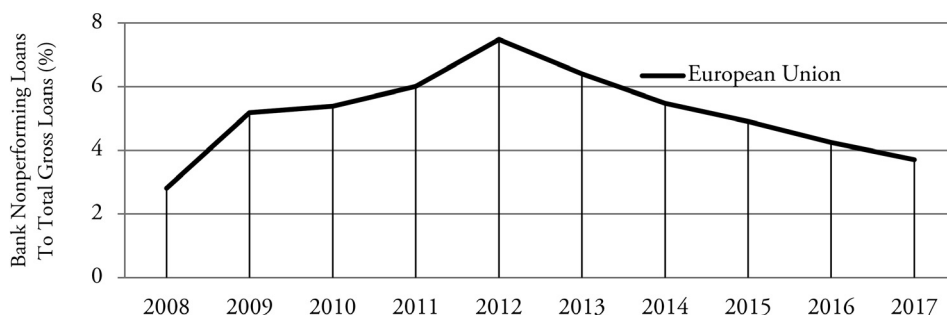
## 6. NPLS CRISIS IN IRELAND

As was mentioned at the beginning of the research, one of the most significant sources of crisis in Ireland proved to be the under-capitalization of banks. Consequently, the analysis of banking sector seems to be relevant in the context of competitiveness. The focus is on “Bank Nonperforming Loans to Total Gross Loans (%)”. According to the Index Mundi data portal, the ratio of bank nonperforming loans to total gross loans (hereinafter: NPLs) is the value of nonperforming loans (gross value of the loan as recorded on the balance sheet) divided by the total value of the loan portfolio (including nonperforming loans before the deduction of

loan loss provisions). It measures bank health and efficiency by identifying problems with asset quality in the loan portfolio. International guidelines recommend that loans be classified as nonperforming when payments of principal and interest are 90 days or more past due or when future payments are not expected to be received in full. The accumulation of NPLs on banks' balance sheets generally results from a highly leveraged banking sector, adverse developments in the overall macroeconomy, as well as from sector-, region- or borrower-specific adverse shocks.

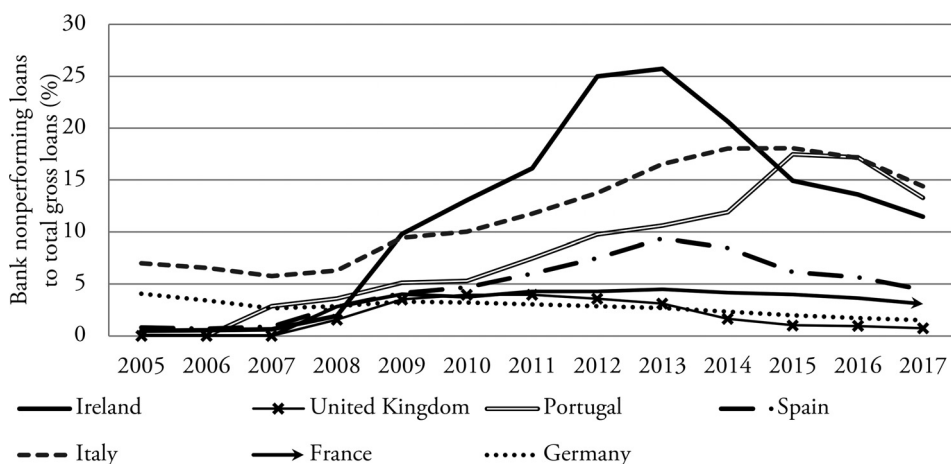
Figure 2 presents an average level of NPLs in EU states (2008–2017), while figure 3 introduces the NPLs in Ireland, United Kingdom, Portugal, Spain, Italy, France and Germany between 2005 and 2017. As we can observe, the recent situation in the EU related to bad loans is fairly positive. Among such states there are Germany, United Kingdom and France. The average level of NPLs gradually decreased from 2012 and was estimated at 3,7% in 2017.

**Figure 2. An average level of NPLs in the EU states, 2008–2017**



Source: the author's own elaboration on the basis of World Bank data.

**Figure 3. The level of NPLs in selected European states, 2005–2017**



Source: the author's own elaboration on the basis of World Bank data.

Nevertheless, Ireland as well as some other European states (such as Portugal, Spain and Italy) were still struggling with post-crisis challenges (figure 3). The average value for Ireland during that period was 11.84% with a minimum of 0.48% in 2005 and a maximum of 25.71% in 2013. Although the Irish recovery was swifter than in most other countries, a decade after the crisis, NPLs remain one of the primary sources of vulnerability facing the domestic economy today. Moreover, according to World Bank data, the NPL ratio in the Irish banking system was the highest in the euro area.

Consequently, the 2008 financial crisis had a severe impact on the Irish economy and financial system at large. To a considerable extent, the domestic financial crisis emanated from a highly leveraged banking sector that was over-concentrated in property lending. The deterioration in the macroeconomy that resulted in part from a reversal in credit-fuelled property prices led to a steep decline in economic growth and a pronounced rise in unemployment. The resultant decline in asset quality was reflected in a rapid increase in Non-Performing Loans, which grew to such a level that the solvency of the domestic Irish banking system was compromised.

Such impact of NPLs on the economy could be also confirmed by the degree of linear association in a bivariate framework using Pearson's correlation coefficient:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n \sum x^2 - (\sum x)^2][n \sum y^2 - (\sum y)^2]}}$$

The correlation coefficient ranges from  $-1$  to  $1$  (with " $1$ " indicating a perfect positive correlation and " $-1$ " indicating a perfect negative correlation). When the values of a pair of variables move together in the same direction, we speak of a positive correlation between them.

The statistical database for this study stemmed from the World Bank annual data concerning Irish economy during 2005–2018 (table 4). Among the analysed indicators, what can be observed is a strong negative correlation between NPLs and employment rate ( $-0,91$ ;  $-0,86$ ;  $-0,84$ ). The positive correlation exists between NPLs and such indicators as employment in services ( $0,88$ ), total unemployment ( $0,83$ ), researchers in R&D (per million people) ( $0,84$ ). This positive correlation can be explained by substantial variation in the share of outstanding loans in default in the Irish banks' SME lending portfolios. The Construction and Hotels & Restaurants sectors have default ratios of 23–24% while the Manufacturing, Other Community Social & Personal Services, and Primary sectors have default rates of 11 to 13% (The Central Bank's SME Market Report 2017 H2). External sources of financing were used for multiple purposes such as investment in property, machinery or equipment; inventory or working capital; hiring and training of employees; developing and launching new products or services and refinancing or paying off obligations. According to the Central Bank of Ireland (2019), Financial Intermediation and the property-related sectors of Real Estate & Construction activities account for 63% of total credit advanced in 2019. Of the remaining 37%, Wholesale/Retail Trade & Repairs, Hotels & Restaurants, Business & Administrative Services, Primary, and Manufacturing industries are the main sectors accessing credit from Irish resident credit institutions.

According to the results, NPLs are the least correlated with GDP per capita ( $-0,08$ ), gross capital formation ( $-0,12$ ), export as a capacity to import ( $0,25$ ), foreign direct investment (net inflows) ( $0,20$ ), expense (% of GDP) ( $0,21$ ). Meanwhile, what was confirmed was a strong negative correlation between NPLs and Global Competitiveness Index Score ( $-0,66$ ).

**Table 4. A correlation between “bank nonperforming loans to total gross loans (%)” and particular economic variables in Ireland over 2005–2018**

Global Competitiveness Index Score	-0,66
Employment to population ratio, 15+, total (%) (modeled ILO estimate)	-0,91
Employers, total (% of total employment) (modeled ILO estimate)	-0,84
Employment to population ratio, ages 15–24, total (%) (national estimate)	-0,86
Foreign direct investment, net inflows (BoP, current US\$)	0,20
Employment in services (% of total employment) (modeled ILO estimate)	0,88
Unemployment, total (% of total labor force) (modeled ILO estimate)	0,83
Expense (% of GDP)	0,21
Research and development expenditure (% of GDP)	0,52
Researchers in R&D (per million people)	0,84
GDP per capita (constant 2010 US\$)	-0,08
Gross capital formation (constant 2010 US\$)	-0,12
Exports as a capacity to import (constant LCU)	0,25

Source: the author's own elaboration on the basis of World Bank data.

Moreover, McCann & McIndoe-Calder (2012) proved that the ratio of the loans to total assets, the ratio of current assets to liabilities, the leverage, liquidity and profitability ratios, and specific sectoral factors (e.g. the increased risk in property-related sectors) are all found to be significant predictors of default. The Irish experience is different from many other countries in that high default rates across all economic sectors are, to some extent, connected with the property sector, with many business owners using bank loans to gain exposure to rising property prices in the pre-2007 period. Businesses with such property-related exposures were shown to have significantly higher default rates during the crisis (McCann & McIndoe-Calder (2014)).

Storz, Koetter, Setzer & Westphal (2017) examined the effect of stressed bank on the deleveraging process of SME, focusing on zombie firms in the euro area. Based on information concerning 400.000 SME over 2010–2014, they found a significant association between the increase in the standard deviation of bank stress and the increase of firm leverage in zombie firms from the euro area periphery countries (Greece, Ireland, Portugal, Spain and Slovenia). Findings also suggest that the deleveraging process of non-financial corporations could be hindered by bank weakness, since these banks may have an incentive to evergreen loan to zombie firms, to avoid the recognition of impairments and gamble with future economic recovery.

In response to this rapidly deteriorating macroeconomic situation and the resultant effect on banks' asset quality, the Irish Government set up the National Asset Management Agency (NAMA) in December 2009. A total of €74bn of assets were acquired by NAMA from the Irish domestic banks at a value of €31.8bn, representing a total aggregate haircut of 57%. These consisted in the main of commercial real estate assets, rather than residential mortgages.

The reduction in NPLs has been particularly rapid in the business sector, but further resolution of NPLs is still a challenge for Irish economy. There has been substantial progress in reforming the regulatory framework to address NPLs on bank balance sheets since the crisis.

For example, the Central Bank of Ireland (CBI) has issued specific guidelines in addition to those set out in the EU Capital Requirements Regulation and Capital Requirements Directive IV. These have included recommendations on disclosure, provisioning, loan restructures and collateral valuation. In March 2017, the European Central Bank also produced guidelines on NPL management practices and processes (ECB, 2016). In contrast, there has been less progress in strengthening the regulatory framework relating directly to writing-off NPLs (ECB, 2016). The 2017 ECB guidelines have sections relating to NPL write-offs, but these are very general and not binding. The authorities may consider introducing stronger incentives for banks to reduce the stock of NPLs such as additional provisioning requirements for longstanding problem loans, as has been done in some other European countries.

## **7. PERFORMANCE OF THE NATIONAL COMPETITIVENESS COUNCIL (NCC). SURVEY AND THE PERSPECTIVES FOR IRISH ECONOMIC GROWTH**

The National Competitiveness Council of Ireland was established for analysing the key competitiveness issues facing the Irish economy. A comprehensive assessment of Ireland's international competitiveness performance is provided by using over 120 statistical indicators which demonstrate insights into Ireland's ability to compete on the world market. The indicators are derived from data sources such as Forfás, OECD, Eurostat, CSO and others. The results of NCC's analysis constitute the background for recommendations for a policy required to enhance Ireland's competitive position. The work of the NCC is underpinned by research and analysis undertaken by the Strategic Policy Division of the Department of Business, Enterprise and Innovation.

The NCC publishes two annual reports: *Ireland's Competitiveness Scorecard* (a comprehensive statistical assessment of Ireland's competitiveness performance); and *Ireland's Competitiveness Challenge* (the outline of the main challenges to Ireland's competitiveness and the policy responses required to meet them). As part of its work, the NCC also publishes the analyses of a comparison of the key business costs in Ireland vis-à-vis competitor countries; and provides an annual *Submission to the Action Plan for Jobs* and other papers on specific competitiveness issues.

The NCC defines national competitiveness as the ability of enterprises to compete successfully on international markets. National competitiveness is a broad concept that encompasses the range of diverse factors which result in Irish firms achieving success on international markets. The goal of national competitiveness is to provide Irish people with the opportunity to improve their living standards and quality of life (National Competitiveness Council, 2017b).

According to the Taoiseach's opinion, the main challenges for Irish competitiveness stem from Brexit (National Competitiveness Council, 2017a). Certain sectors are particularly under threat such as agriculture and traditional manufacturing. However, small firms, in many sectors, rely on the UK as a destination market but also as a source market for raw materials or intermediate products. That has been already seen is a structural shift in exchanged rates due to Brexit which has put Irish exporters to the UK under considerable pressure. Apart from this, the economy faces significant downside threats such as a potential shift in trade

and taxation policy in the US and the uncertain trajectory of global growth. The key government targets for protecting and ensuring the growth of competitiveness are the promotion of development of the skilled labour force through the growth of innovation, productivity and internationalisation in SMEs and helping companies diversify their export destinations, products and services (National Competitiveness Council, 2017a).

Ireland can take advantage of a sizeable competitiveness opportunity if it can avoid the 'productivity trap' being experienced by many developed economies. Irish enterprises need more effective investment in Knowledge Based Capital, a competitiveness-based approach to supporting start-ups and scaling, and enhanced management practices to drive productivity performance at a firm level. Ireland requires closer synchronisation between research endeavour in HEIs, Government agencies, and industry as well as continuous, sufficient and effective investment in R&D, not only by the State, but especially by the private sector; the presence of high-quality scientific research institutions; extensive collaboration in research between universities and industry; and sophisticated business practices and effective clusters.

In table 5 the recommendations for Irish economy are systematized, within the scope of competitiveness growth based on the NCC research.

**Table 5. Policy responses required to meet the challenges to Ireland's competitiveness**

<i>Main challenges</i>	<i>Policy responses required to meet the challenges to Ireland's competitiveness</i>
<b>Ensuring growth is sustainable</b>	
<b>Macroeconomic Sustainability</b>	<ul style="list-style-type: none"> <li>• <i>Attaining sound budgetary positions</i> (i.e. conducting sustainable fiscal policy by avoiding high deficits and/or increasing debt ratios);</li> <li>• <i>Reducing the cyclical nature of fiscal policy making</i> (conducting a review of the Irish Tax System, reforming and simplifying the current regime of taxes and charges on employment, maintain the 12.5 per cent of corporation tax, reduce Capital Gains Tax for start-ups to 10 per cent);</li> <li>• <i>Maximising the effectiveness of public expenditure.</i></li> </ul>
<b>Delivering Productivity Enhancing Infrastructure</b>	<ul style="list-style-type: none"> <li>• Adoption of the <i>National Planning Framework</i> (Ireland 2040);</li> <li>• Identifying and prioritising capital investment (<i>National Investment Plan</i>);</li> <li>• Investments' continuation in <i>efficient and integrated national transport system</i> with adequate capacity and levels of service;</li> <li>• Developing a plan around the priorities identified in the <i>Energy White Paper</i>; complete the construction of the north-south interconnector to bolster security of supply and reduce energy costs; undertake economic and technical research for the sake of further interconnection for Ireland (<i>National Mitigation Plan</i>);</li> <li>• <i>Enhancing international and national connectivity</i> by removing specific barriers thereby alleviating telecommunications deficits and assisting the rollout of the National Broadband Plan;</li> <li>• Considering and addressing the strategic development requirements and capacity needs of Tier 1 and Tier 2 ports as part of the <i>Regional Spatial and Economic Strategies</i> (RSES).</li> </ul>

<p style="text-align: center;"><b>Environmental Sustainability and Transitioning to a low carbon economy</b></p>	<ul style="list-style-type: none"> <li>• <i>Meeting Climate Change commitments by:</i></li> <li>• Ensuring that Ireland's 2030 Effort Sharing Decision emissions target is based on the optimal baseline;</li> <li>• Taking account of the environmental impact of individual projects; specifically on greenhouse gas emissions when prioritising investment as part of the National Investment Plan;</li> <li>• Outline a pathway for carbon neutrality to enable the agriculture sector to contribute to the 2030 and 2050 national mitigation objectives.</li> </ul>
<p style="text-align: center;"><b>Building and Sustaining Talent</b></p>	<ul style="list-style-type: none"> <li>• <i>Investing in the education and training sector based on a long-term reformed funding model for Higher Education that allows for increased participation and quality in higher education and meeting specific targets on identified skill gaps in areas such as ICT, data analytics, sales and foreign language skills;</i></li> <li>• <i>Meeting labour market skills needs, realising the potential of those excluded from the labour market and attracting talents from abroad (thus ensuring an ongoing supply and monitoring of skills in major employment sectors of high demand; addressing skills gaps across a range of occupations and sectors (e.g. ICT, engineering, sales, logistics, finance, and agri-food) and the forecasted skills demand in the Biopharma sector; boosting the supply of ICT professional skills; augmenting domestic skills resources with talents from abroad in the areas where global demand is intense; ensuring that skills development is attuned to meet the challenges of Brexit and trading internationally – international business, customs and logistics, supply chain management, marketing and foreign languages; continuing to improve the level of mathematical proficiency at all levels and increasing the supply of deep analytical skills talents; engaging enterprises in shaping the provision of education and training skills and ensuring the continuing professional development of teaching staff in schools to guarantee that what is taught is up-to-date and remains relevant).</i></li> </ul>
<p><b>Generating uplift in enterprise competitiveness</b></p>	
<p style="text-align: center;"><b>Maintaining Cost Competitiveness</b></p>	<ul style="list-style-type: none"> <li>• Ensuring the availability and affordability of <i>residential property and rental costs level</i> (the stability of the housing market) which exert impact on the attractiveness of Ireland as a location for investment and indirectly on enterprise costs;</li> <li>• Providing business with the <i>access to and affordability of financing;</i></li> <li>• Ensuring an adequate revenue stream to maintain water and wastewater services, to <i>upgrade the public water and wastewater systems,</i> and to discharge EU-imposed obligations for delivering the required investment;</li> <li>• Controlling the cost components in <i>energy policy;</i></li> <li>• Implementation of the regulatory functions of the <i>Legal Services Regulatory Authority</i> and introduce measures to reduce legal costs;</li> <li>• Ensuring an adequately-reserved, cost-competitive <i>insurance sector</i> as a vital component of economic activity and financial stability;</li> <li>• Reduction of high costs of <i>childcare,</i> which is a significant barrier to increasing female labour market participation.</li> </ul>

Fostering Productivity Growth	<ul style="list-style-type: none"> <li>• <i>Effective investment in knowledge-based capital;</i></li> <li>• <i>Support for entrepreneurship and start-ups;</i></li> <li>• <i>Enhancing management practices</i> as three drivers (operations management, performance &amp; target management and human resource deployment and development) of enhanced productivity performance.</li> </ul>
Building Innovation Capacity	<ul style="list-style-type: none"> <li>• <i>Support for innovation</i> through continuous, sufficient and effective investment in R&amp;D not only by the State but especially by the private sector;</li> <li>• The presence of <i>high-quality scientific research institutions;</i></li> <li>• The extensive <i>collaboration</i> in research <i>between universities and industry;</i></li> <li>• <i>The sophisticated business practices and effective clusters.</i></li> </ul>
Enhancing and Diversifying Ireland's Export Base	<ul style="list-style-type: none"> <li>• Generating an <i>uplift in exporting companies</i>, particularly amongst SMEs;</li> <li>• Supporting the <i>internationalisation and market diversification of Irish enterprise</i>, that would contribute to making the economy more resilient to external market shocks such as Brexit;</li> <li>• The enterprise agencies must <i>be provided with appropriate resources</i> to raise awareness of the challenges of Brexit and they must effectively marshal those resources to <i>maximise funding for competitiveness</i>, innovation, market development and in-market trade support;</li> <li>• Expand reach with a key objective being that at least a 50 per cent growth in exports would be outside the UK while continuing to sustain and grow UK exports;</li> <li>• Continuing to <i>sustain and enhance mobile investment</i> from established investors, while at the same time diversifying Ireland's FDI portfolio by tapping into new opportunities and investments from new markets and new sectors of opportunity;</li> <li>• <i>A strategy of segmentation market by market and sector by sector;</i></li> <li>• <i>Cross government approach</i> led to the market expansion for the sake of maximising Ireland's trade potential (<i>Ireland Connected Strategy</i>);</li> <li>• Development of a new <i>National Digital Strategy</i>.</li> </ul>

Source: own work, based on National Competitiveness Council, 2017b.

## 8. FINAL REMARKS AND CONCLUSION

Current challenges and new opportunities caused by Scientific and Technological Revolution in the modern world economic order stimulate the emergence of the new approaches to economic development through international competitiveness. That is, world rankings established by international scientific centres and institutes become a framework for determining the position of any given country on the world market and defining the key factors of its competitiveness.

What has emerged from the study is a fact that in spite of Ireland's high position of competitiveness, the financial crisis reveals Ireland's hidden fiscal problems related to the under-capitalization of banks fuelled by ready access to cheap credit on international markets. Consequently, in 2008, Ireland was one of the 'PIGS' countries, while from 2011 until the end of 2013 the EU and the IMF provided financial assistance to Ireland.



The analysing of the Ireland's economy, based on rankings of IMD and WEF and the survey of NCC of Ireland, made it possible to present the overall performance of its competitive position.

Based on IMD 2019 survey, Ireland is at 7<sup>th</sup> position in general World Competitiveness Ranking, that is, among most competitive economies in the euro area. Considering such indicators as investment and development, appeal and readiness, Ireland is at 21<sup>th</sup> position of IMD World Talent Ranking; while according to World Digital Competitiveness Ranking (knowledge, technology and future readiness) – 19<sup>st</sup> position. Within the scope of obtained results, Irish economy needs to pay a special attention to intensify the technological and scientific investment as well as to develop its talent base.

According to WEF 2017, Ireland is at 24<sup>th</sup> position in global competitiveness ranking among 137 countries. This position has not specially changed during last decade. The highest rankings are noted for their respective efficiencies of goods markets, education and health, technological readiness, business sophistication, innovation and institution environment, while the lowest ones for financial market, market size and infrastructure, which still needs improvement.

A decade after the crisis, NPLs remain one of the main sources of vulnerability facing the domestic economy today and a challenge for Irish economy in future. Moreover, according to World Bank data, the NPL ratio in the Irish banking system was the highest in the euro area. On the basis of the linear association in a bivariate framework using Pearson's correlation coefficient, what was revealed was a strong negative correlation between NPLs and employment rate. The positive correlation holds between NPLs and such indicators as employment in services, total unemployment, researchers in R&D (per million people). Meanwhile, what was also revealed was a strong negative correlation between NPLs and Global Competitiveness Index Score that confirmed its influence for overall competitiveness of the Irish economy.

The NCC emphasized that competitiveness and consistency of tax offering, legal, regulatory and administrative environment, ease of doing business, cost base, the availability of talents, technology and property solutions will remain vital to Ireland's ability to withstand the ebb and flow of global economy and external economic shocks.

In the light of economic competitiveness what should also be provided is a deeper analysis of business and institutional environment as well as the production and trade structure for obtaining the overall performance. Thus, a presented study is a starting point for further research.

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