

## **The Influence of the European H2020 Program on the Development of Regions: The Multiplier Impact of EU Funding in the Regions under Horizon 2020 in NUT III - North**

NATACHA JESUS-SILVA & DIAMANTINO RIBEIRO

**Abstract** The partnership agreement between the European Union and the Member States for the implementation of the European Structural and Investment Funds for the period 2014 to 2020 is in its final phase. This study analyzes the multiplier impact on regional investment of the European funds made available to the northern region of Portugal - NUTS III, until September 2018 and intends to answer the following questions: What is the amount invested in the regional economy for each euro of support allocated by the EU through the H2020 program, and what is the percentage distribution of community support versus investment per area of intervention?

**Keywords:** • decentralisation • investments • north region • public value capture • European Union • Portugal

---

CORRESPONDENCE ADDRESS: Natacha Jesus-Silva, Ph.D., Assistant Professor, University Portucalense Infante D. Henrique, Portucalense Institute for Legal Research, R. Dr. António Bernardino de Almeida, 541/619|4200-072 Porto, Portugal, email: [natachajsilva@upt.pt](mailto:natachajsilva@upt.pt).  
Diamantino Ribeiro, Ph.D., Professor, Universidade Lusófona do Porto, Rua Augusto Rosa, nº 24, 4000-098 Porto, Portugal, email: [caramel.gomes@upt.pt](mailto:caramel.gomes@upt.pt).

[https://doi.org/10.4335/17.3.853-871\(2019\)](https://doi.org/10.4335/17.3.853-871(2019))  
ISSN 1581-5374 Print/1855-363X Online © 2019 Lex localis  
Available online at <http://journal.lex-localis.press>.

## 1 Introduction

On 12 June 1985 Portugal signed the Treaty of Accession to the European Economic Community (EEC). The Prime Minister Mário Soares led the entourage that formalized, in the Mosteiro dos Jerónimos, the entry into the European project.

Portugal was experiencing a serious financial crisis, accentuated by the recession of the world economy. After the revolution of 25 April 1974, and the loss of the colonial market, Portugal maintained a great external dependence. It is in this context that the country is approaching the European market, applying for membership of the EEC in 1977. It is only in the following decade that this request is made (1986), simultaneously with Spain, in what was the third enlargement of the European group.

The European Economic Community is part of the process of forming what is now the European Union, which had its origin in the intention to foster economic progress, freedom and a lasting peace between the neighboring states of Europe. It began in 1950 in the European Coal and Steel Community (ECSC) with six founding countries: Germany, Belgium, Italy, France, Luxembourg and the Netherlands, which took the first steps towards the union of the countries of Europe.

Mateus (1992) said that the changes brought about the full accession of Portugal to the EEC in 1986, in the context of the elimination of tariff, technical and fiscal barriers, required by the completion of the European internal market by the end of 1993, have been a fundamental framework for rigorously situating the different experiences, policies and actions to promote development, whether at the sectoral level or at the regional level, or at the national level.

Portugal's full membership of the European Communities has triggered a significant process of modernization of economic structures and behavior in parallel with the global liberalization of markets. In a context where public intervention has clearly been polarized by the promotion of important investments of an infrastructural nature, namely , railways and ports, telecommunications, energy, science and technology, education and vocational training, among others, which are facilitated by access to structural funds of Community origin and with some background in the country's regional development prospects.

This development represented the culmination of a long process of European integration and was part of a broader economic, social and political restructuring.

## 2 Methodology

After collecting the information available on the website of the H2020 managing body for North of Portugal - <http://www.norte2020.pt> (data until 9/30/2018), the analysis was structured in relation to the four large areas of intervention: 1) Municipal investment; 2) Business investment; 3) Science and technology; d) territorial approaches.

In each area, the following information was collected: total support from the H2020 program, eligible investment, total investment and number of projects supported. After the data were collected, they were organized and processed, and results were obtained to answer the questions asked.

## 3 The Portuguese Economy after joining the European Communities: transformations and challenges.

### The Community financing framework 2007-2013

The National Strategic Reference Framework (NSRF) provided the framework for the implementation of the Community's economic and social cohesion policy in Portugal in the period 2007-2013.

The NSRF assumes as a great strategic aim the qualification of the Portuguese by valuing knowledge, science, technology and innovation, as well as the promotion of high and sustained levels of economic and socio-cultural development and territorial qualification, within a framework of valorization of equality of opportunities, as well as increasing the efficiency and quality of public institutions.

The pursuit of this great strategic goal is ensured by the achievement of three major Thematic Operational Agendas:

- Operational Agenda for Competitiveness Factors;
- Operational Agenda for Human Potential;
- Operational Agenda for Territorial Enhancement.

The execution of the NSRF was made possible by the mobilization of around 21.5 thousand M €, whose use met three main guidelines:

- Reinforcement of appropriations for the Qualification of Human Resources
- Reinforcement of the financing directed to the Promotion of Sustained Growth of the Portuguese Economy
- Reinforcement of the financial relevance of the Regional Operational Programs of the Continent.

In line with the Cohesion Policy Objectives

- Convergence objective;
- Regional Competitiveness and Employment Objective;
- Objective of European Territorial Cooperation.

The operationalization of these three Thematic Agendas was ensured by the Operational Programs of the NSRF.

- Thematic Operational Programs;
- Regional Operational Programs of the Continent;
- Operational Programs of the Autonomous Regions;
- Operational Programs of Territorial Cooperation;
- Operational Assistance Programs.

The governance of the NSRF was based on the following organizational structure:

- A political leadership body - the Ministerial Coordination Committee of the NSRF;
- A technical body responsible for its strategic coordination and monitoring - the Technical Coordination Committee of the NSRF;
- Two technical bodies for the coordination and financial monitoring of the Cohesion Fund and the Structural Funds (ESF and ERDF) - IFDR and IGFSE, which also carried out control and audit responsibilities with the General Inspectorate of Finance.

### **The Community financing framework 2014-2020**

The Partnership Agreement that Portugal has proposed to the European Commission, called Portugal 2020, adopts the programming principles of the Europe 2020 Strategy and enshrines the economic, social, environmental and territorial development policy that will stimulate growth and job creation in the coming years in Portugal.

The correction of the budgetary and external imbalances of the Portuguese economy, the main objective of the Economic and Financial Adjustment Plan adopted by Portugal since 2011, has negative social consequences and asymmetric impacts on the development of the various regions. Public policies, in particular those co-financed by Community funds, should therefore promote growth and employment, with a view to reducing poverty and correcting the external imbalance that still exists.

The programming and implementation of Portugal 2020 is organized in four thematic areas - competitiveness and internationalization, social inclusion and employment, human capital, sustainability and efficiency in the use of resources - also considering the transversal domains related to public administration reform and the territorialisation of interventions. The identification of the main constraints and potentialities of these areas has made it possible to define the priorities for Community funding for the period 2014-2020.

The constraints in the area of competitiveness and internationalization are related to the fact that productive specialization is based on activities of low added value, low technological intensity and knowledge, weak skills and strategies of companies inherent to the fragility of the qualification of employers and employees and their low propensity for more sophisticated business strategies. The difficult conditions of business context, namely the financing conditions of the companies and the increased costs and transport times given the geographical position of Portugal in Europe and the distance from the main export destinations are other of the constraints felt.

The following public policy instruments are foreseen:

- direct incentives for business investment, especially in R & D, qualification of SMEs focused on internationalization strategies;
- indirect support to business investment to enable companies to pursue more advanced business strategies;
- support for qualified and creative entrepreneurship and empowerment of the most dynamic business opportunities and in areas of innovation;
- support for the production and dissemination of scientific and technological knowledge, promoting the international linkages of national and regional R & D systems, as well as the transfer of knowledge and technology between companies, R & D centers and higher education;
- support for business training to train the company's human resources for innovation and internationalization processes;
- investments in transport infrastructures, focused on reducing transportation time and costs for companies, especially in the context of international connectivity;
- and support for the administrative modernization and training of the Public Administration, aiming at reducing the public costs of context.

As regards the field of social inclusion and employment, there is a high level of unemployment due to the recent economic crisis, aggravated by the fact that long-term unemployment affects more than half of the unemployed and the number of young people who are not employed, nor to study or in training, have increased significantly.

It is also a constraint, the strong segmentation of the labor market, between a more qualified segment, tending to have higher employability and quality of employment, and a segment that is less qualified or with inadequate qualifications to the needs of the productive fabric, with unemployment risks access to precarious employment. In this area, and to these associated factors, a high level of poverty and social exclusion persist in Portugal.

In this area, and to these associated factors, a high level of poverty and social exclusion persist in Portugal. Thus, with a view to promoting employment and social inclusion, Community support is assumed for the following policy instruments:

- asset qualification, for the development of skills certified for the labor market;
- transition from situations of inactivity or unemployment to employment, as well as the net creation of employment and maintenance in the labor market;
- consolidation and re-qualification of the collective equipment and services network;
- specific interventions in favor of territories or target groups in which the situations or risks of poverty are cumulative with those of social exclusion;
- promotion of gender equality, non-discrimination and accessibility, complementary to those referred to above; combat failure and early school leavers.

These public policy instruments will be properly coordinated with the numerous instruments that by their nature will not benefit from Community funding.

In the so-called Human Capital domain, there is a lag in relation to the more developed countries of the average qualification level of the adult and young population (associated with the late schooling of the Portuguese population, the reduced participation of the adult population in education and certified training activities and early school leavers); the lack, despite the improvement, of a quality and efficient education and training system; and the mismatch between the skills produced and those sought by the labor market.

It is therefore important to envisage direct interventions to reduce drop-out rates and promote educational success; promote vocational training offers for young people; guarantee school social action (in primary, secondary and higher education); and provide higher-level training.

The main constraints that Portugal still faces in the area of Sustainability and Efficiency in the use of Natural Resources are synthesized in the high-energy intensity of the Portuguese economy, in the inefficient use and management of resources, in vulnerabilities in face of diverse natural and technological risks and in the weaknesses in the protection of values. The approach to responding to these constraints is structured in three vectors which will be the basis for the mobilization of the EU funds of the next cycle: the transition to a low carbon economy, mainly associated with the promotion of energy efficiency and the production and distribution of renewable energy; risk prevention and adaptation to climate change; the protection of the environment and promotion of resource efficiency, structured around the intervention areas: waste management; water management (urban water cycle and management of water resources); management, conservation and enhancement of biodiversity; recovery of environmental liabilities; qualification of

the urban environment, especially as a result of regeneration and urban revitalization.

The Partnership Agreement was subject to an ex ante evaluation which consisted of an interactive process of reflection which led to the consideration of incorporating the recommendations made in the successive versions. One of the main conclusions is that the diagnosis underpinning the Partnership Agreement and its recommendations and the identification of the thematic areas to be considered are convergent and consistent with the objectives and targets of the Europe 2020 Strategy and the National Reform Program. The logic of intervention of the funds is organized around the thematic areas already mentioned and of two dimensions of a transversal nature, the thematic objectives selected from those provided for in Community regulations, the investment priorities mobilized for the intended purposes and the specific objectives and expected results for each of them.

To complete the description of the programming logic, the operational delimitation (intervention of each Fund and Operational Financing Program) and the territorial scale of intervention (national and regional articulation) are presented.

The Partnership Agreement applied the principle of partnership, based on work by the Government, Public Administration, various civil society entities and the general public. Of particular note is the involvement of the institutional, economic and social partners in the preparatory work for the 2014-2020 cycle, in particular the Assembly of the Republic, the Economic and Social Council, the Standing Social Dialogue Commission (involving trade union centrals and business organizations) and the National Association of Portuguese Municipalities. There were also initiatives for the dissemination and consultation of civil society. The principle of equality between men and women, non-discrimination and accessibility, and the principle of sustainable development were also guaranteed. The governance model of the Partnership Agreement and Operational Programs 2014-2020 and its institutional architecture aims at four objectives:

- simplification of the governance model, focusing on the one hand the segregation of responsibilities and institutional support for the exercise of the functions of political orientation and technical, and valuing on the other hand the involvement of the partners;
- results orientation, materialized through the valorization of the results in the decisions of financing and their evaluation and consequent consequences in the payments of final balance of the projects;
- the establishment of common rules for financing, which not only ensure conditions of fairness and transparency, but also competition between beneficiaries;
- and simplifying beneficiaries' access to funding and reducing their administrative costs. This programming exercise presents an assessment of

compliance with national ex ante conditionalities. For those cases where, according to the evaluation referred to, conditionalities are not met, action plans were established in accordance with Article 19 of Regulation (EU) 1303/2013. The principle of additionality was also verified.

In order to ensure the performance analysis of all instruments, implementing the mechanism provided for in the Fund's regulatory framework, called the Performance Framework, initiatives have been developed to ensure consistency in the selection of indicators in programming.

Lastly, the territorial development strategies adopted which will contribute to the territorial strengthening of the Europe 2020 Strategy are explained, ensuring that the specificities and different degrees of development of the subregions are taken into account, ensuring the involvement of subregional entities and regional and local authorities in the planning and implementation of their programs and projects.

Portugal 2020 is the Partnership Agreement between Portugal and the European Commission, which brings together the five European Structural and Investment Funds - ERDF, Cohesion Fund, ESF, EAFRD and FEAMP - which programming that enshrines the policy of economic, social and territorial development to promote, in Portugal, between 2014 and 2020.

These programming principles are aligned with Intelligent, Sustainable and Inclusive Growth, pursuing the Europe 2020 Strategy.

Portugal will receive around 25 billion euros by 2020; to this end, defined the Thematic Objectives to stimulate growth and the creation of Employment, the necessary interventions to achieve them and the achievements and the expected results with these financing:

- Stimulating the production of tradable goods and services;
- increase in exports;
- transfer of results from the scientific system to the productive fabric;
- compulsory schooling until the age of 18; reduction of levels of early school leaving;
- integration of people at risk of poverty and combating social exclusion;
- promotion of sustainable development from the point of view of efficiency in the use of resources;
- Strengthening territorial cohesion, particularly in cities and low-density areas; rationalization, modernization and training of Public Administration are the main policy objectives to be pursued in Portugal 2020.

The programming and implementation of Portugal 2020 is organized in four thematic areas: - Competitiveness and Internationalization; - Social inclusion and



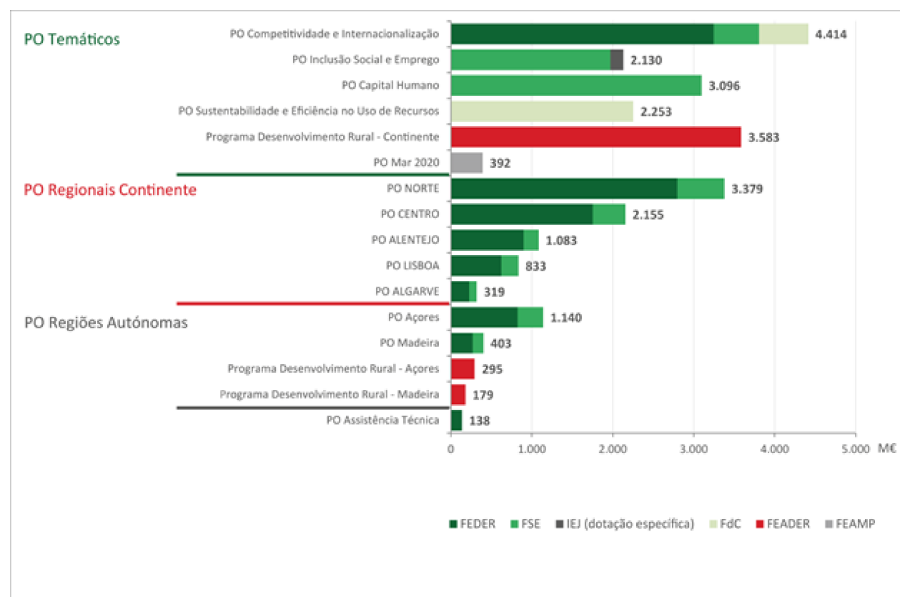
employment; - Human capital; - Sustainability and Efficiency in the Use of Resources. It also considers the cross-cutting areas related to public administration reform and the territorialisation of interventions.

In terms of eligibility for the European Investment Funds (ERDF, CF, ESF, FEADER and FEAMP), the 7 regions of Portugal are divided into:

- Less developed regions (GDP per capita <75% EU average): North, Center, Alentejo and Autonomous Region of the Azores (RAA)
- Fund co-financing rate: 85%
- Transition regions (GDP per capita between 75% and 90%): Algarve
- Co-financing rate of the Funds: 80%
- More developed regions (GDP per capita > 90%): Lisbon and the Autonomous Region of Madeira (ARM)
- Co-financing rate of the Funds: 50% (Lisbon) and 85% (ARM)

Portugal will receive EUR 25 billion by 2020 for all funds, which will be allocated under each of the 16 Operational Programs, thematic and regional, as shown in the following chart:

**Graph 1:** Operational, thematic and regional programs



Source: European Union

### North Regional Operational Program 2014-2020

NORTH 2020 is the financial instrument to support regional development in the north of Portugal, managed by the Northern Regional Coordination and Development Commission (CCDR-N), which will apply 3.4 billion euros of community funds over the next few years. The program integrates the "Portugal 2020" Partnership Agreement and the current cycle of EU structural funds for Portugal.

Regional implementation of NORTH 2020 will be based on the priorities identified in the planning of the program, in which regional and local actors participated. Almost half of the value (1.26 billion Euros) is aimed at the competitiveness of micro and small enterprises in the region, with projects of internationalization, innovation and research.

About EUR 403 million is earmarked for public research, technological development and innovation initiatives, and EUR 385 million will be applied to the urban system.

There will also be funds allocated to lifelong education and lifelong learning, environmental quality, low carbon economy, social inclusion and poverty, employment and mobility of workers, institutional capacity building and ICT.

At the date of the last update, 09/30/2018, a total of 5,800 projects were approved, generating a total investment of 3,254 million euros, an Eligible Investment of 2,841 million euros, with a Community support of 1,902 million euros ( 58%).

As can be seen in the table below:

**Table 1:** Projects supported / Total and eligible investments

<b>TYPOLGY / Sector</b>	<b>Support projects</b>	<b>Total realized investment (approx.)</b>	<b>Investment eligible for support</b>	<b>Support H2020 untill 30/09/2018</b>
<b>Business Investment</b>	<b>4.271</b>	<b>1.689.807.279</b>	<b>1.475.362.974</b>	<b>824.740.592</b>
<b>Municipal Investment</b>	<b>994</b>	<b>518.953.285</b>	<b>453.095.729</b>	<b>384.613.498</b>
<b>Investment Science and Higher Education</b>	<b>223</b>	<b>248.659.963</b>	<b>217.103.872</b>	<b>182.862.165</b>

Other Typologies	312	796.539.379	695.454.873	509.907.695
<b>Untill 31Set2018 Investment</b>	<b>5.800</b>	<b>3.253.959.905,77 €</b>	<b>2.841.017.447,63 €</b>	<b>1.902.123.950,00 €</b>

Source: Own elaboration

4.271 projects (85%) were related to business investments, which generated an approximate investment of 1.6 billion euros with a European contribution of 824 million euros (49%).

Regarding municipal public investment, 994 projects were approved, with a total investment of approximately 519 million euros and a contribution of 385 million euros (74%).

With regard to investments in science and higher education, 223 projects were approved for a total investment of approximately € 249 million, with European support of € 182 million (72%).

The remaining 312 projects supported generated an investment of approximately 796 million euros with a European contribution of 510 million euros (64%).

Regarding the "Business Investment" typology, it includes incentives for micro and small enterprises with investments in the region, supporting projects for qualification or internationalization, innovation and R & TD. In addition, the stimulus to entrepreneurship provided by SI2E - Incentive System for Entrepreneurship and Employment.

The "Municipal investment" typology encompasses the construction or modernization of collective infrastructures, such as schools, promotion of cultural and natural heritage, energy efficiency, promotion of ICT in public services, rehabilitation and mobility urban Inter-municipal investments are also included in this area.

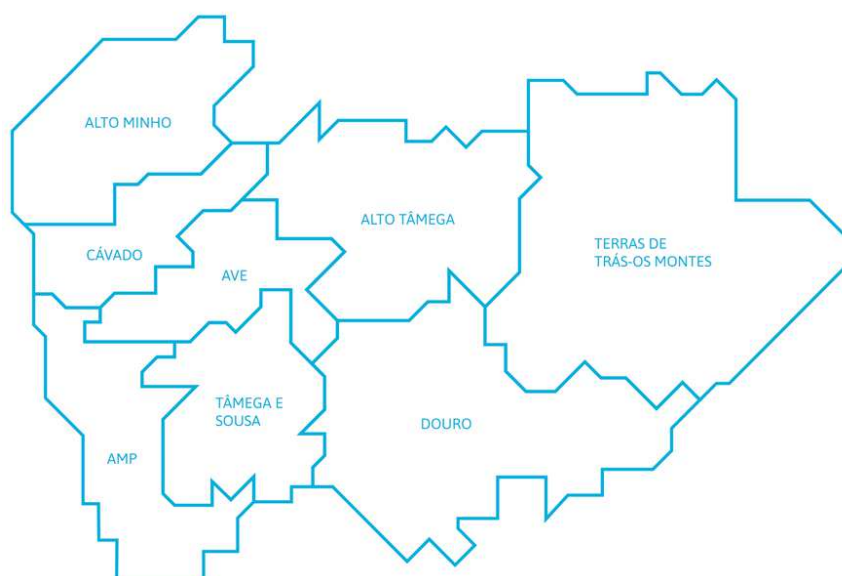
The "Investment in science and higher education" typology covers the strengthening of infrastructures, programs and lines of research, as well as professional higher education courses and technological specialization courses.

Finally, the "Other typologies" refer to territorial approaches, which allow the defined objective for cohesion and the specificities of NUTS III of the North region. In this sense, the management entity for the NORTE 2020 PO contracted with local entities a set of strategies relevant to local and regional development:

- Covenants for Territorial Development and Cohesion (PDCT), promoted by intermunicipal communities and the Metropolitan Area of Porto
- Local Community Based Development (DLBC), promoted by Local Action Groups
- Strategic Plans of Sustainable Urban Development (PEDUS), associated to the urban centers of higher level and dynamized by the municipalities
- Action Plans and Urban Regeneration (PARUS), associated to small urban centers and dynamized by municipalities
- Sustainable Urban Mobility Action Plans (PAMUS), associated to urban centers of higher education and promoted by municipalities
- Programs for the Enhancement of Endogenous Resources (PROVERE)
- Programas de Valorização de Recursos Endógenos (PROVERE)

In the following image we can see the distribution of the NUTs III of the North Region.

**Figure 1:** Distribution of the NUTs III of the North Region



Source: Norte2020

### **Total investment**

In a more specific analysis we can see from the table below,

**Table 2:** Average value of Projects supported / Total investment

Projects Supported	Total realizes investment	Investment eligible for support	H2020 support
5.800	3.253.959.905,77 €	2.841.017.447,63 €	1.902.123.950,00 €
	<i>Average project value</i>	<i>% of total investment eligible</i>	<i>% support on total investment</i>
	561.027,57 €	87%	58%
	1,71 €		

Source: Own elaboration

The average value of the 5.800 projects approved up to 30/09/2019 was 561.027 euros, with European participation in the total investment reached 58%, which means that for each euro of support the European Union is invested in the regional economy 1,71 creating a leverage of 171%.

### Business investment

Subdividing the analysis, we see by the table below referring to business investment:

**Table 3:** Average value of Projects supported / Business investment

Projects Supported	Total realizes investment	Investment eligible for support	H2020 support
4.271	1.689.807.279,17 €	1.475.362.973,82 €	824.740.592,49 €
	<i>Average project value</i>	<i>% of total investment eligible</i>	<i>% support on total investment</i>
	395.646,75 €	87%	49%
	2,05 €		

Source: Own elaboration

The average value of the 4.271 projects approved up to 30/09/2019 was 395.646 euros, with European participation in the total investment reached 49%, which means that for each euro of European Union support is invested in the regional economy 2,05 euros creating a leverage of 205%.

### Municipal investment

With regard to municipal investment (table below),

**Table 4: Average value of Projects supported / Municipal investment**

Projects Supported	Total realizes investment	Investment eligible for support	H2020 support
994	518.953.284,76 €	453.095.729,27 €	384.613.497,74 €
	<i>Average project value</i>	<i>% of total investment eligible</i>	<i>% support on total investment</i>
	522.085,80 €	87%	74%
	<b>1,35 €</b>		

Source: Own elaboration

The average value of the 994 projects approved up to 30/09/2019 was 522.085 euros, with the European contribution to the total investment reached 74%, which means that for each euro of European Union support is invested in the regional economy 1,35 creating a leverage of 135%.

### Investment in science and higher education

In investment in science and higher education (table below):

**Table 5: Average value of Projects supported / Investment in science and higher education**

Projects Supported	Total realizes investment	Investment eligible for support	H2020 support
223	248.659.963,00 €	217.103.871,55 €	182.862.164,97 €
	<i>Average project value</i>	<i>% of total investment eligible</i>	<i>% support on total investment</i>
	1.115.067,10 €	87%	74%
	<b>1,36 €</b>		

Source: Own elaboration

The average value of the 223 projects approved up to 30/09/2019 was 1.115.067 euros, with European contribution on total investment reaching 74%, which means that for each euro of European Union support is invested in the regional economy 1,36 euros creating a leverage of 136%.

### Investment in other types

Finally, in relation to other regional typologies and approaches (table below),

**Table 6:** Average value of Projects supported / Investment in other types

Projects Supported	Total investment	realizes Investment for support	eligible	H2020 support
312	796.539.378,83 €	695.454.872,99 €		509.907.694,80 €
	<i>Average project value</i>	<i>% of total investment eligible</i>	<i>% support on total investment</i>	
	2.553.010,83 €	87%	64%	
	<b>1,56 €</b>			

Source: Own elaboration

The average value of the 312 projects approved up to 30/09/2019 was 2.553.019 euros, and the European contribution to the total investment reached 64%, which means that for each euro of support the European Union is invested in the regional economy 1,56 euros creating a leverage of 156%.

## 4 Literature overview

As Calzada, I. (2013), pg.8 refered, “As Jaime del Castillo (2013) has recently reminded us in this Journal, RIS3 Regional Innovation and Smart Specialisation Strategies are “the new instruments of the European Commission that wants to use and to Improve the policies and measures supported by the Structural Funds in order to generate Competitiveness in the companies of the assisted areas”.”, 'And it is therefore essential to invest in these instruments so that the European Commission's investment in H2020 is a success.

As Charbit, C. (2011), pg. 5 said, “Sub national governments are affected by the “yoyo game”, from recovery policies based on huge public spending, to fiscal consolidation programmes, which drastically restrict them. Many local and regional authorities have faced financial difficulties as a consequence of the global crisis and current consolidation plans. This could lead to a reduction in the quantity and/or quality of public goods and services provided, as well as cuts in planned

investments, precisely when public action is considered crucial for long term recovery.” Making the European Commission's investment in the H2020 programs at regional level very relevant, thus supporting each region to become stronger, gradually losing its greatest weaknesses.

Kalisz, D. E., & Aluchna, M. (2012), pg. 146 said: “The EU’s transition plan – Horizon 2020 seems to be the answer for higher customers’ rapidly changing expectations, better perspective for human resources allocation and in the effect, the idea which with all its budget will pull the EU to the highest position in terms of the best strategic choice – innovation. “, The H2020 brings to the business market a financial "cushion" and a strong bet on innovation.

As Veugelers, R., Cincera, M., Frietsch, R., Rammer, C., Schubert, T., Pelle, A., Leijten, J. (2015), pg. 30, said “The period 2010-2020 can be considered a transitional phase in which the foundations for the period 2020-2050 are to be set. Such foundations include facing societal challenges and the new global geopolitical and competitive landscape. Developments in tackling the climate change and energy challenge and its structuration are now continuing at an increasing pace (e.g. setting standards, technological competition, varied national support, new collaboration models, etc.). European companies play a major role in this process. Competition is moving on from present markets to the creation of future ones. The precompetitive activities are not only focusing on R&D and innovation but also on norms and institution-building”, these authors forecast the next European H2020 cycle stating that while R & D investment remains important, concentration on standards and institutional development will also be key.

Vilela, Gomes & Morais (2017), pg. 730, said, “Corruption will be considered to be a lawful act if - the act or omission - is not contrary to the duties of those who are corrupt or corrupted. It so occurs in the way the result of corruption will be a clear violation of their duties, then we are facing corruption for having performed an unlawful act. The decisive factor when it comes to the crime of corruption is the link between what is promised or delivered and the objective to be achieved, namely the adoption of a particular behavior. There is corruption, even if the act (or lack thereof), whether or not legitimate under the duties of the person concerned, has not taken place. The Portuguese Criminal law only allows attempts to be criminalized if so is codified”, the absence of transparency under national law can be described as corruption.

## **5 Discussion**

The results indicate that each euro of support granted by the European Union through the H2020 Program has the following impacts on the investment of the



Northern region of Portugal: Municipal investment = € 1,35; Business investment = € 2,05; Science and higher education = € 1,36; territorial approaches = € 1,56.

Regarding the percentage distribution (base 100) of the subsidies granted versus investment made by each of the areas, we reach the following indicators: Municipal investment accounts for 20,2% of total Community support and corresponds to 15,9% of total investment ; Business investment, 43,4% Community support / 51,9% investment; Science and higher education, 9,6% support / 7,6% investment; territorial approaches, 26,8% support / 24,5% investment.

## 6 Conclusions

Overall, we can conclude that under Horizon 2020, each euro of European Union support to the Public and Private Institutions of the Northern Region of Portugal provides an investment in the regional economy of 1,71 euros. As shown, these investments vary according to the type of investments, namely public investments in which the impact is 135% on Community support, 136% on investment in science and higher education, 156% on territorial investments and finally doubles 205%) in corporate investments. In this way, we can see the importance of the current H2020 community framework, regional development, national development and the European Union as a whole, in the logic of territorial cohesion. Emphasize the importance of investment in the business area, which represents more than 50% of the total investment made up to September 30, 2018.

When compared to the European Union's, data and objectives for the current financing framework (2014-2020), where the total grant endowment stands at 351,8 billion, for an expected overall investment of 450 billion (multiplier expected for the investment of 1,28), it can be seen that the NUT III - North of Portugal up to the date of the analysis can overcome this indicator presenting a global multiplier of 1,71 on the received support.

In future studies, we will carry out tests on the impact of community support in the remaining 6 Portuguese regions (Centro, Lisbon, Alentejo, Algarve, Azores and Madeira), thus making comparisons between them. At the same time, there will be tests on the impact of these investments on regional and national GDP.

**References:**

- Admiraal, J. F., Musters, C. J. M. & Snoo, G. R. (2015) The loss of biodiversity conservation in EU research programmes: Thematic shifts in biodiversity wording in the environment themes of EU research programmes FP7 and Horizon 2020, *Journal for Nature Conservation*, 30, pp. 12-18, <https://doi.org/10.1016/j.jnc.2015.12.008>.
- Agência para o Desenvolvimento e Coesão, IP (2016) Boletim Informativo dos Fundos da União Europeia, available at: [http://www.qren.pt/np4/file/4954/bol\\_fundos\\_6.pdf](http://www.qren.pt/np4/file/4954/bol_fundos_6.pdf) (December 20, 2018).
- Barca, F. (2009) An Agenda for a Reformed Cohesion Policy: a Place-based Approach to Meeting European Union Challenges and Expectations, relatório independente preparado para a Comissão da Política Regional, Abril, s/ local; available at: [http://ec.europa.eu/regional\\_policy/policy/future/pdf/report\\_barca\\_v0306.pdf](http://ec.europa.eu/regional_policy/policy/future/pdf/report_barca_v0306.pdf) (December 20, 2018).
- Brunner, C., Birbaumer, N., Blankertz, B., Guger, C., Kübler, A., Mattia, D. & Müller-Putz, G. R. (2015) BNCI Horizon2020: Towards a roadmap for the BCI community, *Brain-Computer Interfaces*, 2(1), pp. 1-10. <https://doi.org/10.1080/2326263X.2015.1008956>.
- Calzada, I. (2013) Critical social innovation in the smart city Era for a city-regional European Horizon 2020. *P3T Journal of Public Policies & Territories, Social Innovation and Territory*, 6, pp. 1-20.
- Charbit, C. (2011) *Governance of Public Policies in Decentralised Contexts: The Multilevel Approach*. OCDE Regional Development Working Papers, 2011/04 (Paris: OECD Publishing).
- Comissão Europeia (2010) Investing in Europe's Future [Relatório], novembro 2010. 5º Relatório sobre a coesão económica, social e territorial (Bruxelas: European Commission), available at: [http://ec.europa.eu/regional\\_policy/sources/docoffic/official/reports/cohesion5/pdf/5cr\\_part1\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/cohesion5/pdf/5cr_part1_en.pdf) (December 20, 2018).
- COMPETE (2018) Programa Operacional Fatores de Competitividade “Estrutura”, available at: <http://www.pofc.qren.pt/compete/estrutura> [15-10-2016] (December 20, 2018).
- COMPETE (2018) Programa Operacional Fatores de Competitividade “Incentivos às Empresas” <http://www.pofc.qren.pt/areas-do-competite/incentivos-as-empresas> (DECEMBER 20, 2018).
- Enger, S. G. & Castellacci, F. (2016) Who gets Horizon 2020 research grants? Propensity to apply and probability to succeed in a two-step analysis, *Scientometrics*, 109, PP. 1611-1638, <https://doi.org/10.1007/s11192-016-2145-5>
- Filos, E. (2013) Manufacturing innovation and Horizon 2020, In: Kovács, G. L. & Kochan D. (eds.) *Digital product and process development systems. NEW PROLAMAT 2013. IFIP Advances in Information and Communication Technology* (Berlin: Springer), [https://doi.org/10.1007/978-3-642-41329-2\\_1](https://doi.org/10.1007/978-3-642-41329-2_1).
- Galsworthy, M., & McKee, M. (2013) Europe's 'Horizon 2020' science funding programme: how is it shaping up?, *Journal of Health Services Research & Policy*, 18(3), pp. 182-185, <https://doi.org/10.1177/1355819613476017>.
- Granieri, M., & Renda, A. (2012) *Innovation law and policy in the European Union: Towards Horizon 2020* (New York: Springer).
- Guedj, D. & Ramjoué, C. (2015) European Commission Policy on Open-Access to scientific publications and research data in Horizon 2020, *Biomed Data Journal*, 1(1), 11-14, <http://dx.doi.org/10.11610/bmdj.0110>.

- Kalisz, D. E., & Aluchna, M. (2012) Research and innovations redefined: Perspectives on European Union initiatives and strategic choices on horizon 2020, *European Integration Studies*, 6, pp. 140-149, <http://dx.doi.org/10.5755/j01.eis.0.6.1426>.
- Katsanis, C. J. & Davidson, C. H. (1995) Horizon 2020: How will North America Build?, *International Journal of Architectural Management Practice & Research*, 9, pp. 146-162, available at: [https://www.researchgate.net/publication/288947381\\_Horizon\\_2020\\_how\\_will\\_North\\_America\\_build](https://www.researchgate.net/publication/288947381_Horizon_2020_how_will_North_America_build) (December 20, 2018).
- McCarthy, S. (2014) *How to write a competitive proposal for Horizon 2020: A handbook for research managers* (Watergrasshill: Hyperion Publication).
- Observatório do QREN (2013) *A contratualização como expressão da governação multinível: as lições do QREN e os desafios 2014-2020*. Braga: 19º Congresso da APDR, 20 de junho 2013.
- Orientações para a contratualização com subvenção global entre as autoridades de gestão dos POR e as associações de municípios baseadas em NUTS III (2008). Deliberação aprovada em 19 de Março de 2008, available at: <http://maiscentro.qren.pt/private/admin/ficheiros/uploads/ocontratualizacao.pdf> (December 20, 2018).
- Rollat, A., Guyonnet, D., Planchon, M. & Tuduri, J. (2016) Prospective analysis of the flows of certain rare earths in Europe at the 2020 horizon, *Waste Management*, 49, pp. 427-436, <https://doi.org/10.1016/j.wasman.2016.01.011>.
- Tulla, A. F., Vera, A., Badía, A., Guirado, C. & Valleperas, N. (2014) Rural and regional development policies in europe: Social farming in the common strategic framework (horizon 2020). *Journal of Urban and Regional Analysis*, 6(1), 35-51.
- Veugelers, R., Cincera, M., Frietsch, R., Rammer, C., Schubert, T., Pelle, A., & Leijten, J. (2015) The impact of Horizon 2020 on innovation in Europe. *Intereconomics*, 50(1), 4-30, <https://doi.org/10.1007/s10272-015-0521-7>.
- Vilela, B. N., Gomes, J. C. & Morais, P. (2017) Government Transparency: Reality or Mirage?, *Lex Localis - Journal of Local Self-Government*, 15(3), pp. 725-736, [https://doi.org/10.4335/15.3.725-736\(2017\)](https://doi.org/10.4335/15.3.725-736(2017)).
- Walshe, K., McKee, M., McCarthy, M., Groenewegen, P., Hansen, J. & Figueras, J. (2013). Health systems and policy research in Europe: Horizon 2020, *The Lancet*, 382(9893), pp. 668-669, [https://doi.org/10.1016/S0140-6736\(12\)62195-3](https://doi.org/10.1016/S0140-6736(12)62195-3).
- Young, M. (2015) Shifting Policy Narratives in Horizon 2020. *Journal of Contemporary European Research*, 11(1), pp. 16-30.