

Economics and Business Quarterly Reviews

Dimitriou, D. J., Sartzetaki, M. F., & Dadinidou, S. (2022). Methodology Framework to Assess Regional Development Plans: A European Perspective Approach. *Economics and Business Quarterly Reviews*, 5(1), 1-12.

ISSN 2775-9237

DOI: 10.31014/aior.1992.05.01.398

The online version of this article can be found at:
<https://www.asianinstituteofresearch.org/>

Published by:
The Asian Institute of Research

The *Journal of Economics and Business* is an Open Access publication. It may be read, copied, and distributed free of charge according to the conditions of the Creative Commons Attribution 4.0 International license.

The Asian Institute of Research *Journal of Economics and Business* is a peer-reviewed International Journal. The journal covers scholarly articles in the fields of Economics and Business, which includes, but is not limited to, Business Economics (Micro and Macro), Finance, Management, Marketing, Business Law, Entrepreneurship, Behavioral and Health Economics, Government Taxation and Regulations, Financial Markets, International Economics, Investment, and Economic Development. As the journal is Open Access, it ensures high visibility and the increase of citations for all research articles published. The *Journal of Economics and Business* aims to facilitate scholarly work on recent theoretical and practical aspects of Economics and Business.



ASIAN INSTITUTE OF RESEARCH
Connecting Scholars Worldwide



Methodology Framework to Assess Regional Development Plans: A European Perspective Approach

Dimitrios J. Dimitriou¹, Maria F. Sartzetaki², Smaro Dadinidou³

¹ Professor Associate, Department of Economics, Democritus University of Thrace, Panepistimioupolis Komotini, Greece, 69100, Email: ddimitri@econ.duth

² Professor assistant, Department of Economics, Democritus University of Thrace, Panepistimioupolis Komotini, Greece, 69100

³ PhD candidate, Department of Economics, Democritus University of Thrace, Panepistimioupolis Komotini, Greece, 69100

Correspondence: Dimitrios Dimitriou, Professor Associate, Department of Economics, Democritus University of Thrace, Panepistimioupolis Komotini, Greece, 69100, Email: ddimitri@econ.duth

Abstract

This paper reviews the European Funding Programs impact on regional and economic development. The case study focuses on “Eastern Macedonia & Thrace” (EMTH) Region, a region in the nation of Greece. EMTH Region boasts a number of comparative advantages related to its strategic location, bordering Bulgaria on the North and Turkey on the East. In addition, EMTH Region is one of the regions in Greece with the lowest GDP per capita. Moreover, is a region of great importance with great existing transport infrastructure, widespread network of industrial areas, academic-R&D infrastructure & dynamics and many opportunities in the renewable energy sources. The purpose of the paper is the evaluation of the European Union Funding programs, highlighting and supporting the main target of these funding programs to force and enable a sustainable social and economic growth to the poorest European neighborhoods in order to achieve the average European Union prosperity. The framework analysis of the paper is based on an ex-post evaluation framework of the Regional Operational Programs that Greece and the “EMTH Region, have participated since Greece's entry into the European Union. The case study focused on some large European Support Regional Programs as the Mediterranean Integrated Programs (IMPs, 1986-1993), the 1st Community Support Framework (CSF I) (1989-1993), the 2nd Community Support Framework (CSF II) (1994-1999), the 3rd Community Support Framework (CSF) (2000 -2006) as well as the National Strategic Reference Frameworks (NSRF) (2007-2013) and (2014-2020). Valuable conclusions were derived, mainly regarding the absorption of the programs in the EMTH Region and regional and economic development of the case study region features during this period.

Keywords: Regional Development, Economic Growth, EU Funding Programs, Funding Programs Absorption

1. Introduction

Since ancient Greek times and the era of Aristophanes (Nefeles 423 BC.) and Sophocles (Antigone verse 892), dated back to 442/441 B.C., where the concept of sustainable development was first mentioned, a unique and specific definition of this term is not yet provided. The term "sustainable development" in its current sense, was

first coined in 1980 in the "World Conservation Strategy," drafted by Unesco / Unep, WWF, IUCN and FAO and has since been defined and described in various ways. The most common definition, which was broadly accepted and formulated in 1987 by the "World Committee on Environment and Development" – WCED so-called Brundtland Report, states that: 'Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs.' This definition considers both intra- and intergenerational equity in its mentioning of both the fulfilling of present and future needs; however, it is the aspect of intergenerational equity which is more commonly referred to by sustainable development and, therefore, this is the context of the term considered here. The ability of future generations to meet their needs has often been related to the resources or capital available to these future generations. For example, Victor (1991) claims that '...sustainable development requires that the stock of capital that one generation passes on to the next be maintained or enhanced'. According to this definition, sustainable development thus considers what one generation passes on to the next from a bird's eye perspective: The total global resources or stocks of capital should be maintained or enhanced from generation to generation.

The principles of sustainable development were formally formulated for the first time at the 1992 Rio International Conference, which resulted in Agenda 21 (UN, 1992a; 1993). The Sustainable development was initially defined as "development that provides long-term economic, social and environmental benefits by taking care of the needs of present and future generations."

The 1992 Maastricht agreement (EC, 1992), Amsterdam in 1997 (EC, 1997) and the Johannesburg International Conference in 2002 (UN, 2002), confirmed the necessity of sustainability and the systemic framework, incorporating sustainable development into European Union Law.

Socioeconomic development is defined as a multidimensional topic affecting many aspects of people's lives, directly, linked with the business sustainable development of business (Dimitriou et al., 2020a;. Evidence on this is that the international organizations, which provide dedicated activities to promote the goals of human development and well-being towards sustainable business development (UNECE, 2015; UNDP, 2014; OECD, 2013).

Different depictions of the concept of sustainable development have been proposed in the literature. A model, which seems to be the most widespread, is the representation of sustainable development through overlapping cycles (Connelly, 2007). The boundaries between sustainable development and the other components are well defined. Within the limits of the overlap of three cycles, the concept of sustainable development is indifferent to its three dimensions, thus reinforcing the view that sustainable development is a single goal interacting with the three dimensions (Dimitriou et al., 2020b; 2020c, Jacobs, 1999).

Regional development is the label of the efforts to develop certain areas of a country, with the term development usually understood in its socioeconomic sense. Regional development, thus, is not only measured in terms of income, jobs, and demographic trends in a certain area, but it can also involve the more general dynamics, such as innovation and creativity in the region of interest. Regional development is clearly a multidimensional concept with a great socioeconomic variety that is determined by a multiplicity of factors, such as natural resource endowments, quality and quantity of labor, capital availability and access, productive and overhead investments, entrepreneurial culture and attitude, physical infrastructures, sectoral structure, technological infrastructure and progress, open mindedness, public support systems, and so forth (Nijkamp, 2009) (Baereholdt, 2009).

Regional development is a broad term but can be seen as a general effort to enhance well-being and living standards in all region types and improve their contribution to national performance and more inclusive, resilient societies. The above definition implies that the focus of regional policy is to take measures to improve the geographical distribution of economic activities, which will lead to the greatest possible assimilation of the inhabitants' standard of living in different regions of a country or a group of countries. Folmer (1986) identifies the set of actions of the central regional and local administration, which are intended to affect the financial situation of one or more regions. As far as the European Union is concerned, regional policy is a strategic investment policy in all regions and cities of the EU, which aims to stimulate their economic development and improve the quality of its inhabitants' life. At

the same time, it is an expression of solidarity, as the support is mainly for the less developed regions (Commission, 2014).

The regional policy is defined as a policy aimed at boosting economic activity in a specific geographical area and, as a rule, is in a worse economic situation than nearby areas. It may include incentives to provide jobs in the region. Integrated regional policy (Thierstein, 1998) thus encompasses not only regional policy in the strict sense, but also other spatially relevant policy fields like regional planning, environment, fiscal policy, innovation and technology policy. Further developments in regional policy consider the altered relations between urban and local development. Next-generation regional policies focus on coherence between the territorial production system and the system of medium-sized towns that usually structure a region (Maillat, 1998). Two polar models of development are thereby distinguished, that of urban resources and of places of interaction: a metropolitan modality and a milieu-based modality.

The aim of EU regional policy is to reduce the significant economic, social and territorial disparities that persist between Europe's regions. Maintaining these inequalities would jeopardize some of the EU's cornerstones, such as its large single market and its currency, euro. Regional Policy targets all regions and cities in the European Union in order to support employment, business competitiveness, economic growth, sustainable development, and improve citizens' quality of life. In order to build infrastructures -oriented regions with better access to jobs, goods and services, organizations and governmental authorities need to manage the trade-offs among populations individual needs, land use decisions, transport infrastructure allocation resources, and a transport network that meets users' need (Dimitriou, 2021; 2018). The funds invested in infrastructure in regions are, however, not capturing the true benefits that are created the region. The impact measures the effect of market access on regional economic development in terms of GDP, population and employment in regions (Dimitriou, 2020; 2016).

2. Review analysis framework

2.1 Overview of European funding programs implementation in Greece

The European Regional Development Fund (ERDF) aims to strengthen economic, social and territorial cohesion in the European Union by correcting imbalances between its regions. The ERDF finances programmes in shared responsibility between the European Commission and national and regional authorities in Member States. The Member States' administrations choose which projects to finance and take responsibility for day-to-day management.

The Community Support Frameworks are, in essence, documents approved by the European Commission, in agreement with the Member State concerned, following an assessment of the Plan submitted by the Member State and containing its strategy and action priorities of the Member States, their specific objectives, the contribution of Community assistance and other financial resources. This document is divided into priority axes and is implemented through one or more Business Programs.

The first financial assistance was provided through the European Regional Development Fund (ERDF) during the period 1981-1985 and the actions consisted mainly of supporting infrastructure investments for development purposes and investments in the sectors of industry, and services in developing areas, while the concepts of coordination started to develop, the utilization of endogenous potential and the integrated development approach.

The Mediterranean Integrated Programs (IMP) initialized five years after the entry of the country into the Community and ended in 1993. The initial period of the IMP implementation was the 1986 - 1988 period, but it was extended until 1993 and this resulted in the simultaneous existence of IMF the Community Support Framework I which, like the next CSFs II and III, referred to both national and regional level. Table 1 presents the financing of the Co-financed Development Programs in Greece from 1986 to 2020 according to the initial approval decisions.

Table 1: Co-financed Development Funding Programs in Greece

	IMP (1986-1989) in thousand ECU* at 1986 prices	CSF I (1989-1993) in thousand ECU* at 1989 prices	CSF II (1994-1999) in thousand ECU* at 1994 prices	CSF III (2000-2006) in thousand ECU* at 2000 prices	NSRF (2007-2013) in thousand €	NSRF (2014-2020) in thousand €
Total Budget	2.101.933	14.342.054	29.721.300	44.563.540	39.400.000	25.085.389
National Public Participation	695.740	5.802.196	7.069.900	11.126.075	11.800.000 (5.800.000 +5.700.000)	5.197.403
Community Participation	2.576.000	7.193.241	13.980.000	22.707.000	20.400.000	19.887.985
Private Participation	210.193	1.346.617	8.671.400	10.730.465	7.500.000	
Cohesion Fund (Community Participation)			3.061.200 k. ECU	3.320.000 k €	3.697.160 k €	

Source: Ministry of Economy & Finance * 1 ECU = 1 Euro (exchange rate of 01.01.1999)

2.2 Distribution of European program resources implementation in EMTH Region

The Integrated Mediterranean Program of Northern Greece was signed on October 22, 1985 in Thessaloniki and lasted for seven years, 1986-1992. The program with total funding for the REMTH 695.837k.ECU (Table 2) included 5 actions, which were the following:

- The adaptation of lowland crops to the market by improving production.
- Integrated development of inland areas.
- The support and modernization of handicrafts and industry.
- The development of the tourism product and its indirect effects
- Enhancing livestock, fisheries and aquaculture.

Table 2: Funding table of IMP in Northern Greece.

IMP 1986-1992	Total Budget	National Participation	Public Participation	Community Participation	Bank Lending (National Bank of Greece)
Region of Macedonia & Thrace	695.837 k. ECU	204.909 k. ECU		406.765 k. ECU	120.000 k. ECU

Source: Eurostat * 1 ECU = 1 Euro (exchange rate of 01.01.1999)

2.3 Application area Key features

2.3.1. EMTH Region infrastructures and assets

The region of Eastern Macedonia and Thrace (REMTH) is located on the North-East part of Greece, it is the 4th largest region in the country covering an area of 14.179 km² and its population amounts 608.182 inhabitants. It consists of 5 Regional Units, namely Drama, Kavala, Xanthi, Rodopi and Evros, including two major islands of the Thracian Sea, Thasos and Samothrace.

Transport infrastructure assets in the Region of Eastern Macedonia Thrace involve road and rail connections, as well as air and shipping cargo. The production and agricultural goods are mainly transported and distributed through newly constructed highways. The length of the National Road network that interconnects the Region accounted to approximately 3,800 kilometers.

The most important road infrastructure asset in the Region is Egnatia Highway Road, which is part of the trans-European networks and, as a whole, covers the 680 km long axis of Igoumenitsa – Evros, while the section that crosses the Region extends from the Strymon bridge to the Kipon bridge (258 km) and connects the region with the main road network of the country, as well as with Turkey and Bulgaria.

There are two international airports in the Region (Kavala and Alexandroupolis) that serve domestic and international flights (scheduled flights and charter flights, mainly during the summer season). Both airports are low-capacity airports with low traffic passenger volumes. But they are engines of socio-economic development and improve accessibility to EMTH Region, having a vital role in terms of economic and social cohesion, stimulating tourism and employment, as well as facilitating access to essential services.

REMTH has two major ports, Kavala and Alexandroupolis, and six smaller, including those on the islands of Thasos and Samothrace. The ports of Kavala and Alexandroupolis have been declared as of national importance and are among the most important in the country in terms of freight and passenger traffic. The port of Alexandroupolis is mainly commercial, while it also serves passenger traffic to and from Samothrace. The old (central) port in the city of Kavala city currently serves the main volume of passenger traffic to Thasos, Lemnos and Mytilene, while there is steadily increasing arrivals of cruise ships and yachts, as the commercial traffic was transferred to the new port of Kavala. (Philip II) in the area of Nea Karvali.

The railway line that serves Eastern Macedonia - Thrace crosses 4 of the 5 Prefectures, except than the Prefecture of Kavala, with 34 Railway stations and a total network length of approximately 400km that serves the local population and freight transport.

Water supply in the area is provided by local water resources (groundwater and surface water) and served by springs and boreholes, as well as individually small water supply projects (e.g., dams, tanks and pumping stations) managed by the local authorities. In terms of sewerage infrastructure, its urban centers have complete integrated sewerage networks for both wastewater and rainwater. In the field of waste management infrastructure, the area currently has 3 Landfills (15 landfills), 15 Waste Transfer Stations (SMA) and 6 Recyclable Material Sorting Centers (KDAW) while Recycling Programs are implemented in the majority of the Municipality. The EMTH Region is energy autonomous mainly due to the 485 MW power plant of Komotini (combined cycle unit using natural gas), the high - pressure transmission network of the National Gas Transmission System in the Region with the expansion of the transmission sector from Komotini to Greek - Turkish borders (Evros Kipi), hydroelectric projects (Nestos dam systems in Drama Prefecture) and Renewable Energy Sources projects (small hydroelectric, wind farms and solar panels). Large investments are being made in the Region for the construction of the gas transmission pipeline from Azerbaijan's Shah Deniz gas field to markets in Europe via Greece and Italy (Interconnector Turkey – Greece – Italy (ITGI)) and two liquefied natural gas depots in Prinos (Kavala) and Alexandroupolis.

Finally Social Infrastructure plays an important role in the functionality and development of the areas. Health, welfare, education and sports are basic services offered to citizens in every residential area of the Region.

2.3.2. EMTH Region economic features

Regional GDP

The Region is consistently included in the regions of the "convergence" goal over the last twenty years, as the per capita GDP of the Region in relation to the average of the European Union, depicts a very small and temporary improvement over the 2000-2010 decade (from 63% in 2000 to 70% in 2009 and to 66% in 2010). Also due to the latest Eurostat data is one of the lowest in Europe and the lowest in Greece since 2013. The main reason for this sharp decline in regional GDP is turbulent Greek financial crisis which took place the last decade. GDP per capita change in EMTH Region and Greece are highlighted in Figure 1.

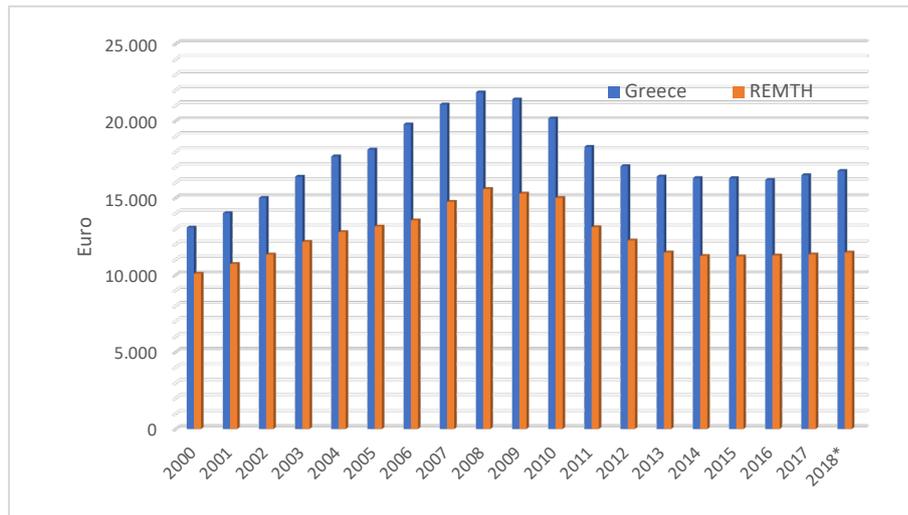


Figure 1: GDP per capita in REMTH and Greece

Source ELSTAT, 2021

From 2000 to 2008 the GDP p.c. of the region is constantly growing, at an average rate of 5.6%. Since 2009, the GDP has been declining by 1.9% in 2009, 1.4% in 2010, 11.5% in 2011, 6.9% in 2012 and 7.2% in 2013. From 2009 to 2013, GDP p.c. has fallen by a total of 24.6%. The large decrease (larger than any other region) of GDP p.c. between the years 2012 and 2013, ranks REMTH as the poorest region in Greece (a position that before 2012 had been occupied by Epirus). With the exception of 2003, when the sector of “Wholesale - Retail, vehicle repair, transport, storage, accommodation and catering” had the largest share in the Gross Value Added, throughout the rest of the period the first place is occupied by the sector of “Public Administration, defense, social security, education, health and social welfare,” according to the Greek statistical authority. In fact, since 2009 onwards its participation in the GVA exceeds even 30% making REMTH the only region, along with that of the North Aegean, where the participation of this sector remains at these levels. To be precise, in 2009 its contribution amounts to 31.72%, in 2010 to 32.55%, in 2011 to 34.38%, in 2012 to 32.07% and in 2013 to 30.71%. This ranks the 2 aforementioned regions among the nine top regions (nuts2) of the EU with such a broad participation of the specific industry in the GVA for 2012. Figure 2 depicts the evolution of Gross added value at the level of NUTSI and NUTSII in, for the years 2000 to 2018.

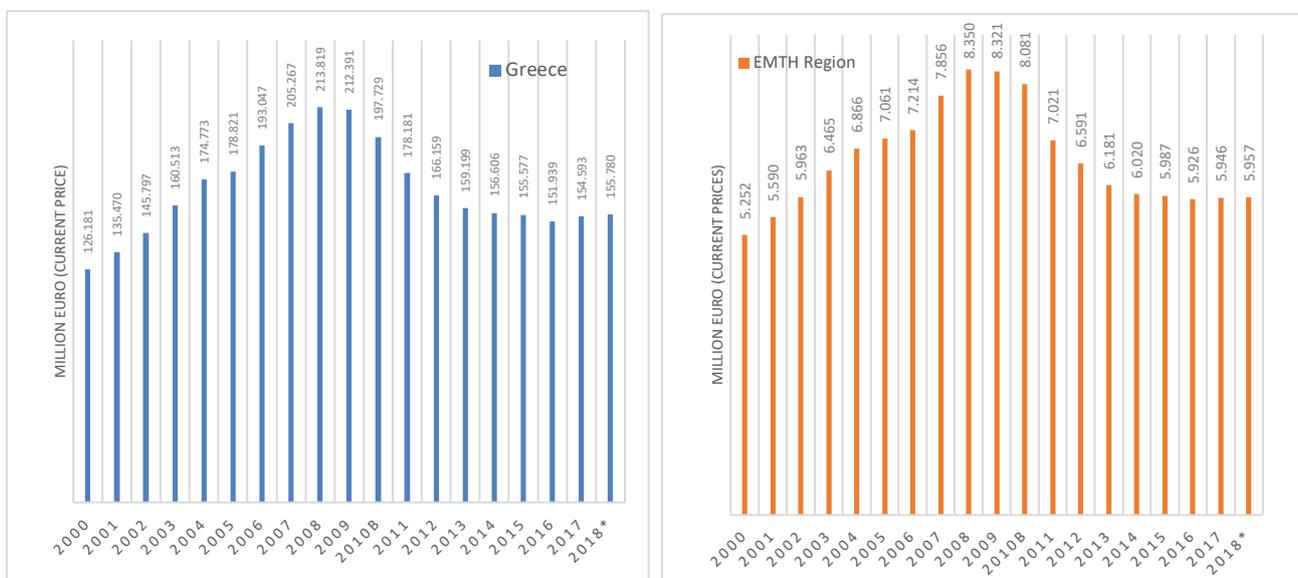


Figure 2: Gross value added (2000 - 2018) (NUTS I - II)

Source: ELSTAT, 2021

Key business sectors IN REMTH

The agricultural sector occupies the largest share of economic activity in the Region, despite the contraction it has undergone during the recent years, which is characterized mainly as agricultural. This also results from the fact that the primary sector is its main productive sector, with the share of the primary sector in the gross value added (GVA) of the Region amounting to 6.2% (twice the national average), which represents 26% of the total employment, while it participates with about 40% in the total exports of the Region. If we take into account its interconnection with other sectors of the economy (secondary, tertiary), then the participation of the primary sector is even greater than the officially recorded one.

The used agricultural land of the region amounts to 3,468 square kilometers or 28% of the total area of the Region. About 58% of the cultivated areas are irrigated. In the Region there is a tendency of specialization in industrial and / or extensive crops (mainly in Xanthi and Rodopi) such as cotton, corn, tobacco and cereals. The ratio of crop-animal production in the Region in terms of production value is equivalent to the national average, approximately 7:3. The agricultural production in the REMTH, depending on the value of the production and the participation in the GVA of the primary sector, in sub-sectors, are: animal production (34%), cereals (22%), industrial plants (18%), vegetables and potatoes (17%) and fruits (6%). The main products produced are corn (13%), milk (13%), cereals (8%), cotton (8%), potatoes (6%), tobacco (5%) and grapes (4%) (ELSS data, 2009). Most of this production is intended for domestic consumption while the products exported mainly by the Region are table grapes, kiwis and asparagus, and in processed products olive oil, wine and tobacco. Limited quantities of ginned cotton and cottonseed are also exported (mainly to Turkey) as well as quantities of unprocessed wheat and corn.

A rapidly growing sector in the Region in recent years is fish-farming. The Thracian Sea is considered one of the most fish-producing marine areas of the country which is also rich in mineral wealth as around the island of Thasos the first submarine oil deposit of the country and the first submarine natural gas field were discovered. In addition, remarkable uranium and xylite reserves have been identified in the wider area of the Region, which is also wealthy in rocks, mainly marble and slate.

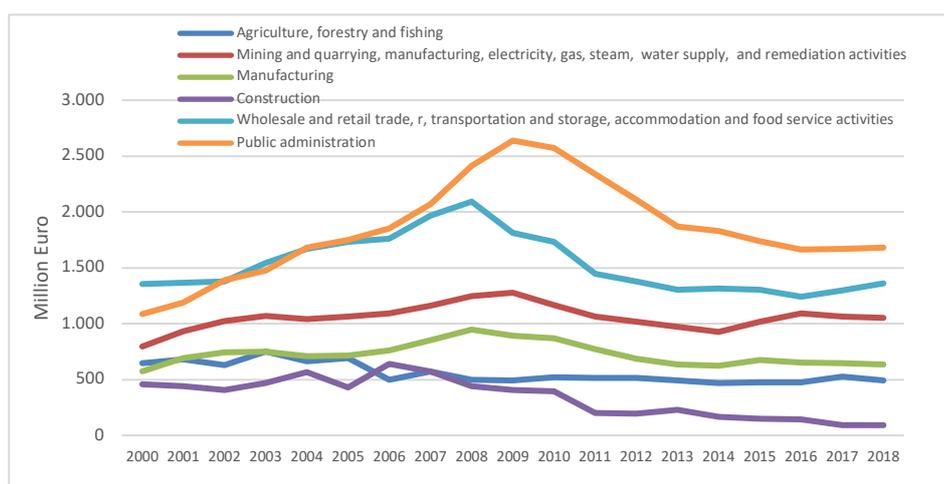


Figure 3: Gross value added by key industries in REMTH (2000 - 2018) (NUTS I- II)

Source: ELSTAT, 2021

Employment

Regarding the social indicators of the Region, unemployment rate is permanently higher than those of the EU - 27 average from 2001 until today while the gap has constantly been widening since 2010 (14.2% and 9.6% respectively for 2010, 19.9% and 9.6% for 2011, 22.5% and 10.4% in 2012), especially for the long-term unemployed, but for young people as well. Moreover, compared to the national average, the Region accounts systematically higher unemployment throughout the last decade, with the exception of 2012, when it moved from

the 2nd worst position to the 8th worst ranking among the 13 regions (due to lower development rate in other regions and not due to unemployment decline). It should also be pointed out that in 2013, the percentage of the population aged 25-64 in REMTH that falls into the lower category of education (no education, primary education and compulsory secondary education) was 51%, while the average for the country was 32.8% and for the EU27 was 24.9%. At the same time the percentage of the population with high and higher education showed an increase between 2001-2013 by 11.8 percentage points in REMTH, exceeding the growth rate of the EU-27 but not the national one (15.1 points for the country and 10.2 points for the EU-27 respectively). In the 30-34 years age group, REMTH nowadays continues to lag behind the national average by 12 percentage points and the EU-27 average by 14.2 points, since only 22.6% of the population has higher education. This practically means that the stock of qualified human resources that can potentially support innovative activity is very low and in order to reverse this, the Region needs to boost its efforts to connect education with production.

3. The outcome of funding programmes in REMTH – main findings from the ex-post evaluation

The datasets were derived from the competent public authorities and especially from the Ministry of Finance, Ministry of Development, the Managing Authority of Regional Operational Program of the REMTH, Hellenic Statistical Service and Eurostat and address the total Public Expenditure on European Programs. Public Expenditure is the total of National and Community participation, i.e., the total expenditure spent by both the state budget and secured through the Public Investment Program and the Structural Funds and Financial Instruments of the European Union. More specifically, there are secondary data that are classified in large databases per funding program and annually for the years 1994-2013. Based on descriptive statistics (statistical measures of position and distribution) we transformed them to quantified data so as to measure the outcome on the return of funding. The data analysis and descriptive statistics highlighted the following results:

- During the 1994-1999 programming period (2nd CSF), the 2nd Regional Operational Program (2nd RDP EMTH) financed 820 operations with a total budget of € 617.5 million, an amount that corresponds to 2.9% of the total budget of the Second CSF in Greece.
- During the 2000-2006 programming period (DG CSF) 4,285 budget operations of € 2.498 billion were financed in REMTH, an amount that corresponds to 6.1% of the total budget of DG CSF in Greece.
- During the 2007-2013 programming period (NSRF), 6,560 budget operations were financed with € 2.133 billion, an amount that corresponds to 6.4% of the total NSRF budget in Greece

Table 3: Distribution of resources in the REMTH by source of funding.

Source of funding	Total budget	Budget in REMTH	Number of interventions
CSF II (1994 - 1999)	21.049.900.000 €	617.496.303 €	820
CSF III (2000 - 2006)	41.160.315.470 €	2.497.824.875 €	4.285
NSRF (2007 - 2013)	33.513.990.107 €	2.133.472.165 €	6.560
TOTAL	95.724.205.577	5.248.793.343	11.665

Source: Final report of OP 1994-1999, the M.I.S. Service, and the Managing Authority of R.O. P. of the REMTH

All the sources of funding and budgetary share results are presented in Table 3 in which we can see the distribution of resources in REMTH per source of funding while in Figure 4 is presented the budget share (%) of each program in REMTH.

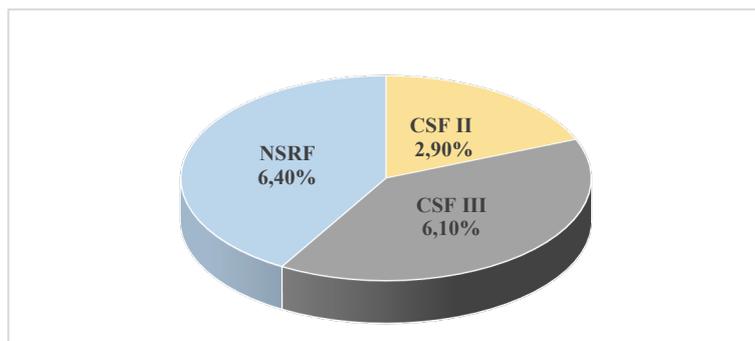


Figure 4: Share of national budget distribution in REMTH

Source: Managing Authority REMTH, 2001

From the above data it appears that REMTH received most of the funding from the NSRF 2007-2013 (6.4% of the total NSRF budget) in which had the most transactions although the highest amount was received during the CSF III (€ 2,497,824,875).

The NSRF 2014-2020 was approved on May 23, 2014 and the budget for REMTH amounted 2.370.262.457 € while the actual payments are 834.514.900 €, until today (Anaptyxis.gov.gr/Ministry of Development and Investments). The Regional program was approved on December 18, 2014 with total budget of Public Expenditure: 507,739,336 €, of which the amount of 406,191,468 euros is the European Union's contribution and 101,547,868 euros is the Greek State's stake. The strategy of Operational Program (OP) is fully harmonized with the strategy of the NSRF 2014-2020 both at the strategic level (vision, goals) and at the operational level (specializations, actions). Thus, the project proposals in the Regional Operational Program are common with the main funding priorities of the NSRF and addresses the following pillars

- a. Enhancement of business competitiveness / extroversion with an emphasis on quality and innovation,
- b. development / utilization of human resources with emphasis on social inclusion,
- c. protection of the environment and the transition to an environmentally friendly economy,
- d. development of infrastructure to support economic and social development, and
- e. improvement of the institutional adequacy of public administration.

In order to compare the total distribution of the resources of REMTH from 1994 to 2013 (CSF II, CSF III, NSRF (2007-2014) with the Gross Domestic Product in REMTH we formed a large dataset based on data for GDP values and funding programmes data sets on the other in order to reduce the dimensions of these tables, evaluating and selecting the most useful data.

Since the early 1980s, the European Union Structural Funds (now called European Structural and Investment Funds – ESIF) have provided financing aid to EU member states with the aim of promoting convergence across Europe's regions.² ESIF finance several economic and social areas including public infrastructure and human capital, social policy and public administration. Greece has been a major beneficiary of these funds. Total Capital inflows from the ESIF totaled EUR 66 billion between 2000 and 2017 (or about 30% of GDP in 2018) which, in terms of financing per capita, was the highest amount in the EU. These funds, mainly from the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the Cohesion Fund, helped to fund thousands of projects in almost every sector of the economy, ranging from transport infrastructure and agriculture to public administration, social and education policies.

The investment supported by Cohesion policy and rural development policies is estimated to have increased GDP in 2015, at the end of the 3rd CSF and NSRF (2007-2014) programming periods, by not very higher above the level it would have been in the absence of the funding provided.

Considering the regions level of prosperity and development, REMTH ranks among the lowest in the country over time, more specifically through the years 2000, 2005 and 2008 it is on the 9th, 12th and 13th place accordingly

among the thirteen regions of the country. In 2014 there is a great improvement for the region as it ranked in the 7th place. The growth of REMTH the last twenty years, was based on two basic strategic advantages:

- Its critical geographical position which gives it a great geopolitical value and its emergence as a transit and energy node and
- the added value from the agricultural sector and alternative tourism, utilizing the rich endogenous potential of REMTH in these segments (natural resources, extensive and fertile plains, suitable livestock areas, sufficient water, geothermal fields, historical and cultural elements of high interest and areas of remarkable natural beauty such as forests, beaches, lakes, habitats, mountains, etc.).

Eastern Macedonia-Thrace boasts a number of comparative advantages related to its: • strategic location, bordering Bulgaria on the North and Turkey on the East • transport infrastructure • network of industrial areas • Academic-R&D infrastructure & dynamics • Tourism and Cultural sites • Opportunities in the renewable energy sources • Opportunities from the very rich subsoil (such as gold, etc)

- In the implementation framework of this development strategy through the programs of the 2nd CSF, 3rd CSF and NSRF (2007-2014) investments and operations were financed by a total budget of € 5.248 billion.
- The majority of implemented projects in REMTH (98,8%) are projects with budgets of less than, than €5 million, while 62.4% of them have budget less than €100,000, and only 1.2% of transactions have a higher budget.
- The NSRF (2007 -2014) with € 2,133 billion Euro (6.4%) is the program with the biggest absorption ratio of the funding in REMTH, followed by the CSF III with € 2,497 billion Euro (6.1%) while the least amount € 617 million Euro, (2.9%) absorbed by the CSF II.

The total change in GDP in current prices in EMTH region for two-time frames of the 3rd CSF (2000-2006) and NSRF (2007-2014) is highlighted in Figure 5.

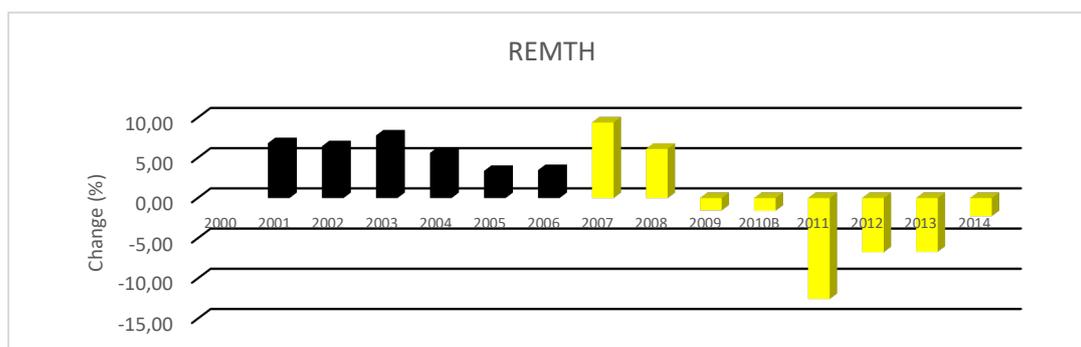


Figure 5: Change in GDP in current prices in EMTH region for two-time frames of the 3rd CSF (2000-2006) and NSRF (2007-2014)

Source: ELSTAT, 2021

The results highlight that despite the large absorptions rates of the NSRF and CSF III programs, the positive spillover effect on Regions GDP was not analogous for the same period. On the other side, region's GDP during the period of the CSF II (which is the program with the lowest absorption rate) increased significantly by 4.2%.

The structural problems of REMTH seem to be on stage despite the previous years implemented economic and social policies. The social inequalities persist, while poverty and unemployment increase, especially after the outburst of financial crisis in 2008. The effects of the economic crisis are reflected in the loss of 34,205 jobs during the period 2008-2011 while in the secondary sector there is the largest decrease (46.8%) which is depicted in the unemployment rate which increased from 14.4% in 2010 to 26.4% in 2013, with greater intensity among young people (59.8% in 2013). At the same time, the participation of REMTH in employment (49.1% in 2013 for the ages 15-64), continues to lag behind the European average, as well as the National (64.1% and 49.3% respectively) while it is particularly low among young people (up to 24 years old).

The current NSRF Program (2014- 2020) has been extended due to coronavirus pandemic and so there is not yet completed. However, the latest information we have, shows that the NSRF 2014-2020 has a very high absorption, which means that it will have a significant impact on the GDP of the region. The Funding priorities of NSRF Program (2014- 2020) are to strengthen the links between R&D and enterprises, promote natural and cultural heritage and reinforce accessibility in the region , investments in education, professional as well as in health and social care infrastructures, improve employment and skills combatting discrimination, promoting social enterprises and access to health services.

4. Conclusions

Based on our framework analysis, we evaluated and tried to figure out if the Regional Development Funding Programs achieve their goals. The governments usually present the results of such programs in terms of Gross Domestic Product (GDP) or GDP per capita or by presenting the successful absorption rate, without introducing in more specific details about the social and economic impact of these tasks. European Union datasets have no clear data about the outcome of these support packages that inflow in the poor regions. Like the case study region.

The research in this specific geographical area can demonstrate the strengths and weaknesses but moreover the opportunities for more efficient funding programs management of these Structural Funds. The paper highlighted and reviewed the impact of European support funds in a poor rural region in Europe's South.

Absorption capacity represents the extent to which the country is capable of effectively and efficiently spending its Structural Funds allocation and is expressed in percentage of the total allocation. Evolution reveals that regional disparities are still very strong. Regions like EMTH Region with low GDP per capita face the operational management and absorption issues.

High absorption depends mostly on institutional factors, both at EU level (e.g. consistency and increased coordination in the fund allocation process) and at national level regional level. Absorption capacity is usually positively correlated to the ability of central and regional authorities to prepare consistent multi-annual plans, to cope with the substantial amount of administrative work, and, finally, to finance and supervise implementation, avoiding corruption.

Bearing in mind that the absorption capacity is believed to be influenced mainly by the administrative- and co-financing capabilities, the relationship between the absorption capacity and the economic situation of the case study EMTH region is a paradoxical one. On the other hand, raising absorption is a valuable policy objective, but the key question remains whether EU funds are used for the right projects and whether they are successful in meeting the objectives for which they have been designed and funded.

Further research is to extend this research by adding more data sets in terms of time periods, funding economic sectors and eligible funding geographical areas, focusing on Regional Units in order to evaluate if programs have greater absorption in certain Regional Units, while evaluating the Gross Domestic Product and Gross Value-Added indices correlation, with the programs in the Region and in Regional Units budgets and funding.

References

- Baereholdt, J. (2009). Regional Development and Noneconomic Factor. In: s.l.:s.n., 181-186.
- Commission, E. (2014). Regional policy, Making Europe's regions and cities more competitive, fostering growth and creating jobs. accessed May 2021. <https://op.europa.eu/en/publication-detail/-/publication/e8b473ab-ebc2-4408-8419-d6f77de3aeeb>
- Dimitriou, D, & Sartzetaki, M. et al. (2020a) 'Mobility as a service: concept, objectives, actors, models and development,' in United Nations UNECE, *Mobility as a Service, Transport Trends and Economics 2018–2019*, ISBN: 978-92-1-117238-6, 9-13. https://unece.org/fileadmin/DAM/trans/main/wp5/publications/Mobility_as_a_Service_Transport_Trends_and_Economics_2018-2019.pdf

- Dimitriou, D. & Sartzetaki, M. (2020b). Assessment framework to develop and manage regional intermodal transport network,' *Research in Transportation Business & Management*, vol.35, June 2020, 100455. <https://doi.org/10.1016/j.rtbm.2020.100455>
- Dimitriou, D. & Sartzetaki, M (2020c). Social dimension of aviation on sustainable development, in Sustainable aviation -Greening the Flight-Path, Palgrave Macmillan, 173-191
- Dimitriou D. (2020). Evaluation of Corporate Social Responsibility Performance in Air Transport Enterprise, *Journal of Public Administration and Governance*, 10(2), 262-278. doi:10.5296/jpag.v10i2.16645
- Dimitriou D. (2016). Climate Change Implications in Transport and Tourism Market Equilibrium, *Climate Change Management*, part of the Climate Change Management book series (CCM), Springer, 409-424
- Dimitriou D. (2018). Evaluation of tourist airports productivity towards tourism development, *International Journal of Cogent Business and Management*, Vol. 5 (1464378), 1-15. <https://doi.org/10.1080/23311975.2018.1464378>
- Dimitriou D. (2021). The evolution in transport operators corporate structure : ownership and governance, Outsourcing and Offshoring, InTech, (ISBN 978-1-83968-471-5). <http://dx.doi.org/10.5772/intechopen.96334>
- EC - European Communities (1992). Treaty on European Union, Treaty of Maastricht. Luxembourg: Official Journal of the European Union C 191 of 29.7.1992. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM:xy0026>
- EC - European Communities (1997). Treaty of Amsterdam Amending the Treaty on European Union, the Treaties Establishing the European Communities and Certain Related Acts. Luxembourg: Office for Official Publications of the European Communities (ISBN 92828-1652-4). <https://www.europarl.europa.eu/topics/treaty/pdf/amst-en.pdf>
- ELSTAT (2021). <https://www.statistics.gr/en/statistics>, accessed October 2021
- Halkier, H. (2006). Institutions, Discourse and Regional Development: The Scottish Development Agency and the Politics of Regional Policy (Régionalisme & Fédéralisme / Regionalism & Federalism). 1st Edition ed. Brussels: P.I.E-Peter Lang S.A., Éditions Scientifiques Internationales; Illustrated edition
- Maillat, D. (1998). Innovative milieux and new generations of regional policies. *Econpapers: Entrepreneurship & Regional Development*. 10(1), 1-16. <https://doi.org/10.1080/089856298000000001>
- Managing Authority of Eastern Macedonia – Thrace (2001). Regional Operational Program 2000-2006. <https://www.espa.gr/en/Pages/staticOPEastMacedoniaThrace.aspx>
- Operational Programme “Macedonia - Thrace” programming period 2007 - 2013, (2007, September). Athens, Greece. https://ec.europa.eu/commission/presscorner/detail/en/MEMO_07_504
- OECD (2013). How's Life? 2013. Measuring well-being, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264201392-en>
- P.Nijkamp, M. (2009). Regional Development Theory. In: s.l.:s.n.
- Region of East Macedonia – Thrace (2003) Final Report: Closing the Operational Program 1994-1999, Komotini, Greece. https://ec.europa.eu/commission/presscorner/detail/en/MEMO_07_504
- Region of East Macedonia - Thrace, (2012) Operational Program of Eastern Macedonia - Thrace 2012-2014, Part 1: Strategic Planning https://www.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1637233700.pdf
- Regional Framework for Spatial Planning and Sustainable Development of the Region of Eastern Macedonia – Thrace (2003). https://ec.europa.eu/commission/presscorner/detail/en/MEMO_07_504
- Special Service of the Integrated Information System CR MIS (2012). Reports for the projects that are going to be implemented in REMTh and financed by the CSF and NSRF. <http://www.ops.gr/Ergorama>
- Thierstein A., U. K. E. (1998). Integrated Regional Policy: Lessons from Switzerland. *Environment and Planning C: Government and Policy*, 16(2), 01 04, 155-172. <https://doi.org/10.1068%2Fc160155>
- UN - United Nations (1992). General Assembly, Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992. New York, NY, USA: United Nations Publications, A/CONF.151/26 (Vol. I). <https://digitallibrary.un.org/record/168679>
- UN - United Nations (1993). Agenda 21: Earth Summit - The United Nations Programme of Action from Rio. New York, NY, USA: United Nations Publications, ISBN 13: 9789211005097, 294 pp. <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>
- UN - United Nations (2002). Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002. New York, NY, USA: United Nations Publications, A/CONF.199/20, ISBN 92-1-104521-5. <https://digitallibrary.un.org/record/478154>
- UNECE (2015). Transforming our world, the 2030 sustainable development agenda, A/RES/70/1, <http://www.un.org/sustainabledevelopment/sustainable-development-goals>
- UNDP (2014). Human Development Report 2014 – Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience, United Nations Development Programme, New York, <http://hdr.undp.org/sites/default/files/hdr14-report-en-1>

Wayne H. Oberle, K. R. S. & J. P. D. (2014). A Definition of Development. Journal of the Community Development Society, 5:1, 16 09, 1-71. <https://doi.org/10.1080/00103829.1974.10877525>