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ANATOMY OF THE GREEK DEBT CRISIS – A RESEARCH INTO THE EXPANSION OF GREEK GOVERNMENT DEBT DESPITE THE ADJUSTMENT OF STRICT AUSTERITY

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ABSTRACT

From 2000 to 2009, the Greek economy experienced a period of significant economic growth. This rate of growth in 2009 was violently reversed and from this point began the downward course of the Greek economy. Beginning in May 2010, when the first Memorandum was signed, a major effort was launched by the Greek government to consolidate its budget and implement structural reforms. From 2012 to 2015, Greece achieved a remarkable fiscal adjustment, noting a significant and even continuing decline in Gross Domestic Product (GDP), which unfortunately led to a deep recession and rising unemployment. The recession that the country experienced during the years of the Memorandums has been characterized as the largest post-war recession. Concerning GDP components, both the private and public sectors shrank and the largest decline was in gross fixed capital formation. We see, therefore, that the Mnemonic recession tends to assume lagging characteristics. The present study presents a brief overview of the Greek debt crisis from 2009 onwards and the measures taken and an the analysis of data by explaining (a) why after 2008 the influx of Greek government debt was a problem (b) why, while an austerity program was implemented in the country, the debt increased and (c) why, while 2012 was a "haircut" of Greek debt, it remained high. The research methodology involves literature review and official national, European and world level government sources such as Hellenic Statistical Service, Public Debt Management Agency, Eurostat, European Stability Mechanism and International Monetary Fund. The main investigation period is 2008 - 2018, but data from the 70s to the first half of 2019 are generally considered and reported as well. The research contributes to the thorny theme of Greek Debt Crisis. The future researcher could extend and enlarge the research for the forthcoming years.

KEYWORDS

Greek Crisis, Public Debt, Strict Austerity, Debt Inflation, Debt Restructuring.

JEL CLASSIFICATION CODES

E00, O19

1. INTRODUCTION

Beginning in May 2010, when the first Memorandum was signed, the Greek government launched a major effort to consolidate the country's budget and implement structural reforms. From 2012 to 2015, Greece achieved a remarkable fiscal adjustment, marking a significant and even continuing decline in GDP, which unfortunately led to a deep recession and rising unemployment.

From 2000 to 2009, the Greek economy experienced a period of significant economic growth. This rate of growth in 2009 was violently reversed and from this point the downward course of the Greek economy began. The recession that the country is experiencing during the years of the memoranda has been characterized as the largest post-war recession. Concerning GDP components, both private and public sectors shrank and the largest decline was in gross fixed capital formation. We see, therefore, that the Mnemonic recession tends to assume lagging characteristics.

Greece was already facing a serious unemployment problem, as in 2009 and before the signing of the memorandum, the unemployment rate reached 9.5%. Following the signing of the memoranda and the implementation of fiscal austerity measures in 2012, the Greek unemployment rate reached 23.6%, the highest rate in the entire European Union (23.6%), with an even higher increase in 2013. The causes of the increase of the unemployment rate, amongst others, were: job losses, increase of unskilled staff, restriction on creating new jobs due to the recession, as well as the shrinking of the public sector. There was also an increase in the long-term unemployment rate (unemployed people for over 12 months), female unemployment and young unemployment rate (unemployed people under 25), which were also the highest in Europe.

Greece's appeal to the Support Mechanism forced it to apply excessive fiscal adjustment, which tragically worsened the real economy. The failure to achieve the targets set by the Troika in 2010 led to a new round of fiscal austerity with an emphasis on spending cuts. The measures taken reached the amount of 15.5 billion € (or 7% of GDP). In 2011 the adjustment continued with undiminished intensity, as the country's economic position was burdened by the failure to achieve the goals of last year's adjustment.

On the other hand, the progress that was made in reducing the general government's deficit - mainly the primary budget deficit - could be easily described as exceptional.

Unfortunately, despite the tough fiscal policy that was implemented in Greece after 2010, the evolution of public debt over the years has been disappointing. Public debt, even after austerity, rose sharply despite the two restructurings (the PSI and bond repurchase). The size of the debt continues to increase due to primary deficits and borrowing costs, but the main reason for this increase is the deep and prolonged recession (the ratio of "Public Debt / GDP" worsens as GDP decreases significantly - snowball effect).

Moreover, negative effects - apart from the fiscal adjustment - have also resulted for Greek citizens from the policy of internal devaluation through wage cuts. The implementation of significant wage reforms led to a reduction in the average nominal wage by 13% in 2012 and 9.5% during the period 2010-2011. Despite of the fiscal effort, debt sustainability remains an Achilles' heel of the adjustment program (Mourmouras, 2015).

Another aspect of the crisis is examined by Baltas in his article *"The Greek financial crisis and the prospects of the Greek economy"* (2013) regarding the effects of the crisis. Following the beginning of the global economic and financial crisis in 2008, the Greek government's severe fiscal imbalances and high debt loads continued with a deeper recession and despite slow improvement in competitiveness. As a result, the current situation threatened the country's creditworthiness as well as the stability and possible survival of the European Monetary Union. Indicatively, Grubel (2012) states that a Greek bankruptcy, its exit from the Euro and the accompanying spread of financial turmoil in Europe and the rest of the world would add very heavy costs on the world economy. We should not overlook the fact that even a conservative lending institution such as the IMF has criticized the European leadership for cutting its budget too sharply, which has had a negative impact on growth.

At the G8 meeting at Camp David in 2012, they endorsed the implementation of a policy that balances austerity and development. On the other hand, the advocates of austerity measures claim that cutting spending and balancing budgets builds confidence in public sector management, which in turn helps economic growth.

Given that some European economies, such as Spain and Greece, are still facing high unemployment, it is reasonable to assume that economic recovery should be their priority. Austerity measures in the midst of the recession, as mentioned above, are the wrong policy. It is well known from past lessons that if private demand is weak, public demand can be an effective substitute. If recovery is sought, revenue may increase and budget deficits will tend to decline. At present, it can be argued that what the United States and European economies need is more emphasis on the "economy of demand" and "economic growth". Overall, a balanced policy has many advantages.

The negative lessons from the adaptation of the public sector in Greece show that in order to improve the situation, positive messages must be sent: the adjustment of salaries should be progressive, the reforms should be decided after the implementation of the social dialogue, the social services. and measures to reduce poverty, the adjustment of the public sector should not call into question the role of the public sector in productive investment and to maintain the driving forces of economic development), a level of social protection should be established to protect the poor and more vulnerable and a long-term horizon should be adopted (Baltas, 2013).

Finally, the need for social protection is supported by the scientific article of Matsaganis (2012) *"Social policy in difficult times: The case of Greece"*. Similarly, the scholar reports that the current Greek crisis began in 2009 as a fiscal crisis, soon turned into a government bond debt crisis, then transformed into a complete recession, unprecedented in depth and duration. This article provides an

early overview of the impact of the crisis on the labor market and income distribution, and shows that the need for social protection is now much greater than ever. In addition, the responses of social policy in a context of both cuts in social spending and reforms in social programs are critically examined, arguing that the Greek welfare state is poorly equipped to meet the challenge. In this article, the researcher examines the perspectives of social policy in an era of permanent austerity (Matsaganis, 2012).

Believing that a necessary condition in order to avoid repeating mistakes, is to understand what has happened, we will attempt to give answers to the following questions regarding the evolution and dynamics of the Greek public debt: (a) why after 2008 the influx of Greek government debt was a problem (b) why, while an austerity program was implemented in the country, the debt increased and (c) why, while in 2012 there was a "haircut" of Greek debt, it remained high.

2. METHODOLOGY

The theoretical foundations of the case study of the Greek debt crisis are based on the relevant bibliography and an attempt is made to define the perceptual outline of the study clearly. Data collection sources include mainly secondary sources (previous studies), officially published data from public government, European and global services and observational data. These sources do not exclude each other. After all, according to Gray (2018), a good case study usually uses multiple sources of data.

A specific protocol was followed for the data collection used. In order to be able to answer the research questions, data were collected from official statistical data that are registered on the websites of the Hellenic Statistical Authority (ELSTAT, 2019), Eurostat (Eurostat, 2019), as well as and from data posted on the websites of the Public Debt Management Organization (PDMA, 2020), of the ESM (ESM, 2020), of the European Statistical System (ESS, 2019, 2020) and the International Monetary Fund (IMF, 2020) and. The nature of the issue under consideration has allowed the "exploitation" of the advantages, and only those that result from the use of this particular data collection tool, without any problems.

Data were collected and presented concerning the Greek public debt, the debt and the GDP of the General Governments of the EU member states, the GDP, the primary surplus / deficit rates, the lending rates, the "haircut" of 2012, the structure of the new public debt, the government spending and the government revenue. At this point, it should be noted that in the past (2002) the EU expressed reservations about the validity of the statistics provided from time to time by ELSTAT to Eurostat and was forced to introduce footnotes on the quality of Greek debt and deficit. However, for the period we are examining in this paper, no similar issue has arisen.

In the present study the analytical method was applied and, in particular, a form of constructing explanations (interpretation). It took four months of intensive data search, selection of the appropriate data, processing and categorization. The main investigation period is 2008 - 2018, but data from the 70s to the first half of 2019 are generally considered and reported as well.

Finally, we believe that the criteria and parameters that were selected and examined, as well as the range of time for which the data were collected, allow us to extract results and give successful answers to the research questions.

3. RESULTS & DISCUSSION

3.1 Reversal in the evolution of the Greek public debt

Until the 1970s, Greece's public debt reached 20% of our GDP (Fig.2). Since the 1980s, and due to the expansionary fiscal policy, its rapid rise has begun. In 1993, the GPD reached 101% of GDP, a percentage that was almost stabilized for the period 1993-2007. During the period 2007-2015, the GPD will exceed the percentage of 170% as a result of the global financial crisis of 2008 and the European debt crisis, which originated in Greece (Fig.1).
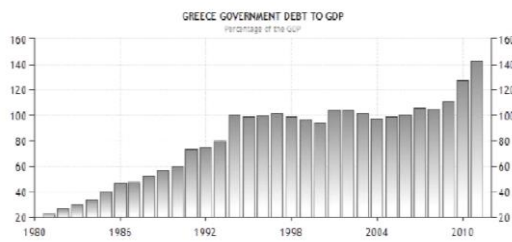
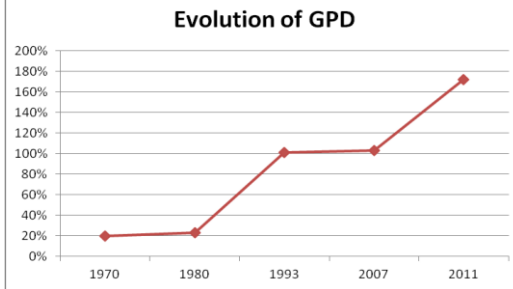Figure 1. 1980-2011 Evolution of Greek public debt
(Source Eurostat)

Figure 2. 1970 -2012 Evolution of Greek public debt
(Source ELSTAT)

3.2 2010-2018 Summary of the Greek Economy

GREEK ECONOMY										
1.	**Main Economic Indicators**	2010	2011	2012	2013	2014	2015	2016	2017	2018
	Nominal GDP (in mil.€)	226.031	207.028	191.204	180.654	178.656	177.258	176.488	180.218	184.714
	Percentage change of real GDP	-5,4%	-9,1%	-7,3%	-3,2%	0,7%	-0,3%	-0,2%	1,4%	1,9%
	Harmonized CPI(Annual average rate of change (%)	4,7%	3,1%	1,0%	-0,9%	-1,4%	-1,1%	0,0%	1,1%	0,8%
	Unemployment rate(% average seasonally adjusted)	12,7%	17,9%	24,5%	27,5%	26,6%	25,0%	23,6%	21,5%	19,3%
2.	**Public Finance & Debt**	2010	2011	2012	2013	2014	2015	2016	2017	2018
	General Government Debt (in mil.€)	330.372	356.003	305.096	320.509	319.629	311.729	315.009	317.484	334.721
	General Government Debt (% of GDP)	146,2%	172,0%	159,6%	177,4%	178,9%	175,9%	178,5%	176,2%	181,2%
	General Government Primary Deficit (-) / Surplus(+) (% of GDP)	-5,2%	-3,0%	-3,7%	-8,4%	0,3%	-2,1%	3,7%	3,8%	4,3%
	General Government Deficit (-)/ Surplus(+) (% of GDP)	-11,1%	-10,2%	-8,8%	-12,4%	-3,6%	-5,6%	0,5%	0,7%	1,0%
EUROZONE										
	-	2010	2011	2012	2013	2014	2015	2016	2017	2018
	Percentage change of real GDP	2,1%	1,5%	-0,9%	-0,3%	1,1%	2,1%	2,0%	2,4%	1,9%
	Harmonized CPI(Annual average rate of change(%)	1,6%	2,7%	2,5%	1,4%	0,4%	0,2%	0,2%	1,5%	1,7%
	Unemployment rate	10,2%	10,2%	11,4%	12,0%	11,6%	10,9%	10,0%	9,1%	8,2%

Figure 3. 2010 - 2018 Basic sizes of the Greek Economy and Eurozone
(Source: Eurostat)

3.3 1992-2014 Reduction of lending rates

Greece's entry into the Monetary Union has made it a safe-haven investment destination, so Greece could now borrow at German interest rates (Fig. 4), which has largely offset the cost of servicing its debt.
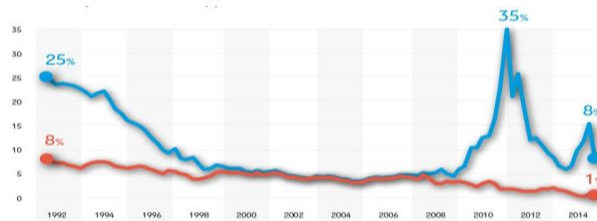
Figure 4. 1992-2014 Greece and Germany lending rates
(Source Eurostat)

3.4 Greek debt during the period 2001-2015

2001-2007: The debt / GDP ratio is almost stable since both debt and the country's growth are growing rapidly at the same time. That fact justifies the "stability" of debt / GDP ratio.
2008-2015: Since 2008 the growth stops and so the debt / GDP ratio "slips" a lot.
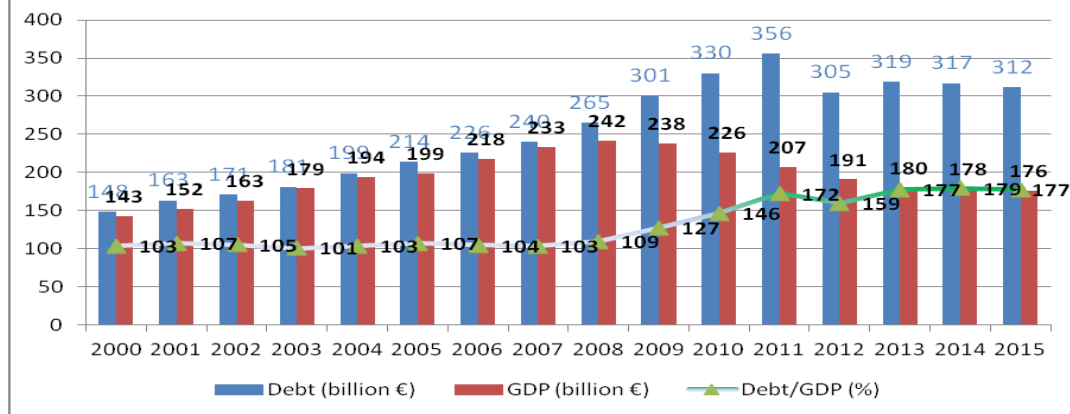
Figure 5. Greek debt during the period 2001-2015 (Debt / GDP)
(Source Eurostat)
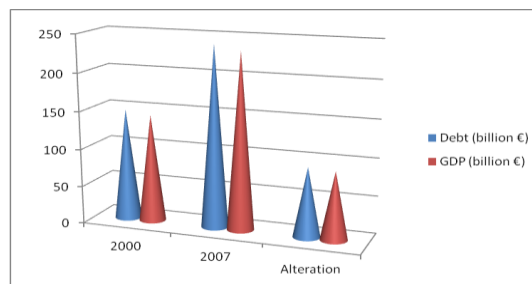
Figure 6. 2000-2007: Debt & GDP
(Source Eurostat)

3.5 Composition of New Debt 2001 – 2011

2001-2007: The annual increase in the new debt is about 13 billion €. The total new debt for this period reaches 92 billion. Of this debt, 66 billion (72%) relate to the already accumulated interest and 26 billion (28%) relate to deficit financing.

2008-2011: The annual increase in the new debt is about 29 billion €. The total new debt for this period reaches 117 billion €. Of this debt, 53 billion € (45%) relate to the already accumulated interest and 64 billion € (55%) relate to deficit financing.
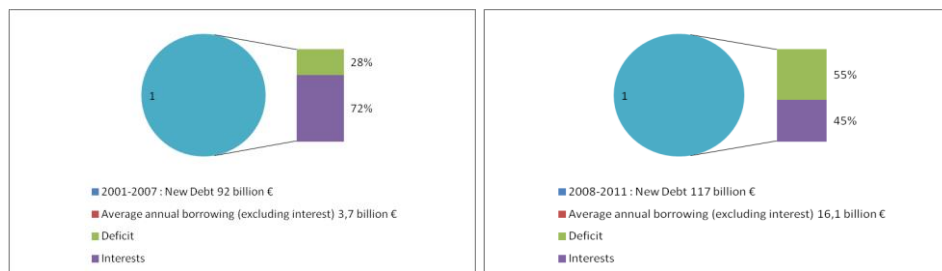
Figures 7 and 8. 2001-2011: New Debt Composition
(Source Eurostat)

3.6 2008 - 2011 Debt and deficits blast off

As the numerator (Debt) of the *Debt /GDP* ratio increases rapidly and its denominator (GDP) decreases, in 2011 the Debt / GDP ratio will reach 172%.
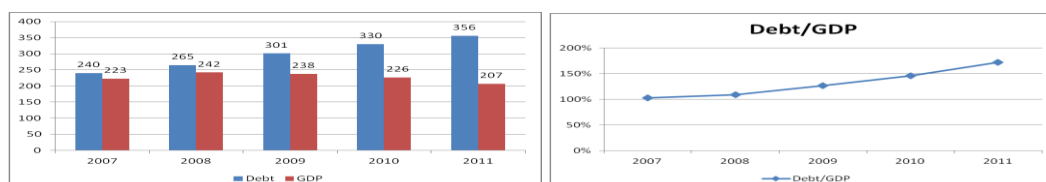
Figures 9 and 10. 2007-2011: Debt, GDP & '*Debt / GDP*' ratio

(Source Eurostat)
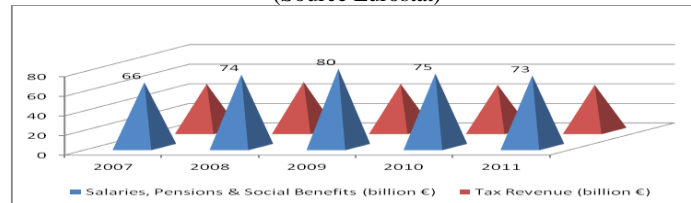
Figure 11. 2007-2011: Government spending & State revenue
(Source Eurostat)
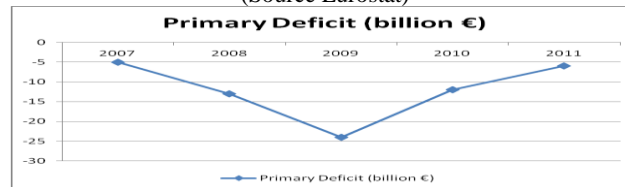
Figure 12. 2007-2011: Primary deficit route
(Source Eurostat)
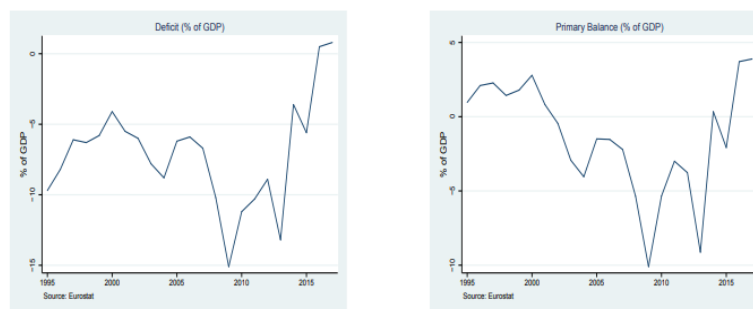
Figures 13 and 14 1995 – 2015: Deficiency & Primary Deficiency Route
(Source Eurostat)

During this period, government spending constantly rose while government revenues remained stable and the deficits rose dramatically. These events led to the restructuring or "haircut" of the Greek debt in 2012.

3.7 2012 PSI & PSI +: Restructuring of the Private Sector debt

With PSI & PSI Plus the benefits for the Greek Government are:
- Restructuring of Greece's debt to private lenders with a nominal value of 198 billion €.
- Reduction (haircut) of debt by 106 billion €.
- Compensation for the losses of General Government Bodies (Insurance Funds, Local Government Organization & Public Entities) amounting to 20.7 billion €.
- Total benefit for Greece from PSI and PSI plus: 106 billion €.
- Reduction of the interest rate from 5% to 2% in a debt of 92 billion €.
- Extension of loan expirations from 7 to 20 years.

Table 1. PSI & PSI Plus
(Source IMF)

Net debt reduction	68.2 billion €
Damage of Local Government	-7.3 billion €
Organization & Public Entities	-13.4 billion €
Damage of Insurance Funds	126.6 billion €

3.8 2012 OSI Debt Reduction of the Official Sector

With the restructuring of the OSI, the benefits that have arisen for the Greek Government are:
- Reduction of initial interest rates up to 3%.
- Extension of the initial expiration by 15 - 25 years.
- A grace period of 10 years, during which Greece does not pay any interest.
- Commitment of the Central Banks to return profits of 10 billion from the Greek bonds they held.

From all the above interventions and according to the annual report of the ESM 2014, the Greek debt decreased by € 88 billion, in terms of present value by 49% of the GDP of 2013 (ESM: 2014).

Transnational loans **52,9** billion €					EFSF loans **131** billion €	
09/05/10	*14/06/11*	**27/02/12**	*19/12/12*		*01/03/12*	**12/12/12**
3% - 4%	2%-3%	1.5 %	0.5 %	Interest rate margin	< 0.7 %	< 0.7 %
3 years	4,5 years	10 years	10 years	Grace period	0 years	10 years
5 years	10 years	15 years	30 years	Average expiration	17.5 years	32.5 years

Figure 15. OSI Restructuring
(Source ESM)

3.9 2012 - PSI & OSI: Reducing interest rates & lengthening loans

At the end of 2014, Greece finds itself enjoying the second lowest interest rate on loans in Europe and one of the lowest in the world. Thanks to PSI & OSI, the old loans were replaced with new cheaper ones and even longer ones. The average lending rate after the restructuring (2013-2014) decreased from 4.2% to 2.2%. The return of interest from the Central Banks from the bonds they held essentially zero the interest rate on these bonds. After this adjustment, the real average interest rate on Greek loans reaches 1.8%.
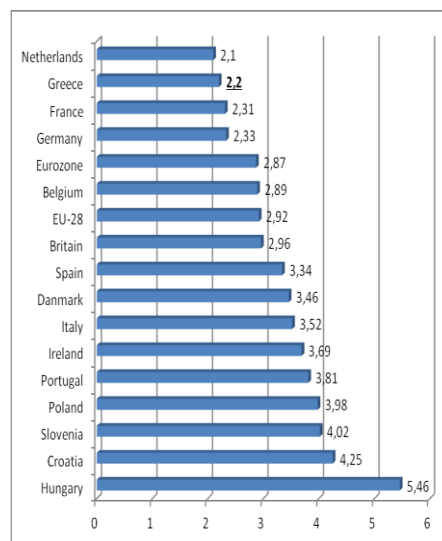
Figure 16. 2014 - Average lending rate in Europe
(Source Eurostat)
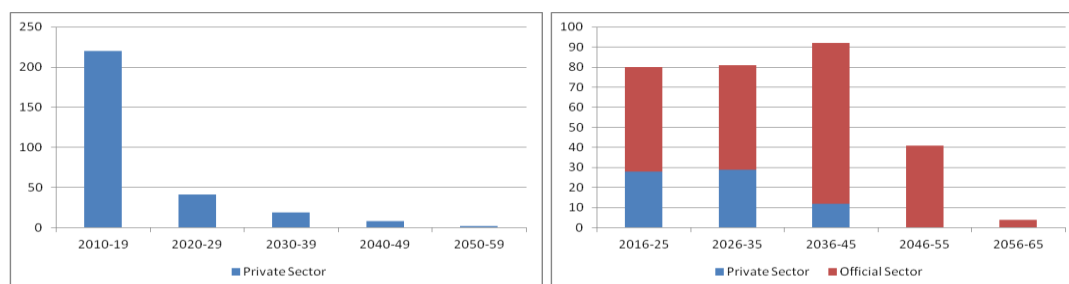
Figures 17 and 18. 2009 & 2015: Distribution of loan expirations by sector & per decade (billion €)
(Source Eurostat)

The above tables show that the extension of the maturities in combination with the reduction of interest rates makes the Greek debt much lower in terms of present value.

3.10 2000: Beginning of fiscal easing

From 1996 to 2000, Greece worked hard to achieve the fiscal targets that would allow it to join the Eurozone. From 2000 onwards, the fiscal easing began. Government spending is starting to grow at a faster rate than GDP growth, while government revenue is growing at a slower pace.
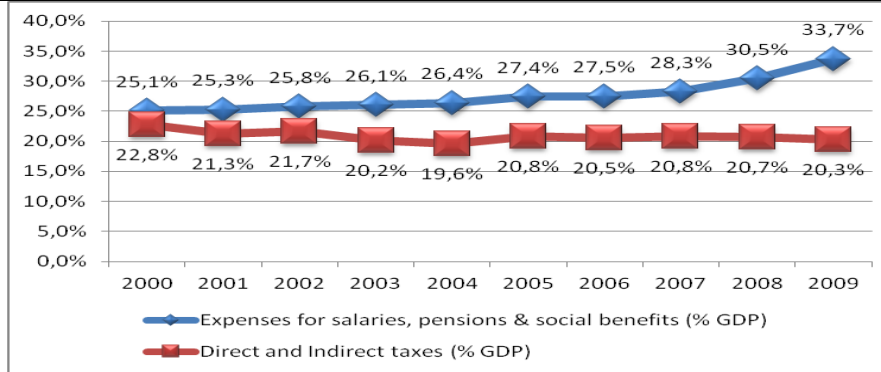
Figure 19. Expenditures & taxes as% of GDP
(Source Eurostat)

3.11 2001-2009 The bubble of growth

During the period 2001-2009, Greece lives in a "developmental" bubble. Government spending is up by 9.3% year-on-year, up 6% from inflation and 3.5% from nominal GDP growth. At the same time, government revenues were 1.4% lower than the nominal GDP growth.

Table 2. Average Annual Change (2001-2009)
(Source ESS)

Annual Change	GDP components
+ 9.3%	Salaries, Pensions & Social benefits
+ 4.4%	Direct & Indirect Taxes
+ 3.3%	Harmonized Inflation
+ 5.8%	GDP Current Prices
+ 3.2%	GDP Fixed

4. CONCLUSIONS

Until the 1970s, Greece's public debt (GPD) reached 20% of our GDP. Since the 1980s, and due to the expansionary fiscal policy, the rapid rise of GPD has begun. In 1993, the GPD reached 101% of GDP, a percentage that was almost stabilized for the period 1993-2007. The sharp rise in debt in 1993 was the result of a review and incorporation of "hidden debts" into public debt. During the period 2007-2015, the GPD exceeds by 170% as a result of the global financial crisis of 2008 and the European debt crisis, which originated in Greece. So we see that from 2001 (the year that euro was adopted) to 2007 the *debt / GDP* ratio is almost stable. Both debt and the country's growth are growing rapidly, at the same time, justifying the "stability" of *debt / GDP* ratio.

Greece's entry into the Monetary Union has made it a safe-haven investment destination, so Greece could now borrow at German interest rates, which has largely offset the cost of servicing its debt. The easy access to abundant liquidity at low cost for both households and businesses, as well as for the Greek government, has led to the growth of the Greek economy. The issuance of cheap mortgages also fueled the explosive growth of the construction industry, which led to inflation of real estate prices and the consequent known consequences. Since 2008, however, growth has stalled and so the debt / GDP ratio has largely fallen. This situation has led to an increase in debt and has made it a problem that needs to be confronted with.

Unfortunately, during the four-year period 2008-2011, there was an acceleration in the rate at which public debt is increased. In the previous seven years (2001-2007) the public debt increased by about 13 billion € per year, while in the four years 2008-2011 the debt rise reaches 29 billion € per year. Also, in years 2008-2011, the 55% of the new debt arose from the need to finance the general government deficits. Government spending is growing at an alarming rate annually, even in the two years 2008-2009, when government revenues remained stable. Deficits are rising, so the need for additional lending is becoming urgent, while at the same time there is no growth in the economy. GDP is declining. Officially, Greece is on a recession period. The recessionary course of the Greek economy, the reduction of GDP, the reduction of state revenues, the simultaneous increase of state spending (which causes the need for new borrowing) is the reason that despite the implementation of the strict austerity policy the Greek public debt moves with upward rates.

These events lead to the restructuring or "haircut" of the Greek debt in 2012. With PSI & PSI + the benefits that have arisen for the Greek Government are the restructuring of Greece's debt to private lenders with a nominal value of 198 billion €, the reduction (haircut) of debt by 106 billion €, compensation for the losses of General Government Bodies (Insurance Funds, Local Government Organizations & Public Entities) amounting to 20.7 billion €, total benefit for Greece from PSI and PSI plus: 106 billion €, reduction of the interest rate from 5% to 2% in a debt of 92 billion and extension of the initial expiration from 7 to 20 years. With the restructuring of the OSI, the benefits for the Greek Government are: the reduction of initial interest rates up to 3%, the extension of the initial expiration by 15 - 25 years, a grace period of 10 years, during which Greece does not pay any interest and, finally, the commitment of the Central Banks to return profits of 10 billion € from the Greek bonds they held.

From all the above interventions and according to the annual report of the ESM 2014, the Greek debt decreased by € 88 billion, in terms of present value by 49% of the GDP of 2013 (ESM: 2014).

The findings of our research confirm the positions expressed by Mourmouras (2015) regarding the Greek fiscal crisis and at the same time the need to pursue a social policy becomes more urgent. The effects of the crisis, as Baltas (2013) has mentioned in his article as well, plus the high debt burden of the Greek government led to a deeper recession even though there was slow improvement in competitiveness. Ideally, the Greek government should implement a policy that will balance austerity and development. Also, at the same time, the Greek General Government should manage government spending more correctly. Economic recovery may be a priority for the General Government, but this does not mean that social policy should not be implemented in an era of permanent austerity, as Matsanganis (2012) points out in his research.

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ANALYSING THE PRESENCE OF "TRIPLE DEFICIT" IN TURKEY'S ECONOMY

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ABSTRACT

Detailed determination and effective control of the factors causing the current account deficit is of great importance for the economies of developing countries. In the framework of the concept called "twin deficit", the imbalances in the current account arise from either a budget deficit or an investment-saving gap. Besides, budget deficits and investment-saving gap together can cause to current account imbalances. This situation is called "triple deficit" and in this case, current account imbalances can cause serious problems for the economies. Therefore, researches aiming to determine the causes of the current account deficit in developing countries have become very popular in the literature. Because the analysis of the domestic demand dynamics constituting the current account deficit is of great importance in terms of effectively identifying the policies aimed at eliminating the risks arising from these deficits. From this point of view, the aim of our study is, by using quarterly data between 2003 and 2018, to analyze the presence of "triple deficit" in Turkey. Accordingly, the effects of both the public budget deficit and the private sector investment-saving gap on the current account imbalance have been examined within the framework of the ARDL Model. Empirical results show the presence of the triple deficit for Turkey's economy. Moreover, the negative effect of the private investment-savings gap on the current account deficit is much greater compared to the public budget deficit. From the point of policy implication, these results indicate that applications aiming to compensate for the savings inability are more effective to close the current account deficit in Turkey. In other words, a policy strategy aiming at eliminating the lack of savings should be adopted in order to solve the current deficit problem.

KEYWORDS

Triple Deficit, Turkey, ARDL Model.

JEL CLASSIFICATION CODES

F14, F41, C32.

1. INTRODUCTION

The balance of payments is an important economic document that records the commercial and financial relations that a country makes with other countries. With the rapid globalization experienced today, international trade and especially financial relations have reached great dimensions. In parallel, keeping track of the commercial and financial relations of countries with other countries has gained great importance. Thus, examining the changes in the balance of payments for all countries has gained huge significance for measuring macroeconomic performance. As a result, the information kept in the sub-items of the balance of payments has become the most important data used by economists in economic analysis.

One of the most important sub-accounts in the foreign trade balance sheet is the current account. The developments in the current account have very important information about the economic structure and functioning of a country. For example, if the production structure of a country does not work with high technology that provides a competitive advantage, it becomes disadvantageous in foreign trade, thus deficit occurs in the current account. On the other hand, if domestic demand is higher than the aggregate supply in a country, there will be a deficit in the foreign trade account since it has to import than export. Thus, the imbalances in the domestic demand components are deteriorating the current account balance, which leads to important macroeconomic problems causing crises in the economy.

When a deficit occurs in the current account of an economy, this deficit is mainly financed by the excess obtained from the capital account. In other words, the current account deficit is mostly financed with foreign capital inflows to the country. However, in the process of financing the current account deficit by foreign capital inflows, significant risks arise. For example, the foreign capital inflows used

in financing the current account deficit may lead to the appreciation of the domestic currency, thus causing the current account deficit to grow further. On the other hand, the financial capital inflows towards the country increase the foreign debt stock of the country. In this way, the deficits that arise in the current account and the financing process of these deficits trigger many different risks and result in economic crises. Therefore, it is very important to analyze the current account deficit dynamics effectively and determine their dynamics. Because only in this way, the risks arising from the current account deficit can be controlled and prevented from causing crises.

The aim of this study is to determine the sources of imbalances occurring in the current account in Turkey's economy. Thus, it is aimed to contribute to the process of designing economic policies to control the deficits in the current account. Accordingly, in the first part of the study, the theoretical framework regarding the sources of deficits occurred in the current account is determined. In the second part, it has been revised empirical literature on the triple deficit. In the third part, information is given about the data used in the study, the econometric method and the results achieved. In the last section, some policy implications have been made by interpreting the empirical findings.

2. THEORETICAL FRAMEWORK

In order to analyze the deficits in the current account, first of all, the items under this account should be defined. The current account consists of four sub-accounts: foreign trade, services, income balance and current transfer account. In foreign trade sub-item, goods are exported and recorded. In the services sub-item, the export and import of services, called invisible trade, are recorded. The income account shows the difference between the income of foreign assets invested abroad and the income that foreign countries receive through their own assets in that country. The current transfer sub-item consists of the difference between private and official transfer revenues and expenses. In addition, workers' income from abroad is also included in this account (Central Bank, 2009: 22-26). As can be seen, the main sub-items of the current account is the trade of goods and services. Therefore, this account contains important information that shows a country's foreign trade relations with other countries. Accordingly, analysis can be made on the foreign economic relations of a country by following the developments in the current account.

Developments in the current account mainly show not only the foreign trade relations of a country with other countries but also indicate the domestic demand dynamics in the economy. Because changes in the current account balance are mainly depending on the developments in the domestic demand factors in the economy. With the help of national income identity, which shows the definition of national income through the expenditure approach, the interaction between the developments in the current account and the changes in total demand can be clearly revealed (IMF, 2009: 222-223). Accordingly, as indicated Equality -1, national income (Y) equals the sum of the consumption (C) that expresses household expenditures, investment (I) as firm expenditure, public expenditure (G) and net export which represents the difference between export (X) and imports (M).

$$Y = C + I + G + (X - M) \qquad (1)$$

If we put household consumption (C), investment (I) of firms and public expenditure (G) to the left side of equality, and expressed all of them as aggregate demand (AD), equations in Equations 2 and 3 below can be achieved.

$$Y - (C + I + G) = (X - M) \qquad (2)$$

$$Y - (AD) = (X - M) \qquad (3)$$

The deficit that occurs in a current account in a country, as determined in Equation -3, that is, the fact that import (M) is more than exports (X) occurs when the expansion in the domestic total demand (AD) exceeds the national income level. In fact, if the domestic total demand increases and is higher than the national income produced in the country, a deficit occurs in the foreign trade account.

The imbalances caused by the increase in domestic total demand items in the current account due to foreign trade are clearly defined above. On the other hand, it is important to determine whether the increase in the current account is caused by the private or public sector. In order to demonstrate this situation, macroeconomic sizes should be expressed as injections and leaks (Higgins and Klitgaard, 1998: 3). Here, the factors that increase domestic total demand with the term injection, and the elements that decrease the domestic total demand with the term leak are specified. On the left side of Equation -4, three leak factors such as savings (S), tax (T), and imports (M) have been shown while injection elements such as investment (I), public expenditures (G) and exports (X) have been indicated on the right side of Equation-4.

$$S + T + M = I + G + X \qquad (4)$$

If investment (I) and public spending (G) are to the left of equality and imports (M) to the right of equality, then Equality-5 is achieved.

$$(S - I) + (T - G) = (X - M) \qquad (5)$$

Thus, Equality-5 clearly indicates that sources of the expansion in the domestic total demand that lead to the deficit in the current account, namely that the import (M) is more than the export (X). Accordingly, the expansion in domestic aggregate demand results from either the private sector imbalance (S - I) or the public sector imbalance (T - G).

The increase in total demand in the private sector means a decrease in savings (S) due to the increase in household consumption expenditures (C). On the other hand, the increase in investment expenditures (I) of firms increases the demand in the private sector. In this case, the increase in demand in the private sector caused by the decrease of savings (S) and the increase of investments (I) leads to the increase in the savings-investment difference (S - I) and also causes a deficit in the current account (M-X). On the other hand, the increase in total demand in the public sector may lead to a deficit in the current account (M-X) by increasing the difference between taxes (T) and public expenditures (G) as a result of the increase in public expenditures (G). Thus, there is a close relationship between the expansion in total demand from the private or public sector and the current account.

The term "twin deficit" is used to describe the situations in which the deficits in the current account are caused only by the budget deficit or private sector investment-savings deficit. On the other hand, when budget deficits and investment-saving deficits lead to current account deficit, this situation is defined by the concept of "triple deficit". In the theoretical analysis of the previous periods, twin deficits were emphasized due to the current imbalances caused by the budget deficit. Thus, in this process, the importance of fiscal discipline was emphasized in order to eliminate the open and related risks caused by the imbalance in the public budget in current transactions. However, especially with the increase in international capital movements in the last decades, the decline in savings as a result of the rising liquidity in financial markets caused the private sector investment-savings balance to deteriorate. As a result, the phenomenon of "triple deficit" started to be at the centre of theoretical analysis.

3. LITERATURE REVIEW

Twin deficit hypothesis introducing of the linkage between budget deficit and current account deficit is broadly investigated in the literature. On the other hand, Triple deficit hypothesis showing the situation in which budget deficit, current account deficit and saving investment gap are seen together has become important to explain the balance of payment imbalances of developing countries in recent years. However, studies focusing on triple deficits which advance twin deficit hypothesis by associating savings and fixed investments is quite limited. It seems that most of the studies confirmed the validity of triple deficit hypothesis. Chowdhury and Saleh (2007) have examined the relationship among the budget deficit, saving-investment gap, and current account deficit for the short and long term in Sri Lanka. They have used the ARDL method and a data set covering over the 1970–2005 period. According to empirical results, there is a meaningful linkage among the budget deficit, saving-investment gap, and current account deficit. Ali and Kakar (2017) seek to empirically examine the co-movement of a third deficit known as the current and financial account balance with the twin deficit hypothesis. The study uses annual data of Pakistan covering the period 1980 to 2014. The ARDL bound testing approach finds that the three deficits namely budget deficit, current account deficit and capital and financial account deficit are linearly correlated in the long-run. Further the study found that causality runs directly from current account to budget balance and financial balance, which is a strong evidence of triple deficit hypothesis.

Özdemir et al (2014) examined the validity of the triple deficit hypothesis for the 17 transition economies between 2003 - 2011 by means of convenient and uninterrupted data set was analyzed via panel regression models. The findings showed that the triple deficit hypothesis for the 17 transition economies is not valid in the period among 2003-2011. However, some evidence was found that the private sector saving-investment gap was found to be the primary riser of the current account deficit rather than triple deficit. Çoban and Balıkçıoğlu (2016) analyzed the existence of triple deficit relationship for 24 transition countries in the period 2002-2013 by means of static and dynamic panel data analysis. They find that there is only an interaction between current account deficit and savings-investment deficit. This result implies that transition economies face with the budget deficit problems or vice versa in case of reducing the current account deficit. Bayramoğlu et. al (2017) aim to explore whether the twin and triple deficit hypotheses are valid in developing economies. Accordingly, the twin and triple deficit hypotheses are examined by testing Dumitrescu and Hurlin panel causality approach

for 15 developing country economies for the period between 2000 and 2015. The results of panel causality test show that there is a unidirectional causality from budget deficit to current account deficit. It is concluded that hypothesis of twin deficits is valid for the country group analyzed. In the field of the triple deficit hypothesis, a strong interrelationship between domestic savings and the current account is reached, while a causal relationship between fixed capital investments and the current account balance cannot be determined. Consequently, most of the studies in the literature concluded that the theory of triple deficit is partially valid for the group of developing countries.

In the survey of literature on Turkey, it also seems that studies determining the fact of "twin deficits", in the context of the relationship between budget deficit and current account deficit, have a big share. However, in recent times, it has been observed that "triple deficit" phenomenon was intensively determined. Akıncı ve Yılmaz (2012), by using the ARDL method and focusing on data between 1975 and 2010, has tested the triple deficit hypothesis in Turkey. Econometric results revealed that the private sector saving-investment deficit and public budget deficit created an imbalance in the current account for both the short and long term. Similarly, Akbaş et al. (2014) have analyzed whether "triple deficit" is valid or not by using the Hatemi-J asymmetric causality test based on the data between 1960 and 2012. The empirical findings show that both private sector investment-savings deficit and public budget deficit lead to an imbalance in the current account. Thus, it was emphasized that policymakers should apply fiscal and monetary policies effectively in order to balance the public budget and investment savings.

More recently, Karanfil and Kılıç (2015) analyzed whether the savings deficit, budget deficit and current account deficit occurred simultaneously, based on data from 1980-2013. For this, Johansen Cointegration Analysis and Granger Causality Test were used. Econometric analysis results revealed that the triplet deficit phenomenon is valid in Turkey. In order to solve this problem, it was emphasized that the total savings shortage in the country should be eliminated. On the other hand, Güder and Kılıç (2016), examines the data between 2012 and 1980, investigated the triple deficit hypothesis for Turkey. Impulse-Response Function based on the VAR model and Variance Decomposition methods demonstrated that the triple deficit problem experienced in Turkey. Thus, besides the budget deficit, the private savings-investment deficit also results in imbalances in the current account deficit. It is proposed to close the budget deficit without using private sector resources to solve the problem. In addition, it was stated that measures should be taken to increase private savings by pointing out the low level. In addition, due to the close relationship between the economic growth based on imported production input and the current account deficit, it was pointed out that domestic production should be encouraged as another solution. It is stated that economic growth is based on imported input, and it is not possible to maintain the current balance in a stable manner.

In recent times, another study carrying out by İpek and Kızılgöl (2016) revealed that the current account deficit seen together at the same time saving-investment deficit and budget deficit in Turkey. In this study, a triple deficit case was investigated by using the ARDL model and Toda-Yamamoto causality tests over the time series for the period 2004-2014. As a result of ARDL analysis, budget deficits and savings-investment deficits have been shown to affect the current account deficit in the long term. In the short term, only the current account deficit-increasing effect of the budget deficit was determined. Thus, in general, the existence of the triple deficit hypothesis in Turkey has proven. Therefore, it has been proposed to implement various policy implementations to close both the budget deficit and the savings-investment deficit. Finally, Altunöz (2018) investigated the fact of triple deficit for Turkey's economy in the context of current account deficit, budget deficit and the savings-investment deficit. The bound test results carried out within the framework of the ARDL model showed that there was a cointegration relationship between the variables between 2001 and 2017. In addition, short- and long-term forecasts proved to be a significant relationship between the current account deficit and the savings-investment deficit and the budget deficit. In addition, Toda and Yamamoto causality tests revealed that there is a two-way relationship between variables. In this case, it proved that cases of triple deficit in Turkey evolved over the process feeding each other. Therefore, it was emphasized that it is imperative to increase the savings by reducing the consumption expenditures in order to overcome the savings-investment deficit.

Besides the above-mentioned research, though limited in number, the findings obtained in a number of studies did not confirm the presence of triplets open cases in Turkey. Sürekçi (2011) analyzed the relationship among the public budget balance, investment-savings balance and the current account deficit using quarterly data for the period 1987-2007 in Turkey. Results of the Impulse-Response Function based on the Vector Autoregressive Model (VAR) model showed that the case of the triple deficit is not valid in Turkey. However, a causal relationship has been found from public deficits to the current deficit. Altun and İnce (2014) have analyzed the interactions among the saving-investment balance, government budget balance and the foreign trade deficit by employing the ARDL method on

the data between 1975 and 2010. As a result of the analysis, no long-term relationship was found between the mentioned variables. In addition, in the results of the Toda Yamamoto causality test, causality relationship was determined from the foreign trade deficit to the savings deficit, from the foreign trade deficit to the budget deficit and from the savings-investment deficit to the budget deficit. Samırkaş and Samırkaş (2015) analyzed the interaction among the balances of budget, investment-savings and current account using the Impulse-Response Functions and Variance Decomposition techniques developed within the framework of the Vector Autoregressive Model (VAR). Empirical findings did not confirm the presence of the case of triple deficit in Turkey. Instead, while the current account deficit was an important determinant of the budget deficit and savings-investment deficit, a causality relationship from the savings deficit to the budget deficit was also identified.

4.   DATA, METHODOLOGY AND EMPRICAL RESULTS

In this section, the effects of the budget deficit and investment savings deficit on the current deficit are analyzed empirically. In our study, budget deficit (BD), investment savings gap (IS) and the current account deficit (CAD) data was obtained from the Electronic Data Dissemination System (EDDS) of the Central Bank of the Republic of Turkey. Econometric analysis covers the 3-month data from 2003 and 2018, which represents the period of implementation of inflation targeting monetary policy in Turkey.

Within the framework of econometric analysis, firstly unit root tests are employed to the series. Stability analysis of variables is performed using ADF (Augmented Dickey-Fuller) and PP (Phillips-Perron) unit root tests developed by Dickey and Fuller (1981) and Phillips and Perron (1988). Then, the relationships between variables were investigated within the framework of the Autoregressive Distributed Lag (ARDL) method developed by Peseran and Shin (1995) and Peseran, Shin and Smith (2001). Accordingly, in the first stage, Bound Test was applied to determine the cointegration relationship between the variables. In the second and third stages, based on the ARDL model established, the coefficients of long- and short-term relationships, respectively, were estimated.

4.1 Unit Root Test

The results of the ADF (Augmented Dickey-Fuller) and PP (Phillips-Perron) unit root tests are presented in Table 1. Accordingly, investment savings gap (IS) data is stationary in terms of both unit root tests. Budget deficit (BD) and current account deficit (CAD) data have become stable only when their first differences are taken. Therefore, IS data I (0) and BD and CAD data are stationary in I (1) degrees. Thus, since the variables are stationary at different degrees, the ARDL Boundary Test should be used in the implementation of the cointegration relationship between them.

Table 2. Results of Unit Root Test

Variables	ADF		PP	
	Level	1. difference	Level	1. difference
CAD (intercept)	-1.98	-11.53*	-2.47	-12.15*
CAD (intercept+ trend)	-1.51	-12.98*	-1.69	-11.98 *
IS (intercept)	-2.68***	-8.60*	-2.20 ***	-7.90*
IS (intercept+ trend)	-2.47***	-8.96*	-2.66***	-7.87 *
BD (intercept)	-2.09	-6.19**	-1.29	-8.77**
BD (intercept+ trend)	-1.59	-10.19*	-1.61	-11.45*

Note. * ,**, *** show the critical values at the significance levels %1, %5 and %10, respectively. Optimal lag
(2) for AIC.

4.2 Bound Test

In this section, the most suitable model by using Schwarz Information Criterion (SIC) was determined and Bound Test was estimated. As can be seen from the results of bound test presented in Table 2, the calculated F statistic value is higher than the lower and upper limit values at 1%, 5% and 10% significance levels. This result allows us to reject the null hypothesis, which suggests that there is no long-term relationship between the variables included in the analysis. Thus, the existence of a cointegration relationship between the budget deficit, investment savings deficit and current account

deficit is revealed. Accordingly, the stages of estimating the relationships between the variables with the ARDL model for long and short terms can be realized.

Table 2. Results of Bound Test

k	F-Stat.	1 % critical value		5 % critical value		10 % critical value	
		I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
2	8.91	6.84	7.84	4.94	5.73	4.04	4.78

Note: k, the number of independent variables. The critical values bounds are taken from Table CI (iii) in Pesaran et al 2001.

4.3 Long Run Analysis

The coefficient values of the ARDL (1,3,2) model used in the estimations about the long-term relationship between the variables are presented in Table 3. The results show that the estimated coefficients for the ARDL (1,3,2) model are mostly statistically significant. When the long-term coefficient values are examined in the model where the current deficit variable (CAD) is dependent variable, it is determined that the variables of investment savings deficit (IS) and budget deficit (BD) are statistically significant at the levels of 1% and 5%, respectively. In addition, both variables positively affect the current account deficit. In other words, savings and investment deficit may lead to imbalances in both the current account deficit in Turkey together. In addition, when looking at the size of the variables, it is seen that the investment saving deficit (0.96) has a much more significant effect on the current deficit than the budget deficit (0.32). Diagnostic test results for econometric forecasts made to determine long-term relationships between variables are also given in the last section of Table 3. The high R and R2 values here determine that the fit of the model is good. In addition, Jarque-Bera Test, Breusch-Godfrey Test and Breusch-Pagan-Godfrey Test conducted within the framework of diagnostic tests show that normal distribution, autocorrelation and variance problems are not experienced in the predicted model, respectively.

Table 3. Estimation Results of ARDL (1,3,2)

Variables	Coefficient	t-statistics	Probability
C	-0.6932	-2.5110	0.0110
CAD (-1)	0.9447	1.2711	0.0173
IS	0.1700	0.3867	0.0001
IS (-1)	0.2610	0.1750	0.0982
IS (-2)	-0.7236	-1.1730	0.0021
IS (-3)	0.5941	1.1750	0.0811
BD	0.4850	0.0861	0.0125
BD (-1)	-0.3018	0.7651	0.0192
BD (-2)	0.2835	0.1731	0.0271
The Estimation Results of Long-Run Coefficients			
Variables	Coefficient	t-statistics	Probability
Sabit	2.9861	4.9311	0.0011*
IS	0.9612	9.212	0.0000*
BD	0.3210	2.387	0.0100**
Diagnostic Tests			
R	0.76	JB Normality	1.6712 (0.3981)
R²	0.69	BG Autocorrelation	1.2149 (0.5957)
Schwarz Criteria	-1,6189	White Heteroscedas.	7.6543 (0.2155)
F Statistics	27.6410 (0.00) *	Ramsey RESET	0.8351 (0.3851)

Note. * and ** show the critical values at the significance levels %1, and %5, respectively.

4.4 Short Run Analysis

The short-term effects of the investment savings gap and the budget deficit on the current account deficit have been calculated within the framework of the Error Correction Model (ECM) and the results are presented in Table 4. Error correction model is a model that shows how the imbalance between the short- and long-term relationship of the variables is eliminated. In this way, it provides information about short-term dynamics between variables with cointegration relations, and is also used to test causality between these variables. Here, the error correction coefficient gives information about how the imbalance between the short- and long-term relationship is

resolved. In the estimates made in our study, error correction coefficient (ECM) was found to be negative and statistically significant as expected. Accordingly, the error correction mechanism works in the model and the imbalance in the face of a shock to the system is directed towards the long-term balance at a rate of 68.44% in each quarter. In addition, just like the long-term forecast, the impact of the investment savings deficit (IS) lagged values on the current account deficit (CAD) is greater than that of the budget deficit lagged values (BD).

Table 4. Estimation Results of Error Correction Model

Variables	Coefficient	t-statistics	Probability
C	6.6139	2.6712	0.0210**
ΔCAD (-1)	1.2319	2.8912	0.0398**
ΔIS	0.8716	-2.9820	0.0010*
ΔIS (-1)	1.9125	2.4512	0.0467**
ΔIS (-2)	0.8798	-1.9861	0.0321**
ΔIS (-3)	1.1281	-2.1692	0.1458
ΔBD	0.7712	1.8912	0.0376**
ΔBD (-1)	0.6425	2.7512	0.0398**
ΔBD (-2)	0.3791	1.9237	0.0465**
ΔBD (-3)	-0.4431	1.7912	0.1179
ECM (-1)	-0.6844	-2.0912	0.0015*

Note. * ,**, show the critical values at the significance levels %1, and %5, respectively.

5. CONCLUSION

As a result of the increase in international economic integration, changes in the foreign trade balance and especially the developments in the current account have gained great importance. In this process, deficits in the current account created serious risks in the economy and caused serious crises. Thus, current account deficits have been used as an important variable in the explanation of many negative economic facts, especially crisis theories. Therefore, understanding the dynamics of current account deficits and designing policies that can control these dynamics has become a popular research topic among economists. Hence our study determines the current account deficit in Turkey factors were analyzed in the public and private sector investment savings gap and the budget deficit axis. For this, quarterly data for the period 2003-2018 were analyzed using the ARDL model.

Empirical findings showed a long-term interaction between variables. Short- and long-term coefficient estimates made upon this also gave meaningful results. The findings obtained in this way shows that the current open cases of triplets for Turkey's economy. In addition, data on the role played by the public and the private sector regarding the current account deficit in Turkey has allowed dynamic comparative evaluation. Accordingly, the negative impact of the investment savings imbalance on the current account deficit in both the short and long term is greater than the effect of the public budget deficit. Accordingly, policymakers should prioritize policies aimed at solving private sector savings shortages in order to close the current account deficit.

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BUDGET ABSORPTION IN GREEK PUBLIC SECTOR DURING THE CRISIS 2010-2018. THE CASE OF STATE CONSERVATORY OF THESSALONIKI

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ABSRTACT

The year 2010 was a key moment for Greece because the country was forced to take austerity measures and reform the public sector in order to be supported from the International Monetary Fund (IMF) and the euro zone countries. The measures included a series of structural reforms and the issuing of unnumbered legal frameworks and integrated information systems, which increased not only the level of transparency in public funds and public administration increased, but also the bureaucracy. Such a measure was to publish the financial data of the public sector. This paper is part of a large survey which will analyze the published financial data (with statistical analysis) of Greek Ministries and their main supervised public entities for the period 2010-2018. The present paper analyzes, in three parts, the financial data of State Conservatory of Thessaloniki (SCT), which is supervised by the Ministry of Culture and Sports. The first part presents a historical review of the crisis and the used methodology. The second part explores the SCT's financial data and the third part is referred to the conclusions. The research question is that the public entities cannot absorb satisfactory the public funds due to under-staffing, inadequate education, time consuming process and bureaucracy.

KEYWORDS

Public Sector, Budget, Efficiency, Effectiveness, Economy, Accounting.

JEL CLASSIFICATION WORDS

D73, H83, M48.

1. Historical review of the crisis and methodology

1.1 Historical background of the crisis

The economic crisis in Greece was officially announced on 23 April 2010 at Kastelorizo. On 02 May 2010 the euro zone countries and the International Monetary Fund (IMF) approved a three year support package to Greece (Bank of Greece, p. 1, 5/2010). The program included cutting in salaries and pensions, imposing new taxes and increasing the already existed taxes, which resulted in great protests. It also included a major process of structural reforms in order to increase the efficiency and effectiveness of the Greek government (European Court of Auditors, p. 82, 2017).

On 27 October 2011 an agreement was signed for a 50% depreciation of the value of Greek bonds held by the private sector as a dept reducing measure. On 14 March 2012 the finance ministers of the euro zone agreed on a Greece's second bailout package (the European Financial Stability Facility EFSF was created). On 28 June 2015 the government announced the imposition of capital controls on Greek banks with a withdrawal margin of € 60 per day (European Court of Auditors, p. 85, 2017).

On 14 August 2015 the third bailout package was approved by the Greek Parliament. The EFSF was replaced by the European Stability Mechanism (ESM).

On 20 August 2018 the Greek program of the ESM was completed successfully (Bank of Greece, p. 19, 2017). During this period, Greece faced twice (in 2011 and in 2015) the threat of an exit from the euro zone.

1.2 Austerity packages and structural reforms

The country's adjustment into the financial stability programs had as a consequence the introduction of unnumbered legal frameworks. Below are referred some examples of legal frameworks, which are taken into consideration by the present paper.

The country's credibility disputed (Bank of Greece, page 4, 6/2010) because of the incorrect statistics (Hellenic Parliament, p.24, 2015) published by the National Statistical Service of Greece (NSSG), which was a General Secretariat of the Ministry of Economy and Finance. Consequently, ELSTAT was reestablished as an Independent Administrative Authority (article 10 of the Law 3832/2010) and renamed as Hellenic Statistical Authority (ELSTAT).

In order to improve transparency the public sector and the wider public sector entities were obliged to publish monthly statistical data to General Accounting Office of the Ministry of Finance. Data collected according to three templates depending on the code classification of each entity (Law guidance, 2010).

One of the first measures for observing cases of illegality and maladministration in the public sector was the creation of the online platform "Diavgeia", providing free access for the citizens. All government institutions were obliged (article 2 of the Law 3861/2010) to upload their acts and decisions concerning the legislative (laws, law guidance and decisions), administrative (recruitments, labor status changes) and financial field (budgets, expenditure commitment, approval of the expenditure, accomplishment of payment). Table 1 shows the number of uploads records in the platform from its beginning until 31.12.2018.

Table 1. Statistical data from the online Platform "Diavgeia"

Categorized: by type of field - from 01.10.2010 to 31.12.2018		
ID of category	Document category	Number of acts
B.2.1	Approval of the expenditure	6.649.628
B.1.3	Expenditure commitment	6.066.744
2.4.7.1	Other individual administrative actions	5.582.290
B.2.2	Payment orders	3.965.862
A.2	Regulatory act	3.581.555
D.1	Projects/Supplies/Services/Studies	2.655.636
C.2	Act of reference to associate body – committee – working group – members of associated body	496.614
C.3.4	Contract	490.698
2.4.6.1	Planning – planning contents	481.186
B.1.2	Committee payment	368.565
D.2.1	Declaration summary	304.349
D.2.2	Validation	230.767
B.1.1	Budget approval	218.156
100	Act as regards general – special secretary – single – member institution	216.078
C.3.5	Labor status changes	132.187
B.3	Balance sheet - Budget	100.780
B.4	Donation - Sponsorship	79.391
B.5	Disclaimer of use of assets	72.585
E.4	Other development law act	67.563
C.3.1	Position notice	62.469
C.3.3	Recruitments	55.651
C.3.2	Tables of successors, appointments & Substractional	49.513
A.3	Law guidance	18.048
A.4	Advisory	16.347
E.1	Investment derivation act	4.609
A.1.1	Law	4.362
E.3	Decision to operate production investment operation	2.829
E.2	Development law convention - acts	2.074
A.1.2	Act of legislative constitution(Constitution, Article 44 (1)	2.023
Z.1	Public standard documents	1.648

C.3.6	Important disciplinary decision	745
A.5	Proceedings (State Legal Council)	428
A.6	Assessment report on the situation of existing legislation	133
B.6	Program financial support agreement	0

Source: Ministry of Digital Governance, Program Diavgeia, Statistics

An additional measure was the creation of the online platform "Central Electronic Registry for Public Procurement (KIMDIS)" in which all the entities of the public sector obliged to upload all the steps of the public procurement process.

More specifically, entities were obliged to upload primary requests, approved requests, notices / declarations, award of assignations/validations , contracts and payment orders (Article 11 of Law 4013/2011 and Article 5 of the Ministerial Decision 57654/2017). Table 2 shows the number of uploads records in the platform from its beginning until 31.12.2018.

Table 2. Statistical data from the online platform "KIMDIS"

Type of field	From the beginning (04.02.2013) to 31.12.2018	December 2018
Primary authorized requests	1.537.082	27.927
Notices/Declarations	218.191	4.545
Assignation/Validation	389.533	30.877
Contract	1.112.102	25.535
Payment orders	2.553.836	74.343

Source: KIMDIS, 2018

The online platform "National Electronic Public Procurement System (ESIDIS)" was established for public procurement procedures exceeding € 60,000 net of VAT. This platform offered e-notification, e-access, and e-submission (Article 3 of Law 4155/2013), with free access to the citizens.

Indicatively, on December 2017 had been uploaded 542 electronic procedures with total value of € 266.453.391, while on December 2018 had been uploaded 962 electronic procedures with total value of € 716.598.828 (Monthly Newsletter, ESIDIS, 2018).

Regarding financial management procedures and public accounting was introduced the Law 4270/2013, which absorbed Council Directive 2011/85 / EU and was updated with Presidential Degree (PD) 80/2016. The above legal provisions were referred among the others to the procedures of expenditure commitment and accomplishment of payments with a restrictive timetable during the process.

Finally, one of the most important steps in the integration of the public expenditure procedures in the wider public sector was the adoption of Law 4412/2016, a transposition of the Council Directives 2014/24/EU and 2014/25/EU. Specifically, the framework defined processes such as the preparation and publication of the notice of tender, submission of tenders by candidates, their evaluation, preparing and conclusion of the procurement contract. For example it included:

- general rules such as the applicable principles in the governing procurement procedures (Article 18)
- general rules for the award of public contracts such as types of procedures (open, restricted, with negotiation, competitive dialogue, innovation partnership - Articles 27 up to 32), the context of the procurement (Articles 53), the technical specifications (Article 54),
- rules of selection, such as the exclusion grounds (Article 73), the criteria of selection (Article 75), the criteria of evaluation of tenders (Article 86)
- steps of the procedure, such as the unsealing and the evaluation (Articles 98-100) and the award of contract (Article 105)
- remedies for contacts of an estimated value below € 60,000 net of VAT (Article 127)
- rules of execution the contract, such as the way of payment (Article 200), the receipt of the material (Article 208), the receipt of services (Article 219), the tender evaluation committee (article 221)
- remedies for contacts of an estimated value above € 60,000 net of VAT processed through (Article 347) the Authority for Hearing of Pre-judicial Objections (AEPP)

The AEPP issued in 2017 254 final judgments and 111 acts of irrevocable measures, while in 2018 issued 1.177 and 574 acts respectively.

The above legal framework is indicative of the vast changes that have been taken place as well as of the bureaucracy that has been created. Employees of the public and wider public sector have to deal with the new legal framework and the relative electronic requirements from the new online platforms. However, at this point it should be mentioned that the above measures have created a level of transparency in public funds and public administration that the country had never encountered before.

1.3 Methodology

The research methodology is based on combining external secondary data from governing records, analyzing the legal framework and the STC's financial data (Budgets) that have been published on the electronic platform "Diavgeia". Data are categorized according to the central categories mentioned in the Template 1 of the monthly statistical data for Public Legal Entities (NPDD). The contribution of the paper is based to the fact that the field has investigated poorly.

2. Financial statement analysis

2.1 Budget – Report on Income

<table>
<tr><td colspan="17" align="center">Report on Income (Years 2010-2014) in €</td></tr>
<tr><td></td><td></td><td colspan="3" align="center">2010</td><td colspan="3" align="center">2011</td><td colspan="3" align="center">2012</td><td colspan="3" align="center">2013</td><td colspan="3" align="center">2014</td></tr>
<tr><td>Code</td><td>Description</td><td>Budgeted</td><td>Realized</td><td>Dif.</td><td>Budgeted</td><td>Realized</td><td>Dif.</td><td>Budgeted</td><td>Realized</td><td>Dif.</td><td>Budgeted</td><td>Realized</td><td>Dif.</td><td>Budgeted</td><td>Realized</td><td>Dif.</td></tr>
<tr><td>0000</td><td>Sponsorship</td><td>1.216.000,00</td><td>1.585.457,33</td><td>30,38%</td><td>1.140.000,00</td><td>518.500,00</td><td>-54,52%</td><td>1.140.000,00</td><td>1.084.564,38</td><td>-4,86%</td><td>1.190.000,00</td><td>856.337,00</td><td>-28,04%</td><td>905.942,00</td><td>840.464,50</td><td>-7,23%</td></tr>
<tr><td>1000</td><td>Taxes & fees</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>2000</td><td>Insurance contribution</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>3000</td><td>Business income of NPDD</td><td>40.000,00</td><td>25.552,32</td><td>-36,12%</td><td>40.000,00</td><td>2.646,04</td><td>-93,38%</td><td>40.000,00</td><td>15.441,67</td><td>-61,40%</td><td>21.000,00</td><td>4.889,93</td><td>-76,71%</td><td>27.000,00</td><td>8.364,86</td><td>-69,02%</td></tr>
<tr><td>4000</td><td>Fines, penalties and fees</td><td>-</td><td>-</td><td>-</td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>5000</td><td>Other revenue</td><td>365.300,52</td><td>455.272,60</td><td>24,63%</td><td>339.966,46</td><td>292.686,99</td><td>-13,91%</td><td>339.966,46</td><td>527.770,21</td><td>55,24%</td><td>297.273,78</td><td>277.261,46</td><td>-6,73%</td><td>369.037,66</td><td>269.272,01</td><td>-27,03%</td></tr>
<tr><td>6000</td><td>Extraordinary revenue</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>7000</td><td>Revenue from loans</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>8000</td><td>Previous year revenue</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>9000</td><td>Income for investments</td><td>90.000,00</td><td>0,00</td><td>-100,00%</td><td>60.000,00</td><td>99.181,84</td><td>65,30%</td><td>60.000,00</td><td>0,00</td><td>-100,00%</td><td>30.000,00</td><td>0,00</td><td>-100,00%</td><td>40.000,00</td><td>0,00</td><td>-100,00%</td></tr>
<tr><td></td><td>Total Income</td><td>1.711.300,52</td><td>2.066.282,25</td><td>20,74%</td><td>1.579.966,46</td><td>913.014,87</td><td>-42,21%</td><td>1.579.966,46</td><td>1.627.776,26</td><td>3,03%</td><td>1.538.273,78</td><td>1.138.488,39</td><td>-25,99%</td><td>1.341.979,66</td><td>1.118.101,37</td><td>-16,68%</td></tr>
</table>

Report on Income (Years 2015-2018) in €

Code	Description	2015			2016			2017			2018		
		Budgeted	Realized	Dif.	Budgeted	Realized	Dif.	Budgeted	Realized	Dif.	Budgeted	Realized	Dif.
0000	Sponsorship	855.816,37	818.316,37	-4,38%	998.672,85	998.464,01	-0,02%	1.152.845,69	1.202.845,69	4,34%	750.000,00	1.350.580,48	80,08%
1000	Taxes & fees	-	-	-	-	-	-	-	-	-	-	-	-
2000	Insurance contribution	-	-	-	-	-	-	-	-	-	-	-	-
3000	Business income of NPDD	22.500,00	8.402,96	-62,65%	22.500,00	11.385,27	-49,40%	32.000,00	11.607,29	-63,73%	22.500,00	17.524,11	-22,12%
4000	Fines, penalties and fees	-	-	-	-	-	-	342.000,00	254.592,87	-25,56%	-	-	-
5000	Other revenue	274.835,26	201.855,00	-26,55%	332.416,02	267.783,08	-19,44%	-	-	-	329.500,00	277.990,26	-15,63%
6000	Extraordinary revenue	0,00	2.378,54	-100,00%	15.000,00	15.000,00	0,00%	-	-	-	-	-	-
7000	Revenue from loans	-	-	-	-	-	-	-	-	-	-	-	-
8000	Previous year revenue	-	-	-	-	-	-	-	-	-	-	-	-
9000	Income for investments	30.000,00	0,00	-100,00%	30.000,00	0,00	-100,00%	30.000,00	0,00	-100,00%	30.000,00	0,00	-100,00%
	Total Income	1.183.151,63	1.030.952,87	-12,86%	1.398.588,87	1.292.632,36	-7,58%	1.556.845,69	1.469.045,85	-5,64%	1.132.000,00	1.646.094,85	45,41%

2.2 Budget – Report on Expenses

| | | Report on Expenses (Years 2010-2014) in € | | | | | | | | | | | | | | |
| | | 2010 | | | 2011 | | | 2012 | | | 2013 | | | 2014 | | |
Code	Description	Budgeted	Realized	Dif.	Budgeted	Realized	Dif.	Budgeted	Realized	Dif.	Budgeted	Realized	Dif.	Budgeted	Realized	Dif.
0000	Payment for services	no data published	1.443.917,20	-	1.112.700,00	737.163,62	-33,75%	1.112.700,00	1.299.423,85	16,78%	1.080.302,88	865.732,34	-19,86%	964.917,74	783.900,57	-18,76%
1000	Payment for supply of consumers goods	-	24.031,49	-	38.300,00	18.976,72	-50,45%	38.300,00	23.108,47	-39,66%	38.500,00	28.643,94	-25,60%	25.675,00	22.417,47	-12,69%
2000	Payments for transferring income to third parties	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3000	Payments contrasted with revenue generated	-	482.317,19	-	339.966,46	340.268,89	0,09%	339.966,46	527.770,21	55,24%	297.273,78	277.261,46	-6,73%	369.037,66	269.272,07	-27,03%
4000	Compound differences, costs not included in any of the general categories of code	-	9.788,73	-	3.500,00	0,00	-	-	-	-	3.000,00	630,70	-78,98%	1.000,00	695,50	-30,45%
6000	Funds movement	-	-	-	-	-	-	3.500,00	5.213,24	48,95%	-	-	-	-	-	-
7000	Capital expenditure	-	9.585,14	-	25.500,00	190,90	-99,25%	25.500,00	0,00	-100,00%	21.100,00	1.487,50	-92,95%	9.400,00	4.050,13	-56,91%
9000	Payments for investments	-	96.642,50	-	60.000,00	104.474,69	74,12%	60.000,00	0,00	-100,00%	30.000,00	0,00	-100,00%	40.000,00	0,00	-100,00%
	Reserve	-	-	-	-	-	-	-	103.318,29	-	68.097,12			-	37.765,63	-
	Total Expenses	-	2.066.282,25	-	1.579.966,46	1.201.074,82	-23,98%	1.579.966,46	1.958.834,06	23,98%	1.538.273,78	1.173.755,94	-23,70%	1.410.030,40	1.118.101,37	-20,70%

Report on Expenses (Years 2015-2018) in €

		2015			2016			2017			2018		
Code	Description	Budgeted	Realized	Dif.	Budgeted	Realized	Dif.	Budgeted	Realized	Dif.	Budgeted	Realized	Dif.
0000	Payment for services	824.316,37	640.934,51	-22,25%	938.355,29	823.315,82	-12,26%	1.079.474,39	793.379,96	-26,50%	1.082.149,91	932.928,38	-13,79%
1000	Payment for supply of consumers goods	37.600,00	12.833,57	-65,87%	47.107,56	23.757,19	-49,57%	50.687,30	21.264,92	-58,05%	40.750,97	24.965,78	-38,74%
2000	Payments for transferring income to third parties	-	-	-	-	-	-	-	-	-	2.600,00	400,00	-84,62%
3000	Payments contrasted with revenue generated	274.835,36	225.649,05	-17,90%	332.416,02	270.755,08	-18,55%	329.500,00	239.304,63	-27,37%	338.995,70	290.765,69	-14,23%
4000	Compound differences, costs not included in any of the general categories of code	3.000,00	863,10	-71,23%	3.000,00	2.791,73	-6,94%	2.000,00	273,04	-86,35%	2.000,00	429,41	-78,53%
6000	Funds movement	-	-	-	-	-	-	-	-	-	-	-	-
7000	Capital expenditure	13.400,00	1.999,79	-85,08%	47.710,00	4.166,85	-91,27%	65.184,00	11.392,82	-82,52%	38.933,90	21.326,65	-45,22%
9000	Payments for investments	30.000,00	0,00	-100,00%	30.000,00	0,00	-100,00%	30.000,00	0,00	-100,00%	30.000,00	0,00	-100,00%
	Reserves	-	148.672,85	-	-	167.845,69	-	-	403.430,48	-	-	-	-
	Total Expenses	1.183.151,73	1.030.952,87	-12,86%	1.398.588,87	1.292.632,36	-7,58%	1.556.845,69	1.469.045,85	-5,64%	1.535.430,48	1.270.815,91	-17,23%

2.3 Explanatory Notes

For the Report on Income the code and the description are:
- Code 0000, Sponsorship
- Code 1000, Taxes & fees
- Code 2000, Insurance contribution
- Code 3000, Business income of NPDD
- Code 4000, Fines, penalties and fees
- Code 5000, Other revenue
- Code 6000, Extraordinary revenue
- Code 7000, Revenue from loans
- Code 8000, Previous year revenue
- Code 9000, Income for investments (Pubic investment program)

It is evident that there is remarkable deviation for the most Income codes. Significant deviation appears at the code 0000 (from +80,08% to -54,52%), 3000 (from -22,12% to -93,38%) and 5000 (from -27,03% to +55,24%).

For the Report on Expenses the code and the description are:
- Code 0000, Payment for services
- Code 1000, Payment for supply of consumers goods
- Code 2000, Payments for transferring income to third parties
- Code 3000, Payments contrasted with revenue generated
- Code 4000, Compound differences, costs not included in any of the general categories of code
- Code 6000, Funds movement
- Code 7000, Capital expenditure
- Code 9000, Payments for investments (Pubic investment program)

All the Expenses codes present significant negatives differences which mean that budget cannot be absorbed efficiently. The reasons that explain the deviation could be found either from internal information of the entity, or by analyzing and correlating the uploaded documents from the online platforms (Diavgeia, KIMDIS, ESIDIS) and the remedies (AEPP).

3. Conclusion

The research question that the public entities cannot absorb satisfactory the public funds was confirmed for the case of STC. Some reasons of the low absorption of the funds might be the amount of time required from the tougher restricted rules of the procurement process, the new complicated legal framework, the new technical knowledge of the online platforms and the increased reporting data. The paper could be extended in a deeper level of STC's external information such as a detailed correlation of the process

Some suggestions could be that employees should be educated on the new electronic platforms and the new legal framework in order to be more efficient. In addition, committees of the procedures such as technical specification committees and tender evaluation committees should also be educated, otherwise the probabilities of remedies will increase exponentially.

The future seems to be very optimistic because the improvements on legal framework and integrated information systems (after the eruption of the economic crisis) have maximized the publicity of government's policy and that of administrative activity. This positive progress is taking place by ensuring transparency as well as the responsibility and accountability of the public sector.

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MIGRATION FLOWS TO EUROPE AND THEIR INCLUSION IN NATIONAL EDUCATION SYSTEMS OF MEMBER STATES: CHALLENGES AND PERSPECTIVES

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ABSTRACT

The immense influx of migrants crossing the European continent borders has raised the issue of urgency, both at European and global level, of balancing and integrating the migration flow. Within this framework of high political salience to respond to this chaotic situation, academics and teachers of all grades of education see potentials for a great contribution and foresee multiple benefits stemming from an integrative and inclusive educational 'eco-system'. Greece needs to address adequately the aforementioned migration challenges, despite being in a current context of fiscal consolidation that coincides with a demographic switch, an ageing population and a social protection system under risk. Institutional strategies alone cannot guarantee the enhancement of elementary academic accessibility for refugees. Education brings long-term societal benefits: aside from increased political engagement, educated children contribute intellectual capital and pursue entrepreneurial opportunities when they grow up, boosting economic growth. For refugees who have already received a certain education, it is vital to recognize the fact that it is an inextricable part of their identity, which has to be nurtured, in order to generate intellectual social capital. The aim of this study is to portray the complexity and diversity of human mobility and how this humanitarian assistance can be facilitated through interoperable educational pathways and preservation of refugees' social identity via an in-house local adaptation. Additionally, the modern trends of migration policies as social policies, within globalized societies are aiming towards the inversion of the demographic ageing and the commute of precariousness in the migration landscape, for both politicians and citizens. Although, the search was not exhaustive, it is hoped that it contributes as a comprehensive resource in the migrant-friendly educational systems research. The literature review was conducted in Scopus in April - May 2019. Also, data were obtained and elaborated from the Eurostat, OECD, Migration Data Portal databases, and Hellenic Statistical Authority as well. The study highlighted the urgent need of sustainable solutions through a bottom-up approach from the local educational community, starting from the already established and legal immigrant families to the further support of refugee children, towards the creation of a 'hope-net' for the years to come.

KEYWORDS

Migration policies, refugees, demography, inclusion, education, social identity.

JEL CLASSIFICATION CODES

A2, B4, J2, J6, N3

1. INTRODUCTION

Education is an inalienable right of every child and must – obviously – include all children! Inequalities in education should not be perceived as a natural condition. Children are recognized as rights carriers. Within this framework, education is one of the rights reserved, for which the EU member States are obliged to ensure and safeguard it for all children, wherever they come from and regardless of any discrimination.

The school of inclusion can show the way of intercultural respect, tolerance to all kinds of diversity and humanism throughout society and contribute to the redefinition of its values. With the integrated planning of refugee education, the protection and broadening of the employee rights of teachers, as

well as the coverage of the educational needs of all students, it can be a huge step towards accepting and solidarity in order to positively influence the whole society.

Since October 2015 at all levels of education we have witnessed a titanic attempt to integrate refugee children into the school reality, from which they abstained, against their will, because of the difficult conditions prevailing in the countries of where they came from.

Refugee education has many peculiarities, the most important of which are: the need for psychological support, the management of the specific problems created by their work (children who have never attend in a school or who they interrupted their studies), the absence of the parent-guardian, the ignorance of the language of the host country, the liquidity of the plans of place of establishment, the heterogeneity of the refugee pupil population, racism and social exclusion.

The planning, therefore, of the education of refugee children must take account of these specificities, with the ultimate aim of integrating children into school, completing their studies and social inclusion in terms of respect for diversity and harmonious coexistence.

2. REFUGEES: A COGNITIVE AND POLITICAL CHALLENGE

The mass advent of refugees and migrants in the Aegean islands, culminating in the summer of 2015 and continuing at a lower intensity until today, is a fact of global importance. The systematic recording and study of the "refugee crisis", a highly complex and dynamic phenomenon with great influence, is both difficult and imperative.

The objectives of the refugee training, irrespective of the tier, are two. On the one hand, it aims to gather, categorize and document a variety of materials for the refugee and migration crisis in Europe in general and in the Mediterranean in particular, starting in January 2015. For this purpose a digital repository has been created in collaboration with the Ministry of Education and Religious affairs. The digital documentation of primary and secondary materials and their free disposal on the Internet to researchers, journalists and other interested persons is of particular importance for the promotion of the relevant research, but for the historical recording of the phenomenon.

On the other hand, it aims at cross-sectional monitoring of the phenomenon in the Aegean. Recognizing the complexity of the refugee and migration phenomenon, the classification of available materials, primary and secondary sources is attempted, on the basis of a logic that includes the main aspects of the management of refugee and migratory phenomenon in the Aegean: the displaced populations, residing in the Aegean islands, the centers and structures that operate for their reception, identification, accommodation and detention, state and European authorities, organizations and individuals, which shape the landscape of humanitarian governance and, of course, the local communities affected variously by the fluctuations of the refugee and migration border of the European Union.

At the Gothenburg Social Summit (17/11/2017) the EU commission set out its vision for the European Education Area for 2025, to promote European identity and through education and culture so that Europe is a continent where it ensures the free and unimpeded movement of its citizens for education, apprenticeship or work and where its citizens gain a strong awareness of their identity as Europeans as well as of European cultural heritage and diversity.

In this context and in the field of higher education, the European Commission has announced its initiative for the creation of networks of European universities, which, as mentioned in the 14/11/2017 press release, is proposed, "*in order World-Class European universities can collaborate harmoniously across borders*".

As early as the Gothenburg meeting, the Commission proposed three (3) steps towards the creation of a European university, with the horizon of 2025:
- ❖ 1st step is the establishment of a network of universities with the common provision of curricula using distance learning methods,
- ❖ 2nd step is the creation Joint ventures and
- ❖ 3rd step the establishment of foundations.

Finally, it announced its intention to provide a European statute for established networks of universities to ensure their financing by the EU and their long-term viability. On the basis of the Commission's proposals, the European Council in its conclusions of the December 2017 Summit invited the Member States, the Council and the Commission to promote work on a number of initiatives, including "encouraging the emergence of In 2024, about twenty "European universities", i.e. "*From bottom to top*" university networks across the EU, which will give students the opportunity to

acquire degrees by combining studies in more EU countries and will contribute to the international competitiveness of European universities. "

Because the ambitious vision of establishing European universities, as the Commission emphasizes, goes further than the existing models of partnerships between EU universities

This call responds to the European Universities Initiative as we had already discussed which was developed jointly by higher education institutions, student organizations, Member States and the Commission. It is currently one of the EU's most flagship initiatives and is aimed at the ambitious vision of building a European education area.

2.1 Education and social reproduction

The social inequality that governs educational pathways, despite its relatively limited visibility, is a central issue of social justice that needs to be tackled together with the many other problems that have accumulated in all Levels and have been exacerbated by the crisis.

It is true that there have been very important steps in the direction of educational inequalities. In Western countries, the elimination of illiteracy, the generalization of compulsory education and a spectacular rise in the educational level of the population, features that show that access to education is broadened for all social layers. However, despite these positive developments, social inequality not only continues to govern modern educational systems, but it does look and deepen.

2.1.1 The notion of inequality in education

Historically examining education, it is noted that the opening up of the institution of public education as to the access of refugee pupils to it, contributed decisively to social mobility. Individuals, that is, through education have the opportunity to change social layer. Success in educational mechanisms is crucial for social mobility and stratification. However, family-social origins play a very important role.

The level of education held by the individual plays a role in two factors: (a) The objective factors and (b) the subjective factors. Children of lower social strata when entering the educational institution have more "gaps" in relation to those children who come from middle or upper social strata.

Therefore, these children, through the school, need to catch up so that they can have "equal opportunities" with the rest.

So the question arises as to whether school and the education system in general can cover these differences. But the way the education system works, not only does it not cover these differences; it acts as a breeding mechanism for social inequalities.

The argument that children of lower social strata, despite their disadvantaged position, exhibit very good performance and manage through education to occupy higher social positions does not save the ideology of "*equal opportunities*". This is because children of low social strata must make great sacrifices and efforts to cover the gap between their own cultural capital and the requirements of educational mechanisms). Inequalities in education are manifested in various other ways, resulting in a decisive influence on the educational course of refugee students. Some of the forms of educational inequalities are as follows:

- ❖ Non-enrolment in the school
- ❖ Early school leaving (student leakage) and organic and functional illiteracy
- ❖ Learning incentives
- ❖ Service
- ❖ Attendance at different types of school
- ❖ Tertiary studies
- ❖ The public character of education
- ❖ The use of information and communication technologies

The operation of the school is based on the cultural capital, which each carries with its arrival at school. Everyone's cultural capital depends on the social and economic level of the environment from which it originates. According to the above, in society the cultural capital is unevenly distributed and the school contributes in order to continue its unequal distribution. However, the two sociologists do not overlook the importance of financial capital, but consider that cultural capital is what differentiates students from each other. The school is a mechanism of social choice, which appears as a process of natural selection. The owners of the cultural capital are promoted to the school, which reproduces the cultural capital of the social strata of those who participate and are included in the field of power. Inequality is reproduced through student evaluation. Thus, there is a separation of pupils into "*good*" and "*bad*".

2.2.2 Social origins and education

Already after World War II many governments are beginning to show interest in education, as according to the Schultz theory, education is a means of economic development. Let us not forget the huge migratory wave within the European countries immediately after the end of World War II and the structural changes it has brought to the whole of the social structures of each country. During that period, there are many research and studies related to education. The most important for the field of sociology of education is the "*Coleman Report*".

This study examined a total of 4,000 schools, over 600,000 pupils and 60,000 lecturers. The sample replied to questions related to the school itself (building, facilities), to the teachers, to the pupils themselves and to their origin.

The most important thing in this study is that for the first time the student's school performance was associated with his social background. Thus, challenged and the argument that education provides equal opportunities for pupils and other factors, such as the economic and cultural influence of the family, were sought.

The research was conducted in 676 students of the sixth grade of the prefecture of Attica and proves that there is a close relationship between the social-professional position of the father and the school success of the student. More specifically, 62% of pupils are "*excellent*" and "*good*", but have uneven performance in their social origins. Students who are children of scientists, executives and office employees are "*excellent*" and "*good*" at a rate of 94%. Similarly, students who are children of workers are less, with a percentage of 47%. In relation to the level of education of the father appear similar percentages. The students whose father is a graduate of a higher or higher school are "*excellent*" and "*good*" at a rate of 90%, while the students that their father owns a school diploma are equally less, with a percentage of 50% and those students who their father does not have a school diploma at just 41%.

Pupils whose parents are holders of a university or other senior diploma have a higher rating than those whose parents are primary graduates.

The above percentages confirmed with the absolute identification of pupils of schools in the way students are attending refugees. In the number of participating pupils, 38% a total of 257 students were refugees from Afghanistan, Iran, Syria and Iraq.

2.2 Higher education and social inequalities

As early as the mid-70, there has been an increase in demand for education and efforts are constantly being made to democratise and involve more and more members of society. The expansion of participation and the expansion of education are an economic and social investment, as the skills and qualifications of the employees are upgraded.
The arguments for broadening the participation are based on three cases:
  ❖ The need for skilled workforce based on technological development leads to the high specialization required by the qualifications. Knowledge plays an important role and having a qualification is a prerequisite for access to the middle-city incomes.
  ❖ The expansion of higher education promotes social justice and provides opportunities for the lower social strata to deal with privileged professions in the future.
  ❖ The state is given the opportunity to exploit workers of all social classes with a view to the economic progress of the State itself.
The widening of participation in higher education and the increase in the level of education was initially promoted on the grounds that it would contribute to economic development and would give more opportunities to access the lower social strata and vulnerable social groups such as refugees, in higher education.

Despite the increase in access opportunities for all social strata in higher education, the inequalities between them remained. The effort of the lower strata to increase the opportunities for access to higher education was accompanied by a corresponding increase in the access opportunities of the upper layers, with the result that the distances between them were maintained. Thus, even after the expansion of participation in higher education, social inequalities remain intact and continue to be maintained. It seems, then, that the educational system over time appears inadequate in terms of tackling social inequalities.

3.   WHAT IS THE EUROPEAN UNIVERSITIES INITIATIVE

The education landscape across Europe is changing. At the 2017 Gothenburg Summit, EU leaders outlined a vision for education and culture. In its December 2017 Conclusions, the European Council

called on Member States, the Council and the Commission to take forward a number of initiatives, including:

'…*strengthening strategic partnerships across the EU between higher education institutions and encouraging the emergence by 2024 of some twenty 'European Universities', consisting in bottom-up networks of universities across the EU which will enable students to obtain a degree by combining studies in several EU countries and contribute to the international competitiveness of European universities'.*

Co-developed by higher education institutions, student organizations, Member States and the Commission, the European Universities Initiative responds to this call. Today, it is one of the flagship initiatives of the EU's ambitions to build a European Education Area.

3.1 What is a European University

European Universities are transnational alliances that will become the universities of the future, promoting European values and identity, and revolutionizing the quality and competitiveness of European higher education. In order to achieve this major step forward, the Commission is testing different cooperation models for European Universities with two calls for proposals under the Erasmus+ programme. The alliances will:

- ❖ *include partners from all types of higher education institution and cover a broad geographic scope across Europe*
- ❖ *be based upon a co-envisioned long-term strategy focused on sustainability, excellence and European values*
- ❖ *offer student-centered curricula jointly delivered across inter-university campuses, where a diverse student bodies can build their own programs and experience mobility at all levels of study*
- ❖ *adopt a challenge-based approach according to which students, academics and external partners can cooperate in inter-disciplinary teams to tackle the biggest issues facing Europe today*

3.2 Diversity and development

Immigrants are carriers of a variety of ideas and abilities, and are an important factor input into the process of technological progress. More than their actual number, however, their composition seems to be crucial issue in stimulating the rate of technological progress in the destination country. In fact, a large number of studies, particularly at the micro level, support the claim that diversity has productivity-enhancing effects. Diversity within a team may improve its performance, as workers from different backgrounds bring along their various skills, experiences, and abilities in the day-to-day interactions.

By challenging social solidarity and by eroding the level of social capital ethnic diversity is shown to have a number of undesirable effects on society:

- ❖ *diversity, in particular cultural polarization, can be destabilizing as culturally fragmented societies are associated with high probability of conflict (see e.g., Esteban & Ray, 2011; Horowitz, 1985;Montalvo & Reynal-Querol, 2005a);*
- ❖ *diversity may lead to distortionary taxation, large government sector, or voracious redistribution (Azzimonti, 2011; Lane & Tornell, 1999);*
- ❖ *ethnic diversity is negatively correlated to participation in community activities and to voting in elections at various levels (Mavridis, 2015);*
- ❖ *heterogeneity under various forms or dimensions may hinder collective actions when e.g., individuals of comparatively high ability are induced to exit a pooling arrangement and may make regulation less efficient (Baland & Platteau, 2003);*
- ❖ *as ethnically diverse communities are less able to overcome the collective action problems, cultural diversity can reduce the willingness to redistribute income and provide (socially) optimal levels of public goods (e.g., Bahry, Kosolapov, Kozyreva, & Wilson, 2005; Miguel & Gugerty, 2005).*

3.3 Educational challenges arising from the Refugee Crisis

People move over time to achieve better living conditions, more opportunities for themselves and their family members, or to avoid persecution and wars. The main groups of displaced persons are three: refugees, internally displaced people and immigrants.

There is a growing confusion between these three groups:

❖ Refugees are fleeing mainly because of wars or persecution and do not receive any protection from their country.

❖ Internally displaced persons in relation to refugees have not left their country and remain legally under the protection of their own state.

❖ Migrants decide to move freely from their country with a view to improving their lives.

❖ Migrants and refugees are increasingly using the same routes to move. But they do have basic differences, which is why they are treated differently from international law.

In recent decades, a worldwide increase in the number of migrants, internally displaced persons and refugees has been observed. All three groups are treated more and more in the same way: with suspicion and rejection. Border controls are becoming stricter, while at the same time, the problems of xenophobia and racism are making their appearance very strong.

The mass advent of refugees and migrants in the Aegean islands, culminating in the summer of 2015 and continuing at a lower intensity until today, is a fact of global importance. The systematic recording and study of the "refugee crisis", a highly complex and dynamic phenomenon with great influence, is both difficult and imperative. We live at the dawn of a new era that heralds cosmogenic upheavals in all areas of human activity. The century that has just begun, brings mankind to face with changes that have no precedent in human history. Technological progress is progressing at a staggering pace. Knowledge is multiplied, literally, by the speed of light. The global economy, as the most basic expression of human activity, is at the heart of these upheavals. Traditional sectors of economic activity are collapsing or are in the plaintiffs waiting while new ones emerge and magnified with amazing speed. These reclassifications create increasingly demanding demands for multifaceted and multi-layered education.

Emerging sectors of economic activity require a workforce with multi-tasking education and continuous and intensive training. This reality also implies an overall redefinition of the cultural values of mankind and dictates new practices in all areas and, in particular, above all, in education and the production of knowledge. The above developments bring to the fore and highlight, in the most indisputable way, the decisive importance of investing in spiritual capital. Spiritual capital is the most important form of accumulated wealth and is a function of education, knowledge, dexterity, practical training and of course, health. In tourism the role of spiritual capital is catalytic.

Europe has an opportunity: the influx of refugees crossing the continent's borders has elicited a mixed wave of emotions among politicians and citizens - but where some see chaos and a burden for Europe, academics see potential for a great contribution. When all else is left behind, a refugee's knowledge remains within them.

For refugees who have already received an education, it is vital to recognize this part of their identity and to nurture their knowledge and intellectual capital. A refugee's academic training and intellectual interests travel with them wherever they go and follow their flight. When all else is left behind, this knowledge remains within them and continues to form a key part of who they are.

If refugees are given the necessary resources, networks, and opportunities, they can reconnect with their true identities in Germany or elsewhere in the world. We need to formulate a system that allows academics to make use of their positions of influence.

The ideal system can garner all the various acts of support, no matter the magnitude – for instance, giving a free lecture or making it accessible online, becoming a mentor, providing research resources or granting library access to refugees. These small acts can, together, amount to meaningful change. On an individual level, academics can reach out based on shared interests to identify possibilities for interesting collaborations and exchanges of ideas within their field of expertise.

A structure that mobilizes local academics to fulfil their passion for sharing knowledge will create experiences that produce fruitful benefits across Europe.

In this way, we will form a structure that not only facilitates personal engagement between professors and academic refugees but perhaps even extends to other marginalized groups suffering from a similar absence of intellectual exchange.

Universities could easily acknowledge such involvement, perhaps via a points system whereby honours would be awarded based on a level of social engagement. Additional funding could be provided to conduct research with a refugee academic as a collaborator.

Academics should not be forced to solely focus on grants and ranking of their publications: they should rather receive proper recognition from their institutions when they collaborate with other academics from around the world that have been marginalized.

We value students who volunteer - why don't we place as much significance on such work for senior academics? Such a step would capture the true essence of a professor - one who seeks to share knowledge and to be intellectually engaged wherever and whenever possible. One academic has the power to inspire others. This ripple effect would be tangible and the radius of impact could be boundless.

When looking at the daunting refugee crisis and wondering where to help, one doesn't have to look far. I do recognize that academics need to apply their knowledge, to keep their intellect active, or risk losing it. It was this area where I could be most effective. Knowledge is valuable wherever it is located - a Syrian engineer can both apply his skills and contribute to technological advances in his host country and, one day, bring them back to Syria to help in the rebuilding process. Institutional strategies alone are not enough to make the academic world more accessible for refugees.

Rather, a sustainable solution can only be achieved through a bottom-up approach, which makes use of the existing motivation found among local academics. Institutions must facilitate, not neglect, this inclination to make society recognize refugees' human capital.

On the research front, since 1998 the EU has developed several Framework Programs in order to boost research cooperation among European countries. In this context, the European Research Area (ERA) is being developed. This project aims at creating the necessary conditions to increase the impact of European research efforts "by strengthening the coherence of research activities and policies conducted in Europe" and "offers a new horizon for scientific and technological activity and for research policy in Europe" (European Commission, 2000: page 3).

Intellectual capital management become critical at universities mainly due to the fact that universities´ main goals are the production and the diffusion of knowledge and their more important investments are in research and human resources (Elena, 2004); so, both inputs and outputs are mainly intangibles.

The term "Intellectual capital" is used to cover all of the non-tangible, or non-physical, assets and resources of an organisation, including its processes, innovation capacity, patents and the tacit knowledge of its members and their network of collaborators and contacts.

So, Intellectual capital (IC) has been defined as the combination of intangible resources and activities that "allows an organisation to transform a bundle of material, financial and human resources in a system capable of creating stakeholder value" (European Commission, 2006: page 4).

4. CONCLUSION

Immigration policy, in no serious state and with any elementary logic, is not primarily a security issue. It is neither the people nor the numbers (which are now manageable) the problem. The administrative chaos prevailing in the refugee is what creates insecurity, xenophobia, opportunities for exploitation and lawlessness, great tensions, with losers on both sides. Refugees and migrants are treated either as a social threat or as mindlessly, vulnerable victims. In the trap of fragility unwittingly international protection organizations and non-governmental organizations and many millions have been spent, mainly from the EU, to maintain programs that are still responsive to a period Refugee crisis, four years later. In fact, these people are neither one nor the other. The strength and resilience one needs to uprooted from his country, to make an incredibly dangerous journey and try to live a new life in a completely foreign country, is inexhaustible. These people are potentially a driving force for every society and economy.

The integration and empowerment of these people, to become the earliest productive members of society and the economy, is a tremendous opportunity for the present government. The three pillars of integration (language learning and intercultural education, participation in the workforce, and inclusion in the national education and Health System) are rights and large obligations. It is no coincidence that our partners in Europe emphasize integration and empowerment programs: countries such as Sweden, Germany and Denmark link asylum with intensive and mandatory integration programs, understanding that as soon as someone can to be strengthened, it will become an autonomous and productive member of the economy without absorbing state welfare funds. EU

officials estimates that the recent refugee wave of 2015 can bring the European annual GDP up to 80 billion € until 2025.

I believe in the potential of the people who choose our country, but the will of society to do so, as long as a safe, organized framework is created, with respect for the human rights of all those who come and the society that accepts them. The great opportunity of accession to the refugee must not be lost.

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THE SOCIAL RETURN ON INVESTMENT (SROI) FOR EVALUATION OF THE IMPACT IN INTERNATIONAL COOPERATION HEALTH PROJECT IN ALBANIA: A CASE STUDY

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ABSTRACT

The doctrine has developed a lot of tools for the evaluation of projects having social relevance. Most of these present a qualitative nature and they are intended to express an opinion on their ability to achieve the planned goals. However, emerges the need to adopt quantitative instruments, capable to measure the efficiency in the use of the resources employed and the generated impact by project itself. Among them, attention has recently been focused on the Social Return On Investment (SROI), aimed at valuating the return of investments. The aim of the research is the study of the SROI applicability in social relevant projects, in particular in health international cooperation (IC) projects. Indeed, the economic measurement of the impact appears an important tool for reporting and accountability both to the lender, gesture and to the users. The case study has been identified as the appropriate methodology for conducting the research and to test the adaptability of the SROI for the calculation of the economic impact of a health IC project. The chosen case study is the project "Introducing Health Information System (IHIS)" conducted by the Global Healthcare Centre of the Tuscany Region, in the contexts of IADSA (Italian-Albanian Debt for Development Swap Agreement), in Albania from 2014 to 2016 to support the local government in the National Health System technological and accountant development. The necessary data for the calculation of SROI rate were collected by the analysis of official documents and reports. The obtained data show how SROI is able to evaluate quantitatively the social produced impact by a complex and articulated health IC project through the economic valorisation of its input (financing and stakeholders' availabilities) and outcome (achieved goals and opportunities' generation in the system of intervention). SROI can be also a good instrument to favourite the accountability of international cooperation projects.

KEYWORDS

International cooperation, SROI, Impact, Healthcare

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I15, H51

1. INTRODUCTION

In recent years the criteria for planning and evaluating the effectiveness of social projects have changed with the emergence of the Theory of Change (ToC). It has shifted attention from the obtained results with the interventions to the process by which we arrive. Every step of the project is given value rather than just the achieved objectives in order to enhance the participation and involvement of the various stakeholders (SH), who contributed to the generated change by the promoted initiative. With the affirmation of the ToC, we have gone from a qualitative, descriptive and focused on ensuring the achievement of the purposes analysis to a quantitative assessment focused on the examination of the generated impact in the medium-long term and on the sustainability of the intervention. Therefore, in the judgment on the efficacy of a social project are important not only the attained scopes but also the process and the present and future effects of the encouraged action.

To respond to the new estimate needs, a lot of tools have been developed for the detection and quantification of the produced impact by social projects. Most of these models, in continuity with the previous protocols for the improvement and examination of the social value, have a qualitative nature and are aimed at expressing an opinion on the ability of the project to attain the fixed purposes. New

methods have been developed to quantify the impact not only through indicators of process and result but also with economic indices (EU, 2014). Among these tools, SROI (Social Return On Investments) is increasingly being accredited. It is an economic variable capable of measuring the extra-financial value obtained at the end of a project, or rather a more expansive concept of value compared to the invested resources for its realization; it measures not only the immediate effects but also those emerging at medium-long period. The SROI shows for each economic unit invested how many were produced through the promoted intervention and how it was built; indeed, it is given by the relationship between the economic value of the outcomes generated by the project, according to all the involved stakeholders, with that of the inputs, with which the intervention was financed.

Among all initiatives with social purposes, the projects of international cooperation have particularly benefited from the change of evaluation paradigm by the assumption of the ToC as reference doctrine. In fact, impact and sustainability are the essence international cooperation as well as the enhancement of the contribution offered by the SH. The economic valorization of these indicators allows to insert in the calculation of the achieved objectives not only the outputs but also the induced outcomes; to date, in fact, a significant portion of the generated impact hasn't contributed to the list of achieved results. With the development and accreditation of tools capable of quantifying these elements, as SROI, it was instead possible to them contribute to the effectiveness of an international cooperation project.

So the aim of this paper is to study of efficacy of the SROI application in this kind of social projects.
The quantitative assessment of impact allows to understand if the resources invested really produced a return in terms of health for the users and the ability of the promoters to achieve the set objectives at the time of assessment, monitoring and rearrangement of the project to obtain the most significant and longest impact on the intervention's reality.

The same European section of WHO, with the promotion of the Health Impact Assessment (HIS), has qualified the SROI analysis as reference model for the economic quantification of the impact in international health cooperation projects.

To achieve the fixed purpose, the case study was considered the most adequate methodology. The project "Introducing Health Information System (IHIS): a modern approach to transparency and accountability in the Albanian public health" was identified as a significant case study. It was carried out between 2014 and 2016 in Albania by the Tuscany Region and its primary goal is to preserve and develop the health of the Albanian population by increasing efficiency, maximizing the productivity of the service and rationalizing the use of resources.

This paper is structured as follows. The literature review investigates the cognitive and methodological background in which SROI has been accredited as a tool for the economic calculation of the impact. Then, it's presented the used method for conducting the research and the selected case study. Below the application of the SROI to the chosen project is shown. In conclusions, conclusions are drawn regarding the validity and ability of the considered tool to fully account for the impact, which is useful for the promoters, actuators and users of the project. At the end, the limits of the carried out project and its possible future developments are reported.

2. THE SROI ANALYSIS

2.1 Literature review

The Theory of Change (ToC) is a programming, monitoring and evaluation model of social projects that aims to ensure the sustainability of the achieved results over time by focusing on the duration of the initiated change by the action put in place (Anderson, 2005). The ToC has become the reference doctrine for the promotion of sustainable social development because it favors impact assessment: it valorizes the enhancement of the full participation and continuous involvement of stakeholders (SH) in the undertaken social action (Jackson, 2013). The valuation of the effectiveness of a social project is not limited only to the analysis of the achieved results but includes also the examination of the path, the corrections and the created social value of the project at the end and in the following period for the examination of its effectiveness through SH engagement (Preetha and Vanniarajan, 2017).

The characteristics of this model make it particularly suitable for the development, implementation and evaluation of health promotion projects. In literature numerous studies highlight the effectiveness of the ToC criteria for the development and analysis of projects in the healthcare (Schierhout et al, 2013; De Silva et al, 2014; Breuer et al, 2016), since they generate a lasting impact in

the reality of intervention through direct interaction with the involved people and to ensure its sustainability. Qualitative and quantitative instruments are developed for their measurement (Maas and Liket, 2011; Dufour 2019), which are applied in particular in the third sector or in non-profit organizations (Polonsky and Grau, 2011; Gibbon and Dey, 2011). The use of quantitative approaches prevailed since it offers objective and more expendable information in the dissemination of the reached objectives both in terms of impact, which isn't just a perception but a real evaluative indicator, rather than achieved results.

Between the validated tools for the quantitative analysis of the impact, the SROI has had the greatest diffusion to be able to indicate for each resource invested how many have been generated by the implemented intervention (Then et al, 2017; Millar and Hall, 2013) and has been verified and accredited resulting extremely efficient and effective in different contexts of use (Arvidson et al, 2013; Krlev et al, 2013).

Among of field of use, the international cooperation uses commonly SROI in the analysis of the impact by realized projects (Diaz-Sarachaga et al, 2016; Guirado et al, 2017; Colombo et al, 2018) because it allows to include in the general assessment of the social value all the possible related items to the identification of adequate financial proxies, that allow to convert the impact into economic resources (Simsa et al, 2015). In particular, SROI analysis is implemented for the evaluation of international healthcare social projects because WHO ascribed it as a reference model for calculating the produced social value in these delicate actions (Banke-Thomas et al, 2015; Hamelmann et al, 2017; Dyakova et al, 2017).

Indeed, WHO has launched a structured Health Impact Assessment plan (Ashton et al, 2020) with which it has redefined the issued guidelines for the evaluation of international health cooperation projects so that the quantification of the generated impact was a keystone in preparation, control and estimation of developed projects (WHO, Regional office for Europe, 2016 and 2018).

In literature there are many studies on health prevention and promotion interventions, that have used SROI to calculate the impact but, in almost all cases, they are projects promoted by National Health Systems (Deeming et al, 2017; Macaulay et al, 2018; Ricciuti and Bufalini, 2019) rather than by international health cooperation, if not in very rare cases (Goudet et al, 2018). Indeed, in specific areas of the world where there is a real need to support the establishment, management and promotion of health systems, which are inadequate in terms of safety, performance and organization for reference international standards. There are a lot of healthcare projects favored by international health cooperation.

The results achieved by these projects have been the subject of many studies (Ferrarini and Sjöberg, 2010; Kutzine et al, 2010; D'Hombres et al, 2010) but in no case SROI was used for the economic quantification of the impact generated on the intervention realities. Analyzing specifically developing and transition countries, with particular attention on the transition countries of the Balkan area belonging to the ex-Soviet Union, we observe the same phenomenon. Some studies have focused on the improvement of the health system in these countries (Jakonljevic et al, 2017; Bredenkamp et al, 2011; Bjegovic et al, 2007) without none of these have analyzed the impact at the end of the carried out initiatives.

For the lack of studies in which the SROI is used as a model of economic analysis and quantification of the impact in international health cooperation projects, as foreseen by the institutional organizations, and for the absolute absence of examples of its application in projects undertaken specifically in the transition countries of the Balkan area, the aim of this paper is to evaluate the applicability of SROI in projects of international health cooperation, considering the contributions of this tool in terms of support to promoters, operators and users of the international health cooperation for the evaluation, monitoring and accountability of realized activities.

2.2 Method

The case study (Yin, 2003; Einsenhard, 1998) was identified as the most appropriate method for conducting an adequate assessment of the applicability and validity of SROI as a tool for the economic quantification of the promoted impact by international cooperation health projects. The Italo-Albanian project "Introducing Health Information System (IHIS): a modern approach to transparency and accountability in the Albanian public health" was recognized as a valid case study. It carried out in Albania between 2014 and 2016 by the collaboration between the Tuscany Region and Albanian Ministry of Health (MoH) and was financed with IADSA (Italian-Albanian Debt for development swap agreement) funding to support local government in the technological and management development of the National Healthcare System. In particular, this project presents a certain organizational and managerial complexity given by working directly with the institutional level for instrumental, operational and procedural support for the introduction of financing by DRGs (Diagnosis Related

Groups) in Albania and the implementation of an informative system capable of starting, supporting and guaranteeing over time the Albanian health system.

On the basis of the evidence emerging from the literature review on the application and the effectiveness of the SROI for measuring the impact generated by social projects, need data for the calculation of the SROI were collected by making a request to the Tuscany Region for all the administrative-accounting documentation related to the selected project. Project planning, application for access to funding, 5 periodic technical reports for monitoring the route, documents for reporting the costs incurred and reports drawn up during the project and at the end have been made available. From their analysis, the case study was reconstructed and most of the elements for the calculation of the SROI were recovered: the field of action, SH, realized activities, time frame of analysis (2014-2016) and period of impact estimation (2017-2019), input and output.

Having ascertained the involvement of numerous SH and the complex articulation of the case study, the research group included only the SH strictly involved in the realization of the project and in its execution for the calculation of the SROI, in particular for the exploitation of the outcome.

Then, SROI analysis is realized quantifying the outcomes related the considered SH presented in the technical reports and in the final evaluation, which contribute in part to determinate the impact, through the recovery and attribution of adequate financial proxies. In fact, for reason of time, it was not possible to lead semi-structured interviews with the selected stakeholders and focus groups between the operators engaged in the different project activities in order to identify also the outcomes related to the experience of individuals, both on a personal level as representatives of the organizations for which they operate. These are outcomes that aren't usually included in the quantification of the impact, which contribute to its relevance and significance.

Once the evaluation period has been defined, the rates are set to purify the final SROI ratio from the influence of outcomes that would have occurred in any case regardless of the intervention (deadweight and displacement) or attributable to actions carried out in parallel (attribution) and to account their exhaustion (drop-off).

Based on the results emerging from the study, SROI's ability to economically exploit the total impact of an international health cooperation project will be assessed, taking into consideration the complex articulation of these projects and the specific ability in detecting and quantifying each crucial aspect determining the social value and the induced impact.

2.2.1 The case study "introducing health information system (IHIS): A modern approach to transparency and accountability in the Albanian public health"

In recent years, after a long period of transition from the previous Soviet totalitarian regime, Albania has undergone a strong development with the consolidation of its economy (Săvoiu et al, 2015; Tomaszewski and Świadek, 2017). The Albanian continuous economic-financial growth (OECD, 2019) has generated greater well-being in the population and pushed the government to start a season of reforms aimed at offering greater and better services to create a new state welfare and to adapt the country to European standards for the possible entry of Albania into the European Union.

Already in years following the fall of the Soviet Regime, Albania launched a profound reform of the healthcare sector. The Ministry of Health has issued a strategic plan (Ministry of Health, 1993) with three main lines of intervention: decentralization, creation of a public insurance fund to increase healthcare spending and introduction of an accreditation system of the quality in the national health realities. In time, these objectives were reaffirmed in the documents "Long-term Strategy for the Development of the Albanian Health System (LTSDAHS) 2004" and "National Strategy for Development and Integration 2007-2013".

The action of institution building (Nuri and Tragakes, 2002) about the Albanian healthcare system was supported by international cooperation, which made available the necessary know-how and experience and helped to create a strong network between interested Italian and Albanian institutional and scientific organizations.

The case study "Introducing Health Information System (IHIS): a modern approach to transparency and accountability in the Albanian Public Health" was one of the project of healthcare promotion realized in last years. It was supported by the Tuscany Region, in collaboration with Albanian Our Lady of Good Counsel Univesity, with the aim of supporting Albanian health service providers in improving and preserving the health of the Albanian population through good governance, proper management and financial sustainability. The project was financed with IADSA (Italian Albanian Debt for Development Swap Agreement) resources by the Albanian government with an amount equal to 61,627,926.00 ALL (corresponding to 439.289,51 €) and lasted 24 months, from November 2014 to December 2016. It was articulated into 5 different activities (Figure 1) for the reorganization of the

financing system of the Albanian National Healthcare through the introduction of DRGs, supported by the implementation of a HIS software and the training of the personnel involved.

In particular, this project was chosen for the application and verification of the effectiveness of the SROI for its complex organization and the significant impact, which was expected to generate both in the 'country system' Albania than with the partners and its promoters. Indeed, the main goal of this action of the health international cooperation was to introduce a new modern financing system for health services in the country instead of the cost and loss covering approach. The project didn't create new structures but supported the public health service with technical tools) and knowledge to better carry out the functions that they had been tasked with by law and, at the same time, strengthen their capacities as administration structures in realizing health services. The national health information system provided a permanent flow of information that connected local health providers and health officials to national data systems, which is necessary to detect and track global financial trends to public health.
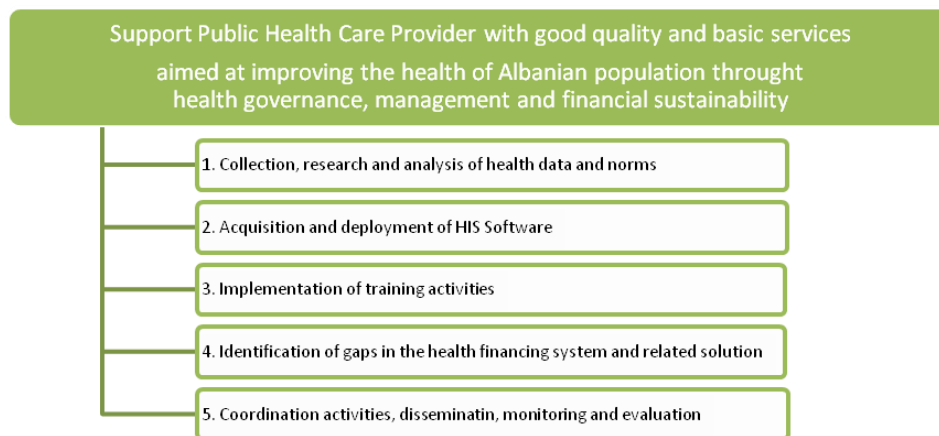
Figure 1. Activities of the project "Introducing Health Information System (IHIS):
A modern approach to transparency and accountability in the Albanian public health

2.3 The SROI analysis PROCESS

The SROI analysis gives solution to account the much broader social, economic and environmental value that results from social activities. Its classification varies – 'impact', 'returns', 'benefit', 'value' – but the questions around what sort of difference and how much are making the realized social actions are the same. SROI is the application of a set of principles (Figure 2) within a framework that is designed to help bring about the recognition of what is of value, which will be very different for different people in different situations and cultures.

This tool enables a ratio of benefits to costs to be calculated. It is about value, rather than money.
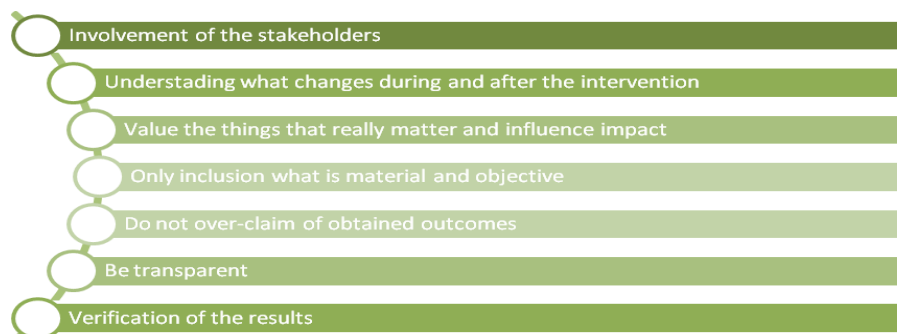
Figure 2. Principles of SROI analysis

SROI is a representation about change, on which to base decisions, that includes case studies and qualitative, quantitative and financial information. It can be used as a tool for strategic planning and improving, for communicating impact and attracting investment, or for making investment decisions. It is often the result of negotiations about what is feasible to measure and what we would like to be able

to improve or communicate. It is a valid objective support that can guide choices that managers face when deciding where they should spend time and money. Carrying out a SROI analysis involves six stages for social accounting and cost-benefit analysis (Figure 3).

Establishing scope and identifying key stakeholders
- It is important to have clear boundaries about what your SROI analysis will cover, who will be involved in the process and how.

Mapping outcomes
- Through engaging with your stakeholders you will develop an impact map, or theory of change, which shows the relationship between inputs, outputs and outcomes.

Evidencing outcomes and giving them a value
- This stage involves finding data to show whether outcomes have happened and then valuing them.

Establishing impact
- Having collected evidence on outcomes and monetised them, those aspects of change that would have happened anyway or are a result of other factors are eliminated from consideration

Calculating the SROI
- This stage involves adding up all the benefits, subtracting any negatives and comparing the result to the investment. This is also where the sensitivity of the results can be tested.

Reporting, using and embedding
- Easily forgotten, this vital last step involves sharing findings with stakeholders and responding to them, embedding good outcomes processes and verification of the report
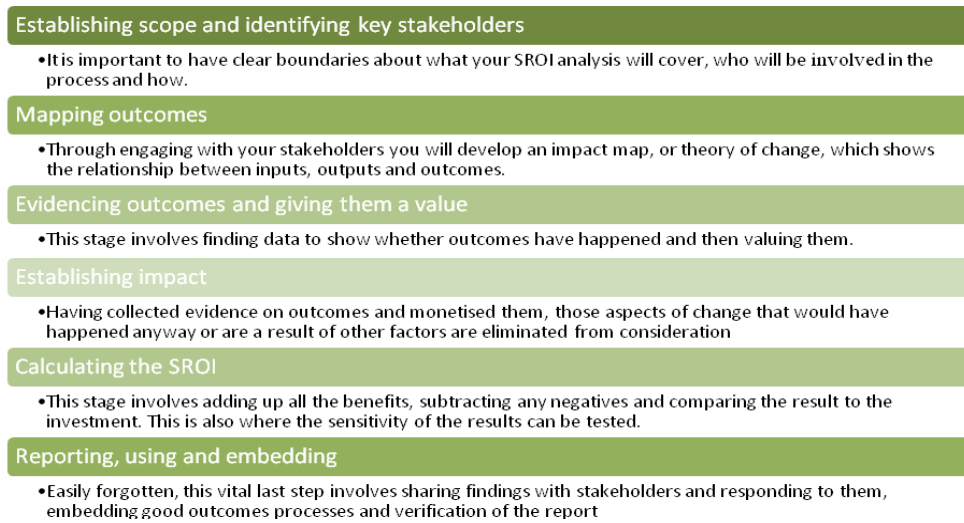
Figure 3. Phases of SROI analysis

2.3.1 ITS application to the case study

The SROI analysis starts from the determination of the field of action and the identification of the stakeholder to include in the analysis. This first step is the keystone because it determines the variables, which directly influence the SROI measurement. In fact, the economic valorization of the outcome of the engaged stakeholders quantifies the generated social return. In the case study, the SH directly involved in the planning and in the realization of the studied intervention were considered since the outcome of these subjects that determined mostly the impact generated by this cooperation project (Figure 4).

Stakeholders	Inclusion or Exclusion	Reasons
Italian International Cooperation	Exclusion	Indirectly involved in activities
IADSA	Exclusion	Indirectly involved in activities
Tuscany Region	Inclusion	Project's provider
Foundation Our Lady of Good Counsel	Inclusion	Partner's provider
Albanian Ministry of Health and netwoerk	Inclusion	Direct beneficiary
Private Health Care Providers	Exclusion	Indirect beneficiaries
Albanian Private Insurances	Exclusion	Indirect beneficiaries
Albanian Ministry of Finance	Exclusion	Indirectly beneficiaries
Software company	Exclusion	Indirect beneficiaries
Users training courses	Inclusion	Beneficiaries of training
Italian Teachers	Inclusion	Directly involved in activities
Patients	Exclusion	Indirect beneficiaries
Neighbouring Balkan Countries	Exclusion	Indirect beneficiaries
Embassy	Exclusion	Indirect beneficiaries
World bank	Exclusion	Indirect beneficiaries

Figure 4. Identification of involved stakeholders in the studied project

Following the connection between the involved stakeholders, actions, inputs and outputs is restored (Figure 5). Defining the reference context, we proceed with the attribution of outcome to the considered SH (Figure 6). We have identified them by the analysis of the available documents (project planning, application for access to funding, 5 periodic technical reports for monitoring the route, documents for reporting the costs incurred and reports drawn up during the project and at the end).

For the organizational problems, interviews and focus group with SH couldn't be realised so the finding outcomes wasn't verified and integrated to proceed their economic valorisation through the support of adequate financial proxies. This condition didn't permit the economic measurement of impact because it didn't guarantee the validity of the bases of the SROI analysis.

Nevertheless, during the collection of information relating the variables used for the SROI calculation, it was observed how these were the same monitored at each stage of the intervention by project's developers, according to the international guidelines on social planning and its evaluation. So we can affirm that the SROI analysis is easily applicable for the economic measurement of the social value generated by an international cooperation project, also in the complex healthcare sector. Indeed, its application allows also to optimize the resources use.

With the structuring of a rigorous reporting system, which integrates data necessary for the project monitoring and additional information for SROI calculating, permits both to carry out a serious check on the process and to economically quantification of produced impact by the same with a minimum effort. Moreover, when the outcomes will value and the SROI rate will be calculated, after to correct the obtained economic amounts by applying rates, which permit to measure how much the detected outcomes really influence the total impact, the total social return will be shared and discuss with the parties involved in the project to examine it related to taken actions and the profuse commitment. Also those final phases of the SROI analysis are the same actions valuated and improved at the end of each social project, in particular in international cooperation ones, for the importance of the result in time.

Activities	Actions	SH	Input	Outputs
Collection, research and analysis of health data and norms	Review of the current procedures concerning monitoring and control system, budgeting, auditing and financial control and investment will be formulated	Tuscany Region	Research, data collection and analysis costs	Health data collection
			International consultancy	Acquisition and deployment of HIS software
			Projects, partners and applicant staff time	Training on HIS (10 meeting)
		Foundation Our Lady of Good Counsel	Editing and publications costs	Manual and national guidelines on accounting procedures: "The health care financial system in Albania" and "Path to DRG system in Albanian Healthcare"
		Albanian Ministry of health and network	Mobilities and translation costs	Manual and national guidelines on health data reports "Guidelines for the development of cost accounting in Albanian Hospitals"
Acquisition and deployment of HIS Software	The project team, under the supervision of the international and national experts, will define the technical characteristics of Health Information Systems software (HIS). The Ministry of Health will implement the software into 3 health and realise a training for about 200 health managers and professionals.	Tuscany Region	International consultancy	Report on technical characteristics of the HIS "Design of functional requirements of the software"
			Equipment: HIS software	Selection of a provider for the HIS
		Foundation Our Lady of Good Counsel	Project staff time	HIS software development: Reports "Analysis" and "Reports and software source code"
			Partner staff time	Formulation of model contract(S) between PHCP and MoH: Contract "Information System for Administration Support of Policy Implementation based on costs by diagnosis (DRG Diagnosis Related Groups) for Hospital Health Care System" with prot.no. 854/10
		Albanian Ministry of health and network	Training costs (travel costs of expects, cost per participation)	Definition of check-list concerning the needs of PHCP in terms of governance based on the new DRG financing system
			Editing and publications costs	Digitalisation of health care service management
			Translation costs	Training on DRG and cost accounting system for around 200 health managers and professionals
		Users training courses	Mobilities	HIS application into 3 health care providers
Implementation of training activities	Training activities	Tuscany Region	International consultancy	Training packages:
			Equipment: HIS software	A. 32 h in 4 days; accounting and internal controls; about 100 health professionals and managers.
		Foundation Our Lady of Good Counsel	Projects and partners staff time	B. 32 h in 4 days; healthcare financing and DRG systems for policy analysis and resource allocation decision; about 100 health professionals and managers (participants); C. 12th November 2015, "Cost Accounting and the new national guidelines". D. 8-10th November 2016, "Healthcare financing and Diagnosis Related Group system for policy analysis and resource allocation decision".
		Albanian Ministry of Health and network	Training and workshop costs (travel costs of expects, cost per participation)	Action plan about HIS provider
		Users training courses	Editing and publications costs	2 workshop: analysis of existing procedures and standards within the accounting and internal control systems
		Italian Teachers	Mobilities and Translation costs	Conference, 15th January 2016, "Hospital financing: diagnosis related groups-leading the debate".
Identification of gaps in the health financing system and related solution	Analysis data, regulation and feedback from training sessions	Tuscany Region	International consultancy	DRG formulated: "Implementation Plan/Recommendation & Inception report outlining proposed approach and time table, as well as proposed methodology to be adapted for the development of the accountability guidelines and DRG plan (as whole document)".
		Albanian Ministry of Health and network	Projects staff time	Action plan about DRG patient classification: "The state of the art in the DRG's introduction perspective. Report on the analysis on: the current payment model for STC, the existing patient diagnosis and procedure coding systems, the current hospital information systems" and "Guidelines and form for survey in line with the outlined analysis (Medical Classification System and Patient Discharge Forum)".
		Foundation Our Lady of Good Counsel	Partners staff time	Action plan about cost accounting and internal control: "Guidelines for the preparation of a manual of analytical accounting for Albanian business health system"
		Italian Teachers	Editing and publications costs	Check-list on strategy to switch to a prospective payment system formulated
			Mobilities and translation costs	New model contracts between PHCS and Ministry of Health
			Research/data collection and analysis costs	Review of regulations and of contractual regulations: 8 meeting
Quality assurance, monitoring and evaluation	Coordination activities, dissemination, monitoring and evaluation	Tuscany Region	Data	Meeting, consultations, briefing sessions
		Foundation Our Lady of Good Counsel	Data	Website, workshop
		Albanian Ministry of Health and network	Data	Monitoring and evaluation reports

Figure 5. Relationship between the SROI analysis variables

Outcome	Index
Tuscany Region with the Centro di Salute Globale (CGS)	
Start of a strong collaboration with the healthcare system in the Balkan Region and Albanian healthcare system	N° bilateral developed projects for the promotion of health in the following 3 years
Development of a structured collaboration model with the Albanian Institutions	N° bilateral meeting / projects
Increase of competences in engaged operators	N° training course for each operators
Operative solution for the reform of the Albanian Healthcare system	N° procedures for HIS implementation
Development of structured collaboration between institution (Albania and Tuscany)	N° of agreement/ cooperation activities
Accreditation of Tuscany as a reliable IADSA partner	N° more promoted IADSA projects
Accreditation of Tuscany as a reliable AICS partner	N° more promoted AICS projects
Carrier progression	N° collaborators, whom have made a carrier
Growth and strengthening of the relationships' network with Tuscany realities	N° financed scholarships by Tuscany-IC-Italy (Rotary 30.000€ at 20%), Consolidation of relationship between FLC and UNIFI (degree in architecture), N° projects with UNIFI
Greater academic credibility	N° more foreign students
Opportunity to increase the submission of papers	N° publications
Possible future collaborations	N° projects with Tuscany in the following 3 years, Empowerment of local, national and international network
Project and accreditation with the Albanian Ministry of Health and Education Ministry	N° projects
Foundation Our Lady of Good Counsel	
Expertise	Training, better internal and external coordination, resilience, better ability to access national and international funds, training, team building, problem solving
Observatory of health systems in the Balkan area (2013) and accredited Centre for Continuing Education (professional credits)	Accreditation for the provision of refresher courses for health professionals, Enhancement of training for professionals, Training courses in health management field, also in Balkan area (Kosovo, Bosnia, North Macedonia and Montenegro)
IADSA meeting	Provider in emergency courses
Achievement of purposes "Education, Health and Training" of Foundation (outpatient clinic in 1993 opened by the IDI of Rome managed by Catholic university since 2014 and new opening of odontostomatology clinic and rehabilitation and sport clinics)	Projects manager
Improvement in data analysis in the PHCP	N° reports
Improvement of the system of health financing	N° approved guidelines, realized in IHIS projects, by Albanian government
The system of health financing is improved	Introduction of HIS and training of its users
Albanian Ministry of Health and its institutions	
Overcoming of differences between Regions	N° members in network for exchange and discussions about common themes
Ability to bring out latent training needs	N° employees, whom attend to other training courses in the following 3 years
Example for the other hospitals of the Country	N° realized training courses for the other hospitals in the following 3 years
Direct application of acquired notions	N° more digital procedures
Users training courses	
Grow knowledge, skills and abilities	N° trainers, which have made career
Need for practical application of learned concepts	N° operative applications
Stronger training need and self-evaluation	N° organised training courses and N° focus groups
The made available to training colleagues	N° divulgate realized meetings
Introduction of changes in membership structures	N° new procedures
Training courses	Costs
Experience of teaching and operative support in the health IC, which improves capabilities to manage relationship in a foreign Country	N° following experiences in International Cooperation
Teacher/Researches from Italian Nation Healthcare System	
Knowledge of new and different healthcare system	N° possible courses on this subject
Professional growth	N° teachers with more opportunities of career
As a full training course abroad	€ of institutional similar training courses in Italy
Awareness of the performance of the Italian NHS following the viewer in the Albanian hospitalization and risk management analysis departments	N° meetings for promotion of the Italian Model NHS
Deep relationship with the learners, which didn't end after the	N° collaborations

training courses	
Empowerment of the research group	N° research grants (3 at 100% + 1at 20% financed by CGS), Joint laboratory (partnership between University of Florence and CGS), Technological instruments (about 6000€), N° publications (2), Carrier progression (rector's delegate of Lady of Good Counsel University)

Figure 6. Stakeholders with relative outcomes and their financial index

3. CONCLUSIONS

With the emergence of the ToC, the evaluation paradigm of social projects has changed. The impact has become the reference variable to evaluate the effectiveness of a social project. Many methods have been developed, both qualitative and quantitative, for its measurement. Among the quantitative ones, SROI has established itself for its ability to calculate the measure of the generated return by association of specific economic value to each outcome by means of a financial proxy. This tool allows to measure the extra-financial obtained benefits of an action in comparison with the resources invested for its realization, equal to the economic achieved results emerging not only at the end of the social initiative but also in the medium-long term.

Due to its characteristics, the SROI is useful to calculating the impact of international cooperation projects.

In literature it is applied in almost all sectors of intervention. Although WHO has identified SROI as a reference analysis to compute the generated value by health promotion's projects, there are only few example of its application in this context of intervention. Hence the research aim was to study the applicability of SROI in international health cooperation projects.

We identified as relevance case study a project conducted by the Tuscany Region in Albania to preserve and improve the health of the Albanian population by increasing efficiency, maximizing productivity in service production and rationalizing the use of resources within public health services.

During the data collection, the research group can verify the applicability and the validity of the use of SROI for the economic social value quantification in health international cooperation project since the variables investigated for the SROI rate measurement are the same used in the project's programming and monitoring phases. It permits to optimize time and the use of resource, having two results together. Instead the simple reading and the ability to detect the effectiveness of the intervention implemented make SROI a very advantageous tool for the assessment, monitoring and accountability also of international health cooperation projects.

The limits of this study are the application of the SROI analysis to a single case study and the impossibility to arrive at calculating the SROI rate not having the opportunity to verify and integrate the outcomes of the stakeholders with interviews and focus groups. Its future developments will be the application of SROI analysis to other projects of international health cooperation and, if the effectiveness will be confirmed, we will proceed with the comparison of the SROI performance in projects realized in different sectors.

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BRAND LOYALTY IN PROFESSIONAL SPORTS

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ABSTRACT

This article reviews the existing literature on Brand Loyalty in sports, which is one of the main topics that create challenge in sports marketing. As the continuation of previous researches done by the author, this paper reviews the term brand loyalty from a broader prospect. The purpose of this article is continuing the overall research held by author on research topic investigating the core terms and aspects, which, one of them is brand loyalty. Authors used review method and tried to formulate a theoretical framework as the result of research. According to findings, brand loyalty is not evaluated correctly through marketers of football clubs in developing countries or simply in football clubs that fail financially and in performance. Based on the findings it should be noted that proper researches should be done on the topic in future, as sports is one of the fastest growing sectors in the modern business environment. However, limitations about shortage of proper researches on the context made obstacles on the way of this research. Most proper scientific articles have been reviewed and core concepts and findings summarized in order to be presented in a logical order and structure. Although one of the aims of this research was using comparative method and formulating a framework of similarities and differences in evaluations in existing literature, investigations has shown that research are not enough to create such a framework. Thus, existing researches are similar to each other and not colorful enough with detailed case studies and satisfactory quantitative research. Another limitation is about researches done on brand loyalty in sports marketing; however, it is one of the fastest growing business nowadays. This research may help sports businesses to improve or change their marketing strategies or help to create new policies in order to succeed in the growing market. Especially football clubs need such changes in recent years as new rules set by international football organizations as UEFA and FIFA made new challenges and serious financial obstacles for them. New rules as FFP (Financial Fair Play) have proved that traditional strategies and trends are not successful in long term and such researches may help to find out the reasons of failure and create more sustainable policies. This research will also inspire researchers to hold more practical and detailed case studies on the topic to create more challenging literature on the topic

KEYWORDS

Brand architecture, brand association, brand loyalty, loyalty, sports marketing.

JEL CLASSIFICATION CODES

M10; M31; Z28

1. INTRODUCTION

Basically marketing literature agrees on a point that sponsorships has a certain impact on brand loyalty, or in other words it influence consumer behavior in sports market. Based on the annual report of IEG (2018) (Figure 1), significant growth has been observed in sponsorships in North America in 2018 compared with 2017. They predict that growth rates will correlate the size of the industry, underlining the statistical data showing that sports industry is again the leading for sponsorship investments with 70 percent in total within different industries. They also predict 4.9 percent increase for the upcoming year for this sector.

Table 1. What Sponsors Want & Where Dollars Will Go in 2018, IEG (2017), Retrieved from: www.sponsorship.com

NORTH AMERICAN SPONSORSHIP SPENDING BY PROPERTY TYPE					
	2016 Spending	2017 Spending	Increase from 2016	2018 Spending *Projected*	Increase from 2017 *Projected*
Sports	$15.7 Bill.	$16.26	3.6%	$17.05 Bill.	4.9%

	Bill.				
Entertainment	$2.2 Bill.	$2.29 Bill.	3.2%	$2.4 Bill.	4.8%
Causes	$1.99 Bill.	$2.05 Bill.	3.0%	$2.14 Bill.	4.4%
Arts	$962 Mill.	$993 Mill.	3.2%	$1.03 Bill.	3.7%
Festivals, Fairs and Annual Events	$878 Mill.	$903 Mill.	2.8%	$936 Mill.	3.7%
Associations & Membership Organizations	$604 Mill.	$616 Mill.	2.0%	$635 Mill.	3.1%

Consumers are the leading power of leagues and teams in football industry as Taylor (1992) calls them "supreme authority". Accordingly, there are different tools (e.g. social media) that should be used effectively to attract them to leagues and teams. As one of these tools are social media, its objectives are raising brand awareness, identification of brand personality, growing sales and developing online profiles (G. Szolnoki et. al., 2014).

As a term "sport brand" identifies sport brands such as leagues, teams or events as a brand, in other words "sport brand" does not refer to branches of sport as football or basketball (Kunkel et.al. 2013). Kunkel et.al. (2013) note that their research has shown that the range of communication demonstrated by consumers towards sport brands hold a great importance from the brand loyalty point of view. This importance can be explained both with experience and researches hold on the behavior of loyal and highly involved consumers. Thus, consumers with higher loyalty and involvement rate demonstrate higher attendance in sports event of favorite brands or follow these events online via TV or online media (Armstrong, 2002a). Supporting this tendency Wann & Branscombe underline the fact that such consumers also show higher frequency of purchasing more goods or services offered by these brands. Another characteristic of such consumers is about evaluating sponsors of favorite sports brands more positively (Filo, Funk & O'Brien, 2010). As it is observed from researches stressed above, involvement is an integral and vital part of loyalty and it is a one of the keys for loyalty. Thus it has been used by many researchers (e.g. Kerstetter & Kovich, 1997; Armstrong, 2002b; Funk, Ridinger, & Moorman, 2004) to give more explanatory definitions for attitudes and behaviors reflected by consumers (Kunkel et.al. 2013).

In his previous research Aaker has emphasized the role of sub-brands stating that they have strong connection with master-brands or parent-brands, whereas they increase or modify the associations about those master-brands (Aaker & Joachimsthaler, 2000a). A similar opinion can be observed in the research done by Rajagobal & Sanchez (2004), where they give an additional explanation for portfolio. They underline that, portfolio does not include only the brands owned by the interested company, all brand that influence consumer decisions to purchase should be in portfolio.

2. BRAND LOYALTY

Brand loyalty is the main aspect of a brand, whereas it reflects the range of consumer's commitment to a brand (Aaker, 1991). From practical point of view, Sheth (1968) has identified brand loyalty as a function of frequency of the brand is purchased under conditions containing time-dependency as well as time-independency. Another important process for brand managers is development and promoting brand loyalty. Showing repeat purchase behaviors, loyal consumers should also be considered as repeat consumers, and it supports cost savings for brands, it is the reason why using big budgets on for involving new customers lose its importance (Rentshler et al., 2002). According Rosenberg and Czepiel (1983), investment for attraction of new customers require 6 times more spending rather than investments for keeping repeat customers. Operational definition of loyalty is frequently used, which in this meaning it describes repeat purchase, preferences, commitment reflected by consumers, retaining existing customers and devotions shown by consumers (Bennett & Rundle-Thiele, 2002).

As it is noted above, brand loyalty is described as competency of involvement of new consumers and retention of existing ones from the professional sports point of view. According to Wilkie's (1994) description about brand loyalty, attitudes and behaviors should both be favorable in order to say that consumers are loyal, on the other hand, Kaynak E. et.al. (2008), state that this description does not clarify the frequency of brand loyalty, however it removes the prospect of unfavorable attitude by consumer when they repurchase the same good or service.

It is obvious that there are many colorful factors that each of them have influence on the advancement of brand loyalty in some extent. Brand loyalty is interpreted as a multidimensional concept which usually tested attitudinally and behaviorally (Day, 1969). Another theory claims that,

brand loyalty needs both favorable attitude containing many cognitive and emotional aspects performed to the brand, at the same time it needs repeat-purchase tendency (Dick & Basu, 1994; Mahony et al. 2000; Funk & Pastore, 2000). Mahony et.al. (2000), further note that such dimensions should be useful for consumer segmentation. Additionally, it is implied that, brand loyalty is an aggregate structure which is built on behavioral, demographic and attitudinal features that can be used for fan segmentation, however, sport managers should not rely on these factors or to consider them as vital (Tapp, 2004).

The second reason, brand loyalty provides openings for new sub-brands or brand extensions along with the main products (Aaker, 1991; Keller, 1993; Gladden & Funk, 2001). New sub-brands (e.g. fan-shops, restaurants, fan clubs) which are related to the team and located near to the main locations of the team (e.g. stadium), let the team to create new revenue streams by managing and administrating events or controlling the income through licensing agreements (Gladden & Funk, 2001). According to Gladden & Funk (2001), higher levels of brand loyalty creates an opportunity for the teams to offer brand extensions not only in the mother country, but also all around the globe, which creates new revenue streams and profit for them. According to Aaker's (1991) interpretation, brand loyalty should be considered as one of the crucial outcomes on the way of building brand equity. Using theoretical work on brand management creates and opportunity to identify elements, that may be in relation with loyalty towards a brand and help to its prediction process. Testing or analyzing these elements lead managers to find the guidelines to which target to address the marketing activities.

Based on the research held by Gladden & Funk (2001) initial researches on the correlation between attitude and behavior have given elastic or uncertain results, accordingly some of those researches have been described as the demonstration of absence of any relation between attitude and behavior (Corey, 1937; LaPiere, 1934; Wicker, 1969). Further they note that, the relation between these two factors have been clarified and explained through researches only in the mid of 1970s.

2.1. Behavioral Loyalty

According to Jacoby & Chestnut (1978) shows the tendency of inclination reflected by consumers to purchase the same goods or services repeatedly over time. As the object of this research is sports, let's see then what can be brand loyalty from sports marketing point of view. Brand loyalty may refer to frequent purchase inclinations of consumers towards goods or services, merchandise products or simply tickets, season-tickets or partial season-tickets as well as following the events, competitions or other campaigns related to favorite teams via media tools as TV, online media, through subscriptions to the monthly or quarterly journals of that team. Behavioral loyalty in professional sports emphasizes the group of consumers that purchase such goods as seasonal tickets and/or follow games with attendance of favorite team online or on TV (Gladden & Funk, 2001). Gladden & Funk (2001), have made research and observed that, behavioral loyalty has been tested based on three core factors, namely, on attendance to the matches (Baade and Tiehan, 1990), the inclination to buy team products/goods/services (Wann and Branscombe, 1993), and since how long time they are fans (Mahony, Madrigal and Howard, 2000).

In some researches these fan groups are described as groups with spurious loyalty, however it does not have justification and academic value to put them to this group. In turn there are also limitations about researches investigating the nature and indicators of spurious loyalty, which make obstacles to identify the borders of spurious loyalty. There is also an opinion that behavioral loyalty does not include spurious loyalty (Backman & Crompton, 1991; Day, 1969), which is logical but needs a better explanation through case studies or deep data analysis. Gladden & Funk (2001), suggest that, spurious loyalty is an integral part of sports marketing and it is an important notion for sports marketers, whereas successful performance may have born spurious loyalty.

2.2. Attitudinal Loyalty

It is important to take into account people who always have a favorable attitude towards their favorite brands time-independently and performance independently, because these consumers can show strong commitment to their favorite brands (Baldinger & Rubinson, 1996), besides the information given about behavioral aspects. The core antecedents of attitudinal loyalty notion should be explained by signifying the tendency that more favorable attitudes reflected by consumer towards a brand – which is a team in our case – always keep consumption stable and/or boost repeat purchase behavior (Funk, et al., 2000; Mahony, Madrigal and Howard, 2000).

Brand loyalty on the attitudinal prospect is the inclination of an individual to reflect the same favorable attitude to a certain brand repeatedly under circumstances that he/she has previously done (Reynolds et. al. 1975). Mellens et.al. (1996), have classified measurement of attitudinal loyalty in two

levels: individual-level (inclination to be loyal) and brand-related level (attitudes on the act of buying the brand).

3. Methodology

This paper is formulated with review article style through examination of existing articles on the current topic. Authors have grouped and compared the emphasized opinions after tough review and acquaintance with related articles. This article is based on theoretical framework, however it does not include table reflecting differing opinions, whereas limitations in the existing literature has created this obstacle. The section called Discussion has discussed the advantages and disadvantages of the reviewed articles on the topic, also their limitations.

4. Discussion

As it can be observed from interpretations given by authors as Aaker, Joachimsthaler, Rajagobal, Sanchez, they all agree on a point that correct interpretation of consumer evaluations about each sub-brand that is in the portfolio helps to find out the driving role of each sub-brand which in turn helps to clarify the extent of influence that each of them have on consumer behavior. In sport context a sport consumer may build a connection with several object that are related with each-other in a certain framework (e.g. a player, a team or a league) (Robinson & Trail, 2005).

Discussing the importance of promoting higher level of brand loyalty has a significant role on offering and consumption of new sub-brands or extensions, this statement can be proved in different examples of teams with proved international branding (e.g. Barcelona F.C., Manchester United, Juventus F.C.) which have founded their football academies, fan-shops and other similar institutions across boundaries (e.g. Asian countries, Caucasus). This trend is not only conducted by teams if we talk about brands and sub-brands, players who could create a certain accepted brands and reached a brand level through their carriers and fames are also tend to follow this trend (e.g. Ronaldinho Soccer Academies RSA and Azerbaijan). Another good example for such a trend could be Turkish Super League which broadcasts some of the league games or derbies in Japan with high demand by Japanese audience because of the Japanese famous players playing in that league. In turn it created new opportunity for some Turkish clubs to open branches of merchandise stores in Japan, which will create new revenue streams for these clubs.

Interpretation of spurious loyalty given by can be observed with real-life experiences. A good example for this theory, may be Galatasaray S.K. – a Turkish team playing in the main league, thus, winning UEFA Cup (Union of European Football Associations – second largest and profitable tournament in Europe) and Super Cup (1-match tournament organized between Champions League (largest and most profitable soccer tournament in Europe) and UEFA Cup, identifying Europe's best) in 2000, the number of team's fans has increased rapidly not only in Turkey, but also in many other countries. However it did not create new revenue streams and profit from merchandising and other sources did not show a serious changes. The reason was about spurious loyalty and new fans mostly supported the team passively without game attendance or following matches online, neither they were not purchasing merchandize on regular basis (they mostly purchased jerseys once and then did not show repeat purchase behavior). In such circumstances teams should be careful in sampling fans and planning their marketing strategies whereas fans showing spurious loyalty do not reflect strong loyalty or commitment when the team have a losing season or show lower performance.

5. Conclusion

According to the observations from real life experience and background that has been reflected by literature review it can be concluded that sports industry is growing rapidly. This tendency carries the growth of sports marketing both as a practical matter that should be implemented efficiently and as an academic matter that require deep research. This review article has aimed to clarify are the existing literature and academic researches enough to meet the requirements to support the growth stressed above. However, research has discovered that literature and researches in the field is much limited. There are limited number of researchers that are involved to the research directly on the topic, mostly the researches are old and cannot keep up with the rapid changed in the industry.

The other problem is about the target groups and sampling of this target groups that researches have been held. Sampling is the core factor to get reliable results from the quantitative researches help on a topic. According to review of the literature and observations of the author on the research results and methodologies used, most of the results reflected on the reviewed materials seems to be in need for further testing. It has given the author further empirical researches on some of the topics in the future research.

As it is underlined above, the literature on the topic is limited and old, which means they cannot meet the requirements of fast changing rules and character of sports industry. In turn it creates another obstacle which is about solving the financial problems of football clubs in modern environment where new regulations come every day by leading international football organizations, which put clubs under risk of bankruptcy. In other words, they are not up to date and lag behind to create solutions for underlined problems.

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LOCAL TOURISM AND ECONOMIC CRISIS.THE CASE OF THE REGION OF EASTERN MACEDONIA AND THRACE

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ABSTRACT

The global economic crisis over the period 2007-2008, had significant negative impact on the economies of many European countries, including Greece; which actually had already had significantly negative economic indicators. The economic crisis affected many sectors of the economy, including tourism. The impact of the economic crisis on tourism is correlated with different and variable factors. This article tended to study the magnitude of the impact of that economic crisis on tourism industry, particularly the case of areas in the Region of Eastern Macedonia and Thrace where tourism is developed. In order to approach that, we examined via quantitative methodology, variables such as origin of visitors, income generated by the visits, number of visits, overnight stays, average spending cost per night, average cost per visit and average duration of stays, for both incoming and domestic tourism. Especially, we examined the correlation of the relevant variables with the evolution of GDP at local level. For the main objective of this article, secondary data regarding the tourism figures for the period 2010-2018, were collected and analyzed through a quantitative methodology. The results of the analysis support the findings of the literature review, showing the impact of the 2007-2008 economic crisis on tourism, affecting seriously the sector of domestic tourism and causing reduction of the demand for the provided local tourism product. On the contrary, the overall demand of foreigners for the tourism product in Greece was increased, however such increment had fluctuations among different countries of the incoming tourism.

KEYWORDS

Tourism development; economic crisis; local tourism product

JEL CLASSIFICATION CODES

Z32

1. INTRODUCTION

Economic and financial crises often have long-term and disastrous macroeconomic effects. Crises originating from one sector of the economy tend to spread to different economic sectors and are unique for each of them. In recent times, the most recent crisis affecting all sectors of the economy has been the Global Economic Crisis over the period 2007-2008. The impact of that crisis on the tourism sector is still subject of investigation by researchers. Some studies, according to Khalid, Okafor & Shafiullah (2019), mention the different effects on tourism, however, some question how crises are shaped and measured as a cover-up to economic and financial crises with other events such as terrorist attacks, oil crises and climate change. On the contrary, others, like Sheldon and Dwyer (2010), as referred by Khalid, Okafor & Shafiullah (2019), believe that the crises could be opportunities for tourism to shape and become a more competitive sector.

In the last decades, according to World Bank (2020), there has been a sharp increase in global tourist demand. As a result, international tourism is now becoming increasingly important for global economic development. Both the public and private sectors have channeled considerable resources into this industry, so both businesses and governments need high-quality analyses to be able to understand the demand for the development of effective public policies and sound business decisions. Therefore, according to Peng, Song, Crouch & Witt (2015), significant efforts have been made in order to analyze the demand for tourism and to develop explanatory data to find models that would provide precious

information for making those critical decisions. Finally, "previous studies confirmed tourism's positive economic impacts in most, but not all, circumstances" (Li Jin & Shi, 2018).

Particularly in Greece, "tourism is one of the most important factors of economic development. The dominant model of development that has been strategically chosen for several decades in the majority of Greek destinations is that of mass organized tourism. Since the 1970s, when the "industrialization" of the tourist product began, tourism in Greece has acquired standardized and homogenized characteristics" (Tsartas, Papatheodorou & Vasileiou, 2014). However, "competition has set new rules on the global tourism market. The challenge for Greece is to become a successful player in the global tourism market and to offer solutions in the long term structural problems in the context of sustainable tourism development". Therefore, each region should design its tourism strategy based on reliable data as input for decision making, in order to continue attracting visitors and increase the tourist demand. The Region of Eastern Macedonia and Thrace (2015), prepared such a Strategic and Operational Plan for Tourism Development, although not very early.

2. THE LAST GLOBAL ECONOMIC CRISIS VS TOURISM DEVELOPMENT

In recent decades, tourism has tended to become one of the largest economic sectors in the world. Revenues from international tourism have risen dramatically, and if domestic tourism would be taken into account, tourism rates would be about six to ten times higher. In 2010, based on different methodologies, it turned out that tourism contributed from 5% - 9% to gross domestic product and 6% - 9% to global employment. Thus, according to Mihalic (2014), in many developing countries and regions the decision makers see tourism development as an opportunity for economic and social development of their countries, something that is reflected also in the list of top tourism destination countries. In the 1950s, only advanced economies were dominant in that list, although in 2010, the existence in the tourism market increased more and more in emerging countries such as China, Turkey, Malaysia, the Russian Federation, Ukraine and India. Thus, since 2010, we conclude that there is a widespread belief in the relevant literature that tourism development is directly linked with a country's economic development. Our views are verified below through the views of different scientists about the subject.

Ivanov & Webster (2007), in their article written just before the emergence of the global economic crisis, applied a quantitative methodology to measure the contribution of tourism to economic growth, focusing on the cases of Cyprus, Greece and Spain. In their analysis, the growth of GDP per capital at constant prices is seen as a measure of economic growth, arguing that the methodologies applied for the most part, only look at the relationship between tourism development and economic growth, but do not indicate to what extent economic growth is a consequence of tourism development. By looking at macroeconomic variables, one of which is GDP per capita, Ivanov & Webster manage to separate economic growth as a result of tourism and economic growth coming from other sectors of the economy, giving a clearer picture of the impact of tourism on economic growth (Bordo & James, 2014; Ivanov & Webster, 2007).

Aslan (2014), in his article uses a quantitative methodology to examine the relationship between tourism and economic development in the Mediterranean countries during the period 1995 to 2010. He believes that in countries such as Spain, Italy, Cyprus, Greece, etc., tourism development is a consequence of overall economic growth. On the other hand, in other examples of countries, tourism development has led to further economic development, which means that the improvement of tourism infrastructure in the context of policies to boost tourism, would benefit the economy in general.

Following the same pattern, in their article, Antonakakis, Dragouni & Filis (2015), analyse the data of ten European countries between 1995 – 2012 and conclude that the assumptions of economic growth as a consequence of tourism development and tourism development as a consequence of economic growth depend to a large extent, on the time the study takes place and on the economic events prevailing, such as the debt crisis in the euro area. According to the authors, this is particularly valid if we take into account the cases of Cyprus, Greece, Spain and Bulgaria which face significant economic problems since 2009 (Antonakakis, Dragouni & Filis, 2015).

In their article Dogru & Bolut (2018), provide an extensive literature review and use a quantitative methodology to highlight the direct correlation between tourism and economic development in seven European countries. The emerging results show that these two phenomena are interconnected and tourism could assist the countries, especially those in southern Europe, recovering from the economic crisis.

In one of the most recent articles, that of the Carmignani & Moyle (2019), it is investigated whether tourism development could reduce the gap between a country's real and potential GDP. The conclusion that emerges is that through tourism, the economy of a country could benefit from the cyclical advantages resulting from the relations that are established with other countries.

Another trend observed in the literature, is based on the assumption that phenomena such as economic crises, directly affect the tourism sector. Those articles that have been presented from 2010 to the present day, i.e. with the emergence of the latest global economic crisis, are all based on secondary theoretical research and quantitative analysis.

One of the first such articles, Hall (2010), is based on a literature survey and concludes that the latest economic crisis of 2007 had a significant impact on tourism as a result of the global nature of the economy. In turn, the author argues that tourism could contribute to an economic crisis, either through excessive dependence on a precarious tourism "market" or by government lending to unsustainable tourism infrastructure.

The article of Stylidis & Terzidou (2014), focuses on how the economic crisis affects citizens' perspective on tourism. To achieve this, a questionnaire survey was conducted in the city of Kavala in the region of Eastern Macedonia and Thrace in Greece. The conclusion that emerged from the survey was that the state of the local economy as well as the expected profits from tourism, would give citizens a corresponding opinion on the social, environmental and economic impact of tourism. In particular, in cases of economic crisis, locals would support more and more tourism development (Stylidis & Terzidou, 2014).

Focusing on the case of Greece, in his article Guduraš (2014), investigates whether the economic crisis affected the tourism industry, or not. The conclusion is that, in relation to the other sectors of the Greek economy, the tourism industry is a particularly resilient and flexible industry even in the difficult circumstances of the economic crisis.

In the article of Jenkins (2015), highlights the factors affecting tourism and how tourism development affects developing countries. The conclusion is that tourism could benefit developing countries subject to an appropriate cooperation between the private and public sectors and prudence in the decision-making process.

In an effort to create a more general picture of crises and tourism, their article Khalid, Okafor & Shafiullah (2019), focused on highlighting the impact of the various types of economic and financial crises, such as the inflation crisis, the collapse of the stock market, the debt crisis and the banking crisis on international tourism flows in the period 1995- 2010. They conclude that the impact of these types of crises depends to a large extent, on the geographical area concerned and whether the interest is in the country of origin or host of tourist flows, or the type of crisis. The authors found also in their research, that some crises have negative impact on international tourism, while other types of crises are either neutral or have positive impact.

Also, over the past decades, the relationship between tourism spending and economic growth for developing and developed countries has been extensively examined via mixed methods. The variables in those studies include domestic tourism spending (DS) and per capita real GDP (PRGDP).

Finally, particular reference should be made to the article of Papatheodorou & Arvanitis (2014), which focuses on the impact of the Greek economic crisis on incoming and internal tourism in Greece. The article separately researches each of the regions and Regional Units of Greece, based on the quantitative analysis of secondary data at regional and county level, between 2005 and 2012. The conclusion is that regions traditionally based on domestic tourism have been seriously affected compared to incoming tourism-based areas. The authors projected that domestic tourism would recover over the crisis, however such process was expected to be long and arduous, highlighting the need for the internationalization of tourism profiles in regions based on domestic tourism.

As mentioned in the introduction and following the logic of the approach of Papatheodorou & Arvanitis, this article explores the impact of the global economic crisis on tourism, focusing on the case of the Region of Eastern Macedonia and Thrace.

3. METHODOLOGY

To achieve the aim of this study, secondary data regarding tourist product supply and demand in the region of Eastern Macedonia and Thrace is collected and subsequently analyzed through the application of a quantitative methodology. The main research objective is the assessment and interpretation of the factors, through which, changes in the tourism industry are identified in order to investigate whether it has been affected during the last decade.

The main research question is the estimation of the size of the tourism product in the region of Eastern Macedonia and Thrace, based on available data on factors such as arrivals, overnight stays and hotel occupancy between the years 2010 and 2018 and the incoming tourism between the years 2016 and 2018 correlated with the local GDP. In this chapter, the research methodology according to which the secondary data will be used to achieve the main research objective is presented. The literature sources were found mainly through Science Direct (Elsevier), and Google Scholar, as well as various articles, academic sources and official statistics dating from 2010 to the present.

The applied methodology follows the example of the article of Papatheodorou and Arvanitis (2014) who after making some assumptions regarding the impact of the economic crisis in Greece, on inbound and inbound tourism in the country, subsequently collected secondary data from sources like the World Tourism Organization, the International Monetary Fund, the Bank of Greece and the Hellenic Statistical Service for the period between 2005 to 2012 on figures such as the evolution of incoming tourism, the number of available hotel beds, the number of overnight stays and the distribution of overnight stays and available beds at region as well as regions' position with regards to the inbound and domestic tourism. They then proceeded with the quantitative analysis of the after mentioned data in order to valid their original assumptions.

The main advantage of the previous method is that offers the possibility of combining and evaluating statistical data and related research results, reducing uncertainty and enhancing the validity of the final estimated results. Other advantages of that method, are that the conclusions resulting from its application could be extended to a larger population sample and that the validity of the results could be extended with the input of further data. The two main disadvantages of the method, according to Rabinovich & Cheon (2011), are: i. the reliability and validity of the results obtained depend on and are directly influenced by the data and the respective methodology used and ii. there is still no common ground among researchers, regarding the selection of the data to be used.

The selection of secondary data for this study was decided because the use of any other method would be extremely costly. Specifically, the collection of all the necessary data on the present subject by other methods such as questionnaires would require a long time and a support team, to achieve the desired results and the costs would be very high. In contrast, secondary data is readily available, with scientific articles and journals, government data and statistical studies on any related subject being easily accessed through the web without the need for an in-depth investigation for primary data to answer research questions. Easy access to data, various statistics, and government surveys combined with the abundance of news help the researcher to collect and combine them to achieve her/his research goals. Furthermore, Rabinovich & Cheon (2011), argues that reliable secondary data should be used, as their range is extensive and their validity is undoubted as they come from official government sources and their analysis has been conducted by experienced researchers.

The collection of data for the present study about the figures of tourism in the region of Eastern Macedonia and Thrace will come from the statistical authorities of Greece and other institutions. After the collection of the data, it will be analyzed and presented in tables and graphs. Through this, an effort is made for some comprehensive conclusions regarding the tourist product in the region of Eastern Macedonia and Thrace as well as its form / model, according to the latest available data. It should be noted that according to general accepted economic theory, factors related to income and prices play an important role in determining the tourist product of a region. Of course, the demand for tourism is measured by a multitude of variables, but the main ones used in studies until today are the number of overnight stays and arrivals. For interpreting the reasons why tourists are attracted to specific destinations, several factors such as population, income, cost of travel, cost of living at the intended destination, exchange rates and marketing come into play, aside with the natural and cultural assets. As Ramos et. al. (2014) argues, studies for such factors are considered as time consuming and there are only few references in the available literature.

Finally, taking into account the Regulation (692/2011) of the European Union (2011), it is noted that the sample of data regarding the region of Eastern Macedonia and Thrace which was selected for the present study, fully complies with its articles and is subsequently considered as the most appropriate way to ensure the use of common standards and the establishment of comparable statistics between countries. The data used, is derived from INSETE Intelligence, border survey from the Bank of Greece and Greek statistical authority (ELSTAT). They include basic tourism figures for the region of Eastern Macedonia and Thrace. Particularly, the following data from the mentioned archives will be used: a) The key figures for incoming tourism for the region of Eastern Macedonia and Thrace, between 2016 and 2018, b) Arrivals, overnight stays and occupancy by region and in general for the

years 2010 to 2018. c) The development of local GDP over the period 2010-2017[1] in the region of Eastern Macedonia and Thrace.

4. RESULTS

Below are analysed, some of the key figures for incoming tourism in the Region of Eastern Macedonia and Thrace, which give the most important evidence for the outcome of this study. These figures have as a constant variable the origin country of tourists and as secondary a variable which are alternating and are available the comparison of two secondary variables, which are: i. the number of incoming tourists (visits in thousands); ii. receipts expressed in millions (in €); iii. Overnight stays of tourists (in thousands); iv. Expenditure/visit (in €); v. expenditure/overnight stays (in €) and vi. the average length of stay (in days). The data presented are available for the years 2016, 2017 and 2018 as indicated in the tables below (Table 1, Table 2 and Table 3). Also, it should be mentioned that in order to determine the demand for the tourist product of the region, we take into account, data about the whole of the Region of Eastern Macedonia and Thrace, but it is clearly that the data include mainly the tourism attraction areas of the region of Eastern Macedonia and Thrace, like Thassos, Kavala, etc.

Table 1. Incoming tourism key figures for the region of Eastern Macedonia & Thrace (2018).

Incoming Tourism Key Figures for the region of Eastern Macedonia & Thrace (2018)							
Region	Origin Country	Visits (in thousands)	Income (in million €)	Overnight stays (in thousands)	Average Cost / visit (in €)	Average spending cost / night (in €)	Average stay / visit (in days)
Eastern Macedonia & Thrace	Turkey	429.5	87.1	1,025.4	202.9	85.0	2.4
	Bulgaria	875.1	58.1	1,903.0	66.4	30.6	2.2
	Germany	118.5	43.3	785.1	365.6	55.2	6.6
	Romania	127.3	29.2	575.5	229.1	50.7	4.5
	Other countries	379.6	103.9	2,177.4	273.6	47.7	5.7
	Total	**1,929.9**	**321.6**	**6,466.4**	**166.7**	**49.7**	**3.4**

Source: SETE (2019) – our creation.

Table 2. Incoming tourism key figures for the region of Eastern Macedonia & Thrace (2017).

Incoming Tourism Key Figures for the region of Eastern Macedonia & Thrace (2017)							
Region	Origin Country	Visits (in thousands)	Income (in million €)	Overnight stays (in thousands)	Average Cost / visit (in €)	Average spending cost / night (in €)	Average stay / visit (in days)
Eastern Macedonia & Thrace	Turkey	448.6	100.0	1,233.4	222.9	81.1	2.6
	Bulgaria	418.3	29.5	853.6	70.5	34.6	2.6
	Germany	99.9	53.3	1,159.5	533.4	46.0	9.2
	Romania	74.4	15.7	331.3	210.6	47.3	5.2
	Other countries	308.0	83.6	1,842.6	-	-	-
	Total	**1,349.3**	**282.0**	**5,420.5**	**209.0**	**52.0**	**4.0**

Source: SETE (2019) – our creation.

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[1] Provisional data. Published data about local GDP for the year 2018 do not exist until the time of preparation of this study. Latest update: 17/01/2020.

Table 3. Incoming tourism key figures for the region of Eastern Macedonia & Thrace (2016).

Region	Origin Country	Visits (in thousands)	Income (in million €)	Overnight stays (in thousands)	Average Cost / visit (in €)	Average spending cost / night (in €)	Average stay / visit (in days)
Eastern Macedonia & Thrace	Turkey	535.7	53.8	1,386.9	100.5	38.8	**2.6**
	Bulgaria	359.8	80.4	919.3	223.5	87.5	**2.6**
	Germany	115.6	49.0	1,063.5	423.6	46.0	**9.2**
	Romania	96.1	35.4	495.3	368.3	71.5	**5.2**
	Other countries	256.0	69.7	1,548.7	-	-	**-**
	Total	**1,363.1**	**288.4**	**5,413.8**	**211.5**	**53.3**	**4.0**

Source: SETE (2019) – our creation.

Taking into account the above tables for three consecutive years, it appears that Germany, Bulgaria and Turkey are making a greater contribution to the tourist product of the Region of Eastern Macedonia and Thrace. Germany seems to have the longest average residence period; although there are few visitors, it is also in the forefront of the expenditure consumption per visit, and in third place in terms of the cost of the accommodation, it chooses. As it is observed, visitors from Turkey, stay in the country 2.6 days on average (same as visitors from Bulgaria) but probably they choose better accommodation as we conclude from the average spending per overnight stays. In addition, instead of their geographical location, Turkey and Bulgaria origin tourists, seem to be the most frequent visitors to the region, as the kilometric distances of our borders are not long. From the average length of stay (2.6 days), we can estimate that the probably the days of the visits are Friday-Saturday-Sunday. For the other countries, no documented data are available and therefore they are not included in this analysis.

Next, we analyse below, the arrivals, overnight stays, the occupancy overall for the years 2010-2018 and the evolution of GDP in Eastern Macedonia and Thrace over the years. The following data are derived from the part of total available beds and the results are not estimated at 100% of the reference units, due to a lack of information on the high season months of each one during the year, as it is referred to the survey of INSETE Intelligence (2018). It should also be emphasized that the results do not include short-term rental accommodations like Airbnb-type platforms. The largest arrival on the region is from incoming - foreign tourists, and it can be seen that there is a serious reduction in arrivals from local – Greek-origin tourists. The research area probably attracts incoming tourists because it has precious natural and cultural assets. It is noted that incoming tourists are considered as guests from countries like Turkey, Bulgaria, Romania and other countries. The graph below shows the overnight stays of the inbound and domestic visitors, with a relatively constant inclination. Finally, as regards the overall completeness of the region, it stands at an average of 33,4% with a sharp reduction in 2014, 2015 and 2016 but recovers over the next few years.

Figure 1. Arrivals for the period 2010-2018 in Eastern Macedonia and Thrace.
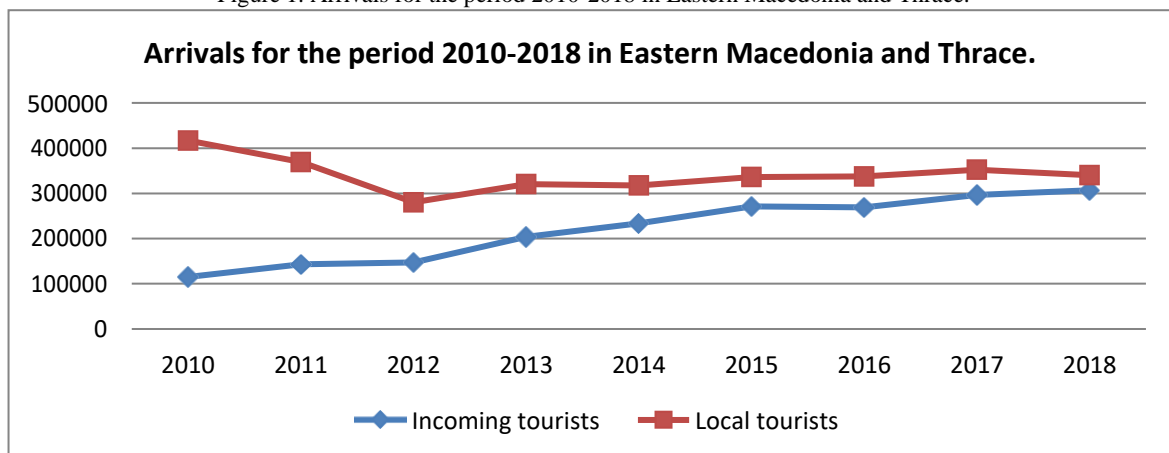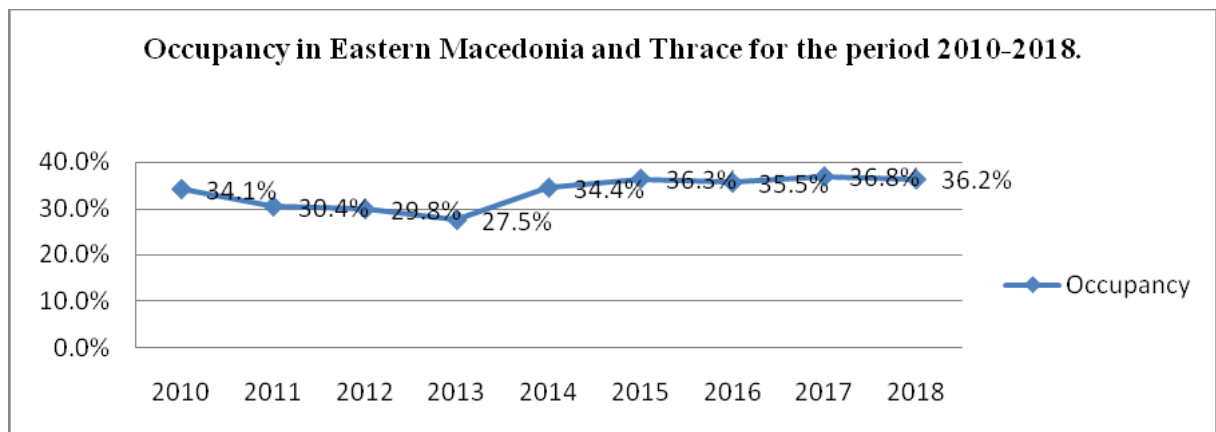

Source: INSETE intelligence (2019)– processed by the authors.

Figure 2. Overnight stays for the period 2010-2018 in Eastern Macedonia and Thrace.
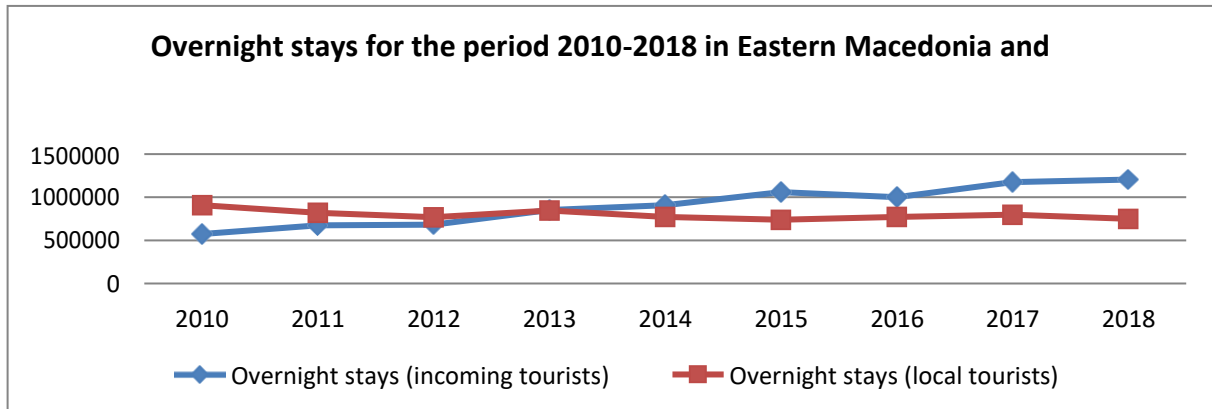
Source: INSETE intelligence (2019)– processed by the authors.

Figure 3. Occupancy in Eastern Macedonia and Thrace for the period 2010-2018.

Source: INSETE Intelligence (2019) – processed by the authors.

Finally, as it is derived from the literature review, it is obvious that tourism impacts the development of a country; consequently, GDP is affected also. As a result, in Table 4 we present the GDP values (in million Euro and current prices) for all sectors of the local economy and for its regional units for the years 2010-2017 and in the Figure 4 their development. The highest income, is presented in 2010 (EUR 9,197.63 million) and the lowest in 2015 (EUR 6,830.77 million) with an average over the examined period, of EUR 7,435.90 million. As it seems in Figure 4, region's GDP values over the years are decreasing, indicating the effects of the last global economic crisis. It is also important to mention that the most contributing Regional Units to the GDP are those of Kavala-Thasos and Evros, which include the region's most attractive tourist destinations, Paggaio and the islands of Thasos, Samothrace.

Table 4. GDP values in Eastern Macedonia and Thrace.

Regional Units	2010	2011*	2012*	2013*	2014*	2015*	2016*	2017*
Evros	2404.79	2157.13	1971.11	1805.41	1794.90	1799.55	1832.57	1816.18
Xanthi	1576.84	1362.85	1258.67	1215.94	1097.83	1085.18	1123.71	1098.23
Rodopi	1537.97	1416.29	1282.74	1175.89	1099.61	1079.36	1122.04	1110.45
Drama	1284.58	1158.46	1079.57	1023.19	1036.04	1044.84	1014.53	1014.82
Thasos, Kavala	2393.45	2055.15	1987.37	1784.05	1849.36	1821.84	1808.41	1906.35

Total East Macedonia and Thrace	**9197.63**	**8149.88**	**7579.47**	**7004.48**	**6877.74**	**6830.77**	**6901.25**	**6946.03**

Source: ELSTAT, 2020- processed by the authors.

Figure 4. Evolution of GDP in Eastern Macedonia and Thrace over the years.
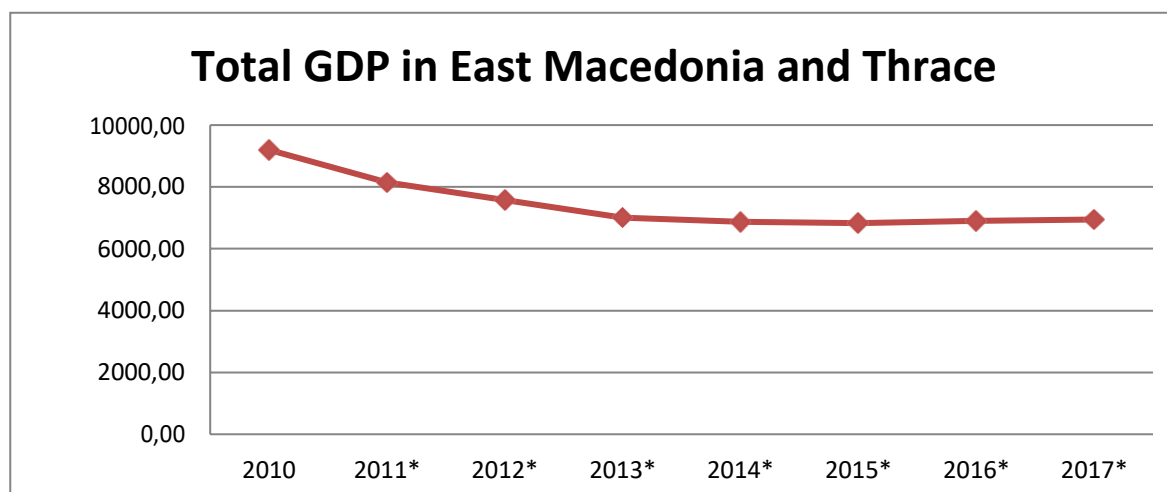
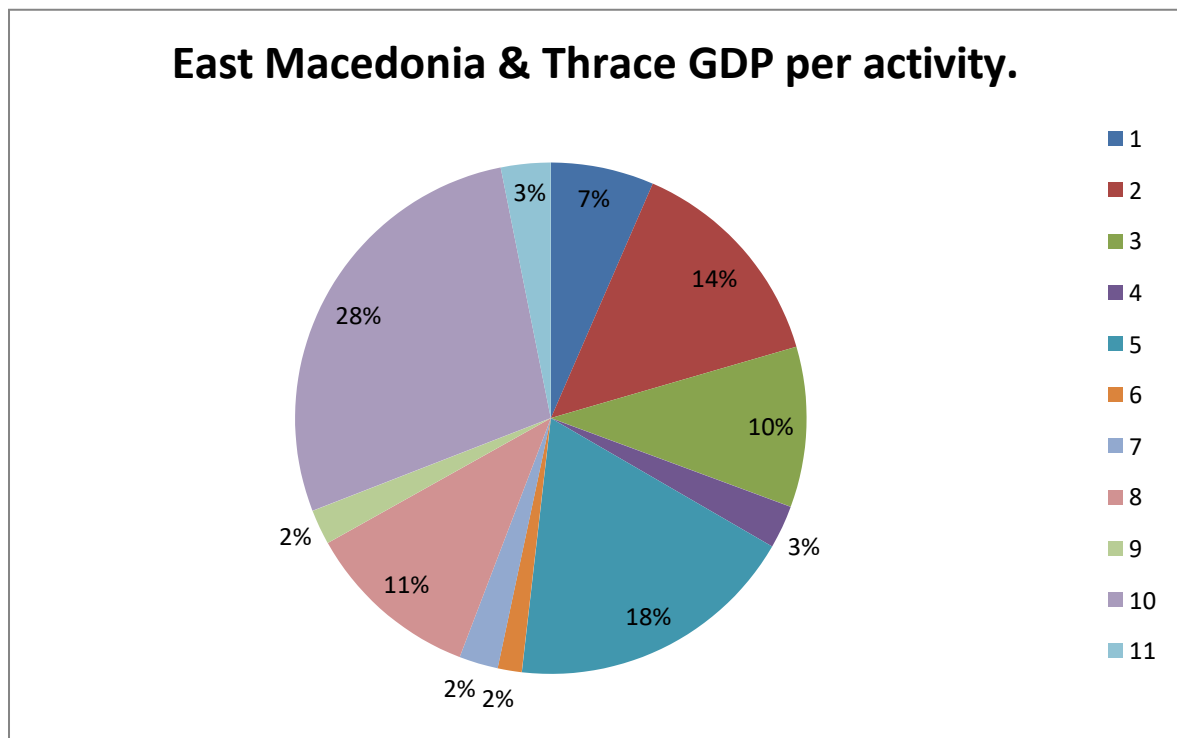Source: ELSTAT (2020) – processed by the authors.

In addition to the above, the most interesting in our research is to determine the GDP by sector of activity in the region, in order to indicate its contribution to the economy. Sectors, which affect the local GDP, are presented in the Table 5. The results presented in Figure 5 derived from the average between the years 2010-2017, in order to create a more comprehensive figure. The segment of the economy (in the statistics) which includes tourism in the region, is the one of "Wholesale and retail trade, repair of motor vehicles and motorcycles, transportation and storage, accommodation and food service activities" and as shown in Figure 5 is the second largest, with the greatest contribution to local GDP, behind the segment "Public administration and defense, compulsory social security, education, human health and social work activities".

Table 5. Sectors of the economy affecting local GDP.

1	Agriculture, forestry and fishing
2	Mining and quarrying, manufacturing, electricity, gas, steam, air conditioning and water supply, sewerage, waste management and remediation activities
3	Manufacturing
4	Construction
5	Wholesale and retail trade, repair of motor vehicles and motorcycles, transportation and storage, accommodation and food service activities
6	Information and communication
7	Financial and insurance activities
8	Real estate activities
9	Professional, scientific and technical activities, administrative and support service activities
10	Public administration and defence, compulsory social security, education, human health and social work activities
11	Arts, entertainment, recreation, other service activities, activities of households as employers, undifferentiated goods and services producing activities of households for own use, activities of extraterritorial organisations and bodies

Source: ELSTAT (2020) - processed by the authors.

Figure 5. Presentation of the local GDP per activity.

Source: ELSTAT (2020) - processed by the authors.

5. DISCUSSION

The examination of the secondary data, collected from the sources mentioned above, and the analysis of the main tourist sizes (number of incoming tourists, receipts and overnight stays) leads to the conclusion, that there was no change in the general trend, i.e. in all three consecutive years, in the study. The demand for the tourist product as a whole, is increasing and most arrivals are from abroad, from countries which cannot be completely identified and most of the overnight stays and most of the proceeds from the tourism economy in the Region of Eastern Macedonia and Thrace are from inbound tourism. Nevertheless, German tourists seem to be more responsive to the cost per visit as they stay on average 9.2 days, in contrast to Turkish tourists who invest in the cost of their overnight stay by choosing luxury accommodation, as its cost indicates. It is also worth mentioning that in the period 2010 to 2018 the number of foreign tourists arriving in the region is moving upwards with a growing trend, while the volume of domestic tourism is constantly on a low pace increase, with a marked reduction in 2011. In the case of overnight stays in the region of Eastern Macedonia and Thrace, there has been an increase for the incoming tourists, and a marked reduction for the Greek visitors. Our study found that the contribution of the tourism industry is both in the country's overall GDP and in the region's local GDP is remarkable. That finding is consistent with other researches and studies. Finally, looking at GDP between 2010 and the year 2017, it is observed that after the outbreak of the economic crisis, there was a decline in the regional GDP but the rates remain stable.

With regards to the tourist demand of the Region of Eastern Macedonia and Thrace and the existing literature, it can be concluded that the factors determining the tourist demand and explaining the study findings are: 1. The established trends in international demand; 2.The motivation of tourists who turn on travel differently; 3. The advertisement and other activities for the promotion of a tourist destination area; 4. The geographical location of the tourist destination area; 5. A range of other parameters such as Economic (prices of tourism products, other products and services, income distribution, inflation, etc.); Social - political (political relations between countries, conflicts, etc.); external factors such as safe transportation, extreme weather conditions, etc; 6. The economic phenomena that occur in the destination country.

In addition, the tourism industry is one of the fastest growing and most dynamic sectors in the global economy, with enormous importance for the public and private sectors. Our view corroborates at

regional/local level with the conclusions of WTM about the trends in the international tourism market (2017). Specifically, we conclude that the global economy is showing signs of recovery and new balance, while the tourism industry will continue to play a vital role in local economies for the next years and then focus on growing demand from emerging markets. Our research hypothesis based on our research question is confirmed as it was found that during the global economic crisis the tourist product was partly influenced by the domestic situation of the country, and inbound tourism increased significantly, as if the crisis was viewed as an opportunity.

Finally, the collection and analysis of secondary data is about official published existing data, collected for the purpose of earlier studies, which we use in our case, for a single research topic. In this respect, the use of the above data does not violate the original consensus of them, and the use of secondary data on this research topic appeared to be the best and most appropriate option. However, during the process of mining data, we noted a difficulty due to the fact that the official authorities had not published the final data for the last two years. So our research responds as much as possible to current events. Finally, when data was collected, there were no concrete statistics referring exclusively at local level tourism, so we could not form a specific view and make conclusions at NUTS3 level.

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SECONDARY EDUCATION AND LOCAL LABOUR MARKET. CASE STUDY OF THE 1ST VOCATIONAL UPPER-SECONDARY SCHOOL OF DOXATO

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ABSTRACT

The recent changes at the Greek educational system where tertiary Technological Educational Institutes merged with Universities of various specialties, have provided new perspectives to the secondary education level, that is called to address the created opening in the educational system and provide a link between secondary and higher degrees of education, regarding the professional preparation of students to join smoothly the labour market. The current strand of literature suggests that the existing role and organization of the secondary education is isolated from the labour market, providing professional skills that often are not sought and appreciated at the labour market. Nevertheless, the majority of studies focuses on the national level and no previous work elaborates on the role of professional secondary education to smaller sections of the labour market. In this paper, we focus on the 1st Vocational Upper-Secondary School of Doxato, a rural area in the North – Eastern Greece. Compiling a dataset from questionnaires filled by graduates of the specified professional secondary unit from 5 to 10 years after their graduation, we evaluate the role and the contribution of secondary education in preparing students for entering smoothly to the labour market. The study evaluates a variety of research issues, that spans from income to overall satisfaction of the graduates from the specific case study. Our empirical findings, suggest that there is a significant margin for adjustment to the new role that the secondary education is expected to accomplish.

KEYWORDS

Vocational Upper secondary education, Questionnaire, Labour market

JEL CLASSIFICATION CODES

I23

1. INTRODUCTION

One of the main objectives of higher education is to provide graduates with the competence needed to succeed in the labour market. This mission is especially important in the context of today's innovation-driven, skills-based, globalised economies. It also corresponds to one of the main expectations of students, namely To be in a position to get a well-paid job after the conclusion of their studies. To achieve this mission, higher education systems strive to produce graduates with strong technical, professional and discipline-specific knowledge and skills, whatever their field of study.

According to Quintini (2011), over the last decades, the literature on labour market and education mismatch has expanded rapidly. As Verhaest and Van der Velden (2012), describe, little is justified on the drivers of variations in cross country rates of mismatch; however, a good deal of evidence has emerged from the vast body of country specific research. McGuinness and Wooden (2009) conclude, in their relative research, mismatched employees, in general, face higher rates of job mobility and are inevitably prone to specialty changes. Moreover, Sloane (2003) and Quintini (2011) conclude, based on stylized facts, that labour market and education mismatch has negative consequences for employees, resulting job dissatisfaction and lower income in comparison to their well-matched counterparts. Taking into consideration the above findings of researchers, we conclude that, in terms of policies, the mismatch of education and labour market needs, should be addressed in the early secondary education level, for the potential new entrants in the labour market. Such approach, would reduce unemployment rates, contribute the flourishing of local economies by bringing required skills in the market make happier citizens.

It is understood that, according to the literature, education and labour market mismatch is measured in terms of under-education, over-education, and/or under-skilling or over-skilling. The notion of under-education and over-education correspond to the misalignment between the provided and desired knowledge and skill sets (during the education process) and the needs of the labour market, which are also challenged by the technology progress and the revised consumption needs. "Two institutions are of central importance in influencing school-to-work transitions: the educational system and the labour market" (Mueller, 2005). As a transition system between education and the labour market, one could describe the summation of institutions, infrastructure and adjustments towards this transition, such as educational institutions, educators' systems and professional information, counselling services, education-labour market connection mechanisms, etc. (Smyth, Gangl, Raffe, Hannan and McCoy, 2001). Moreover, apart from the educational institutions, one could include student consulting, labour programs to link the education with the market, informational systems on the current state of the market, etc. The Organization for Economic Cooperation and Development (2000: 13), underlines the basic elements of a successful transition system, as: i. a healthy economy; ii. a well organised connection of the initial education (secondary) with the jobs / labour market; iii. expanded abilities to associate education and job experience; iv. good safety nets for the adolescents/young adults at risk (e.g. students that fail secondary education); v. good advisory and information services; vi. applied processes and support structures that are effective.

Focusing on the educational reality in Greece, the Transition Observatory (2008), of the Greek Educational Institute, currently known as Institute of Educational Policy, did survey the alignment of secondary professional lyceums graduates over the period 2003-2004 and recognised the following reasons for the existence of a misalignment between secondary education and the labour market according to Psacharopoulos (1999): i. unjustified wide range of sectors and specialties offered by upper-secondary schools; ii. low degree of compatibility of curricula and skills provided with the requirements of the labour market; iii. declining employment in some professions due to structural changes in the economy; iv. insufficient supply of new "modern" specialties; v. deficient use of information networks (formal and informal) about labour market opportunities; vi. alteration of interest of graduates for the profession they studied, mainly due to low salaries; vii. in general, the investment in general secondary education is 20% higher than that in the professional education; viii. reduced value of professionally specialised studies.

In a recent study of the Foundation for Economic and Industrial Research (2018), the misalignment between the secondary education and the labour market is found to be very intensive. In particular, as noted, the specific low alignment causes limited use of human resources in the local economies, in addition to exacerbating inequalities and undermining social cohesion, while limits the effectiveness of the education system and the efficiency of public and private investment in education. On the other hand, the quality of human resources, knowledge, skills and skills that are important factors in attracting investment, creating new jobs, increasing employment and enhancing the competitiveness of the economy are not exploited. The low absorption in the labour market, especially of young graduates, leads to a financial slump for young employees/workers from the beginning of their work career. At the same time, this effect is aggravating for local / regional enterprises, which find that the labour market lacks the skills needed to be competitive and thus to be able to offer career opportunities to young people.

The year 2019 was a landmark year for the Greek educational system. In an effort to upgrade the tertiary technical and professional education in the country, the Ministry of Education decided to fuse technical and professional education provided by higher technological institutions with universities of general scope and guidance. In other words, the notion of dedicated technical and professional education as a separate mandate to specialty knowledge no longer exists in the Greek educational system at the tertiary level. Thus, this role should be filled by the secondary technical and professional education, focused explicitly on the direct preparation of graduates to enter the labour market.

This paper examines the transition from education to work among graduates of a small vocational upper- secondary schools in north-eastern Greece, to determine the extent of the mismatch between the labour market entry and the course composition of second-level degree curricula. Following the literature, we designed a special questionnaire to grasp the alignment of professional secondary education with the labour market and we compiled the responses.

1.1   Methodology and Graphical analysis of the responses

In order to study the role of the secondary education in the entrance of young adults in the local labour market, we designed a questionnaire and disseminated it electronically (through email) to 130 graduates of the 1st Vocational Upper-Secondary School (Professional Lyceum) of Doxato, spanning

the period 2011 to 2015. During that period, at the school under examination provided educational programs on only two specialties; informatics and economics. The sample was selected based on a random draw, without replacement using a table of random numbers, selecting 26 graduates from each school year. The questionnaire is of a structured form, mainly with closed ended questions, based on a 5-point Likert scale, to facilitate statistical analysis.

We compiled 62 responses (47,69% of the disseminated questionnaires). In this section, we present the characteristics of the responses. The respondents were 35 men (56,45%) and 27 women (43,55%), while the age ratios are presented in Figure 1. As we observe, most respondents (50%) belong to the age span of 22-25 years of age. A significant percentage (42,93%), was above 26 years old, which means that they completed school above the age of 18 years old.

Figure 1. Age distribution of the sample.
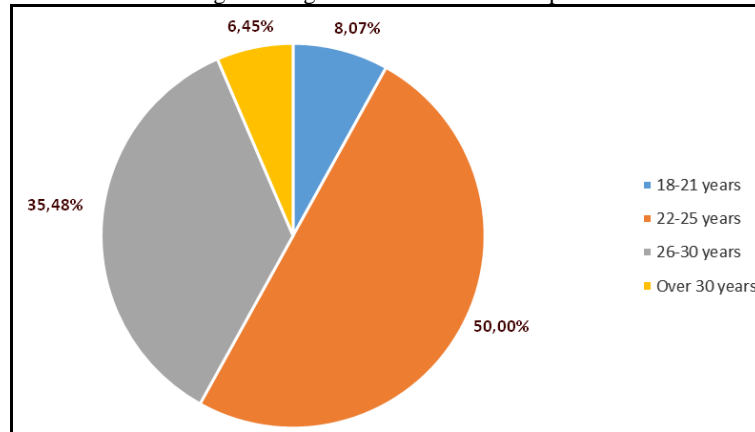
The response to the family status suggests that 64,52% (40)[2] were single, 32,26% (20) were married and 3.23% (3) were divorced, while 91,94% (57) did not have children, 6,45% (4) had 1 child and 1,61% (2) had 2 children. The majority of the respondents, 54,84% (34) studied economics, while the other 45,16% (28) studied informatics. Regarding the graduation year, we observed that most respondents graduated at year 2012 and 2013, respectively (Figure 2).

Figure 2. Year of graduation.
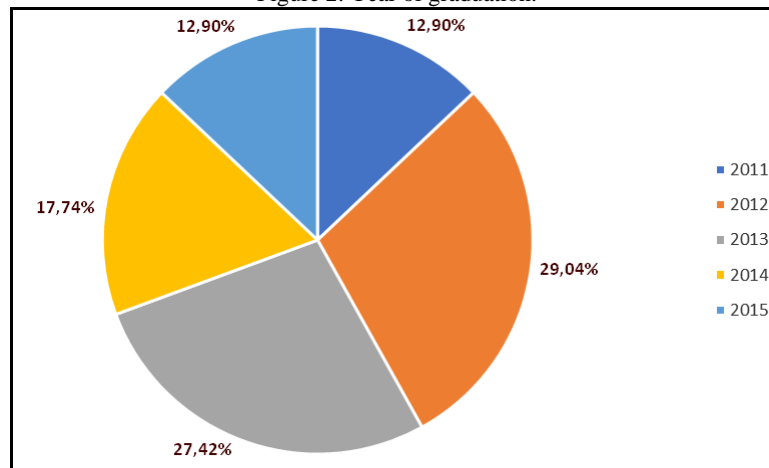
Regarding the entrance to the labour market, most respondents (37,10% - 23) answered that they had found a job one to two years after graduation (Figure 3), while only the 9.68% (6) were able to find a job immediately after graduation, at the first six months' period. That requires analysis per sex of the graduates, as men in most cases, go to the army to complete their obligatory duties, right after the end of vocational upper-secondary school studies.

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[2] The numbers in parenthesis after the percentage point report the actual number of responses.

Figure 3. Time until first job.
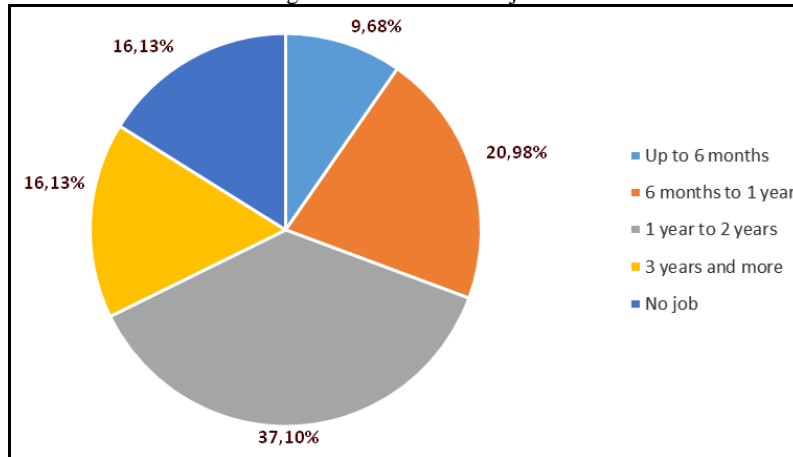
Nevertheless, 43 out of the 62 (69.35%) respond that their first job was not relevant to the specialty of their studies, and only 9 (14.52%) actually had found a relevant job place (Figure 4). Unfortunately, the 58,06% (36) hadn't managed to find a relevant job position, even later, and only 13 respondents (20.97%) were working at a relevant job, at the time of research.

Figure 4. Relevance of the first job position to studies.
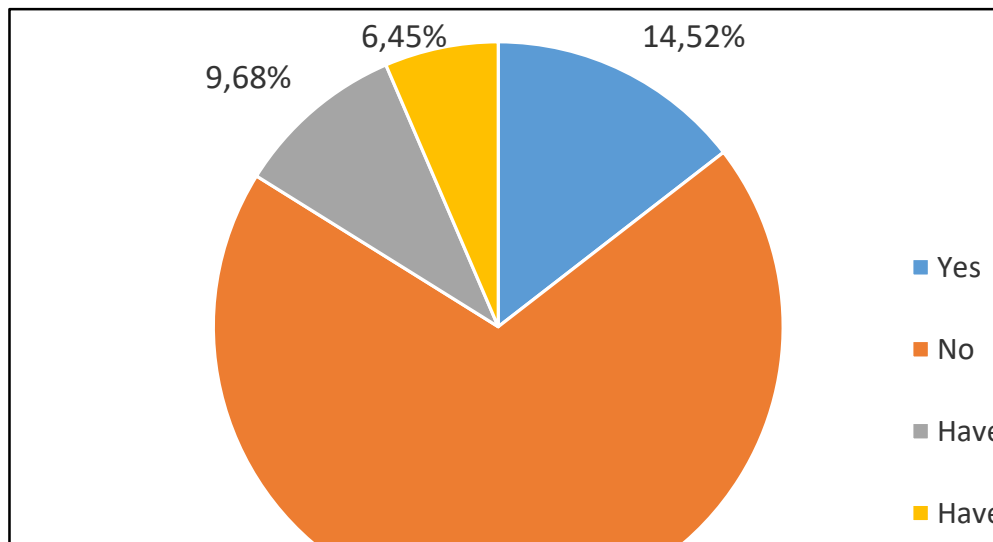
Regarding the number of jobs, most respondents had 2, 3 or more job postings until the date of the survey, suggesting that for most of the young workers it was very hard to stick to a certain job posting (Figure 5).

Figure 5. Job postings.
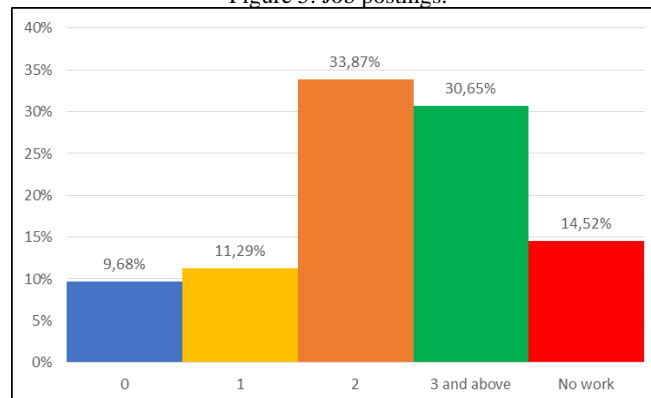
Focusing on the evaluation of respondents on the educational program of the 1st Vocational Upper-Secondary School of Doxato, only 20,97% (13) evaluated the study program as important or very important to their work life (Figure 6), 48,38% (30) had the perception that the professional knowledge provided was good or very good (Figure 7) and 62,90% (39) had positive or very positive opinion about the general knowledge provided (grammar, mathematics etc.) (Figure 8). Thus, the perception of the graduates, about the education process of the specific school (in correlation with their profession), was not significantly positive. In contrast, almost half of them were satisfied with the professional knowledge provided and more than half evaluated positively or very positively the general educational knowledge provided. This controversy could be attributed to the additional elements that compose a study program (infrastructure, link to the labour market, educators, etc.), examined on specific questions in the questionnaire, later on.

Figure 6. Overall evaluation of the study program, by the graduates
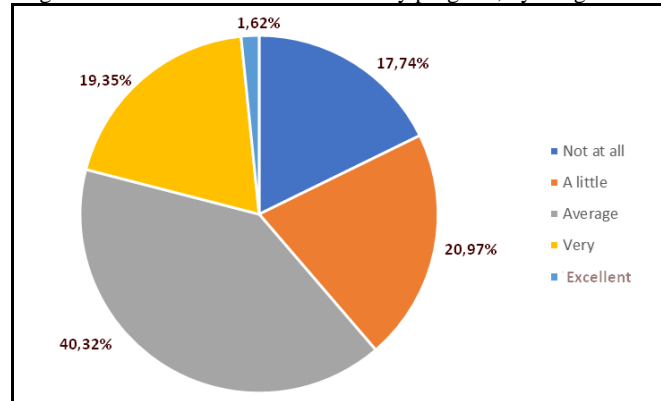

Figure 7. Graduates' evaluation of the professional knowledge provided by the study program
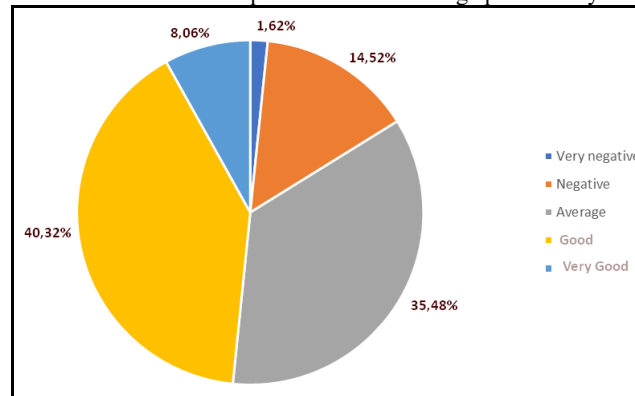
Figure 8. Graduates' evaluation of the general knowledge provided by the study program.
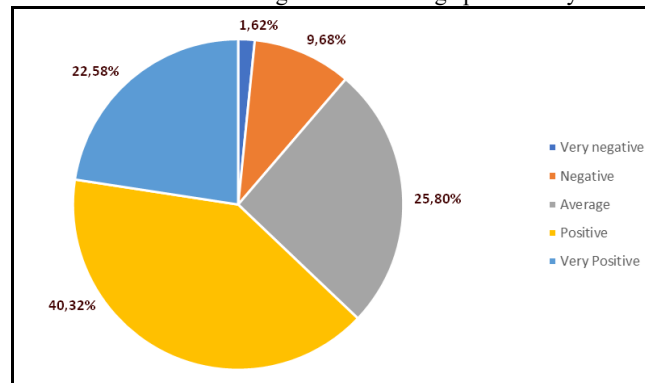
The next set of questions examined specific elements of the survey school, that were irrelevant to the actual framework of the educational program. The 95,16% (59) found their relationship with their

professors, as positive or very positive (Figure 9), while the 91,94% (57) evaluated the infrastructure of the school, insufficient (Figure 10).

Figure 9. Graduates' evaluation of their relationships with their professors
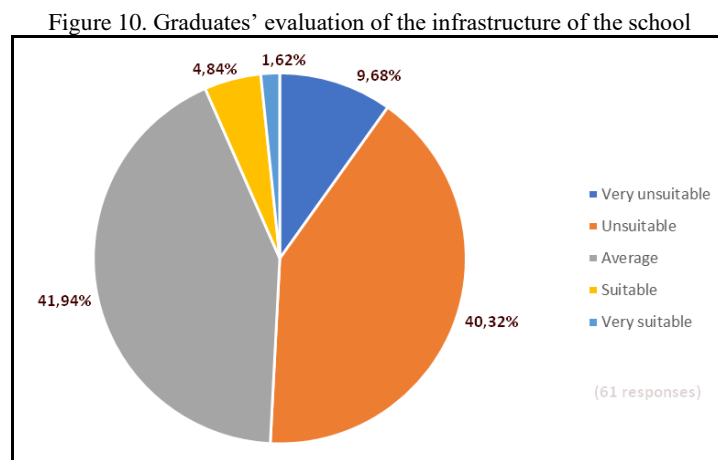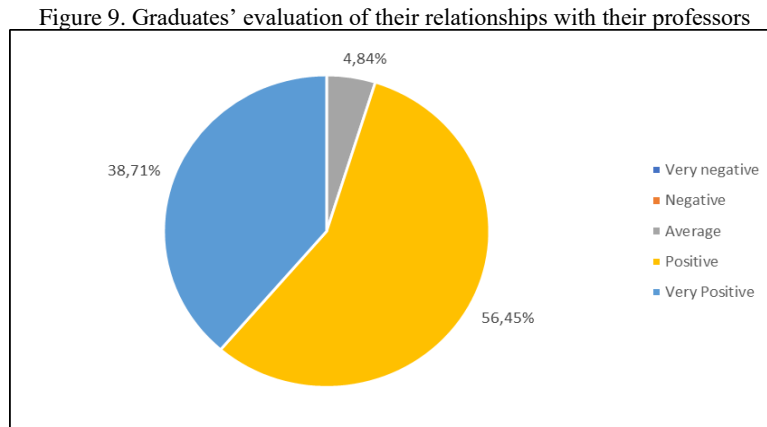
In contrast, the specialization of the professors in their teaching field was valued highly, with 59,68% (37) answering that their professors had high, or very high level of specialisation (Figure 11).

Figure 10. Graduates' evaluation of the infrastructure of the school

Figure 11. Graduates' evaluation of the specialisation skills of their tutors
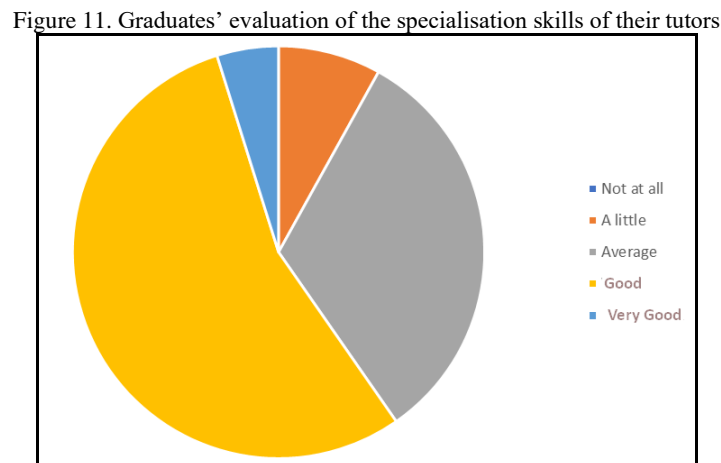
In contrast to the high evaluation grade of their instructors, the graduates evaluated very poorly the relevance of the studies with the labour market, giving it a grade of average or below average in the 95,16% (58) and 96,77% (60) of responses, claiming that they had little or no help in entering the labour market and finding a job. Regarding the acquisition of their job specialty, 37,10% (23) responded that they hadn't selected a specialty of their desire, 82,26% (51) were not in their desired job (Figure 12) and 50,00% (31) are considering of changing specialty (Figure 13).

Figure 12. Responses on whether the graduates were in the job that they desire
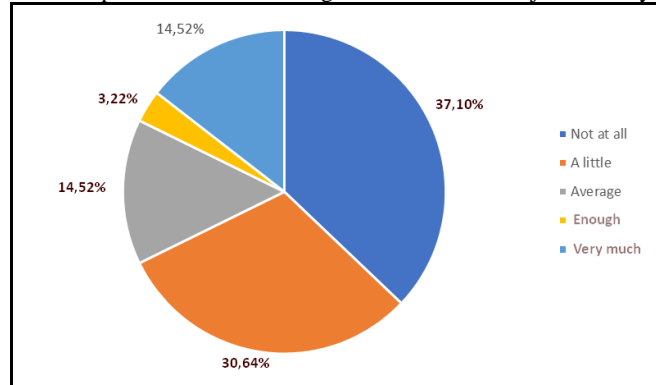
Figure 13. Responses on whether the graduates were willing to change specialty.
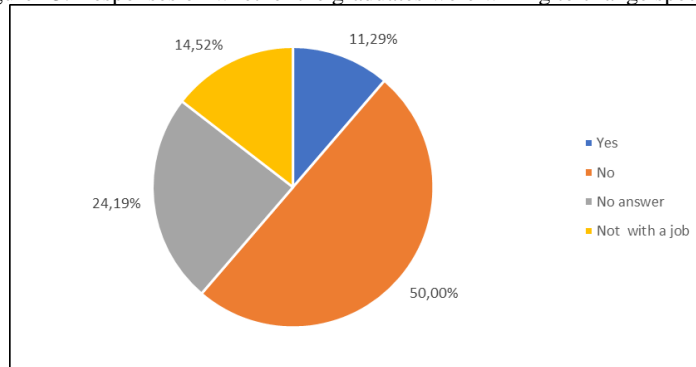
The will of the graduates to change their job specialty could also be associated with the process for selecting the field of study, which was based on random selection 46,77% (29) exhibiting the higher frequency (Figure 14), among desire and suggestion by others.

Figure 14. Responses on the reason for selecting job specialty.
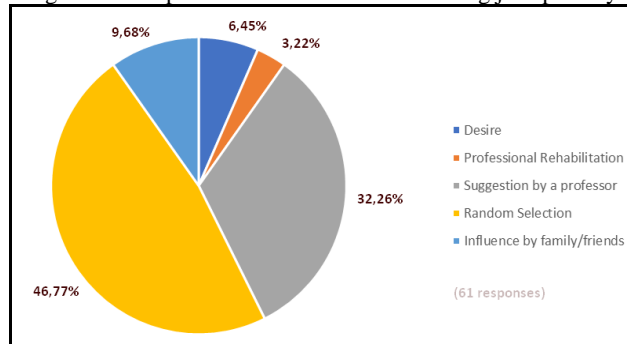
This finding could also linked to the optimism of graduates regarding their professional future, with 87.10% (54) being little optimistic or less. The reason that the graduates were not optimistic, was the unemployment rate and the small salaries in the labour market (Figure 15).

Figure 15. Main reasons why graduates are pessimistic about their professional future (more than one answer was allowed)
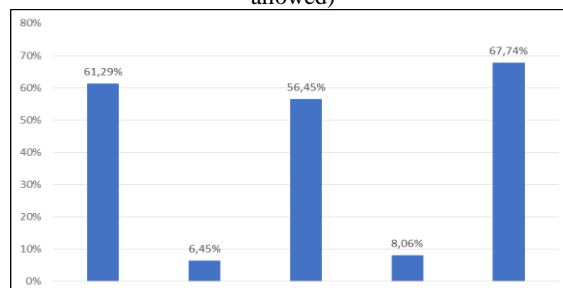
In addition to the previous question, the graduates were asked to state their first and current salary from work, in order to evaluate the income progress of each graduate in the labour market (Figure 16).

Figure 16. Salary evolution (on the sample, not on individual improvement)
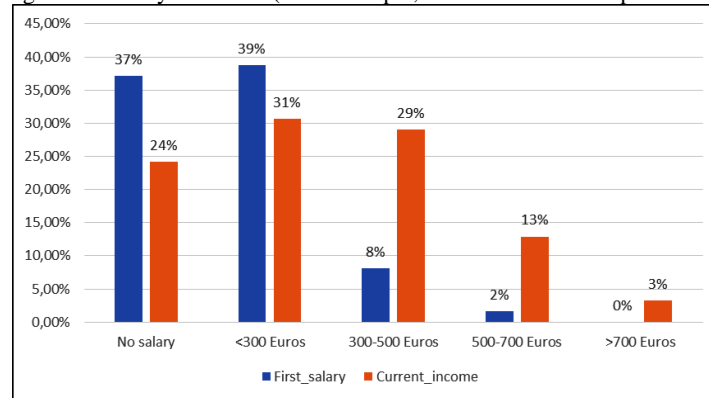
As we can observe, most graduate started with no salary or under 300 Euros per month, and raised their income to the band of 300-500 Euros and 500-700 Euros, with only 3% (2) of graduates earning more than 700 Euros per month, over time. Finally, the responses regarding the graduates' suggestions on what would have to change in order for the vocational upper-secondary school to be more productive are depicted in Figure 17. As we can observe, the most frequent response was to link education with the labour market, followed by hiring more job consultants and teaching new job specialties.

Figure 17. Suggestion on the improvement of professional secondary education (more than one answer was allowed)
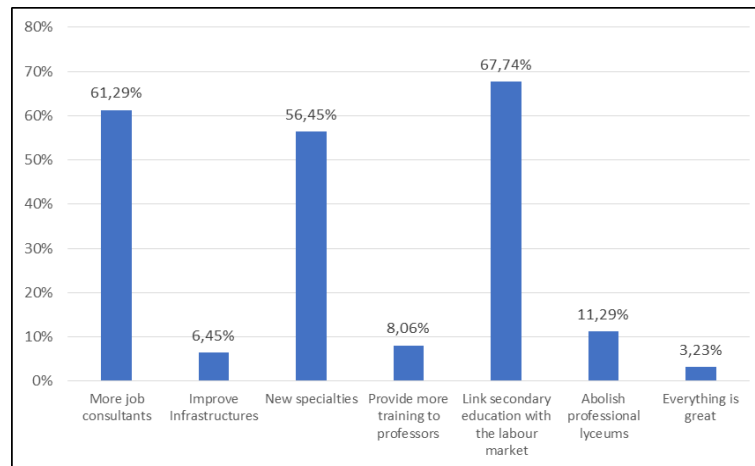
2. STATISTICAL ANALYSIS OF THE RESPONSES

2.1 Correlation analysis

The graphical analysis of the responses has provided some very useful insights on the perception of graduates on the quality of professional training to secondary education and on the current economic status of the respondents. We proceed our analysis by evaluating the correlation behind the answers of the graduates, summarized in Table 1. For improved readability, we report only the statistically significant results at the 5% level of significance, based on a two-way t-test.

Correlation analysis can provide some useful insights on the degree of linear relationship between variables. This analysis by no means suggests that a change in a certain variable causes a change to another. To put it differently, correlation does not imply causation. Nevertheless, it could be a sign of an underlying relationship between the two. The detected relationship would be further explored based on contingency table analysis, where we would test whether one variable was statistically independent

to the other or in other words, a test that one variable should be examined in tandem with the other in terms of causality and variability.

The reported correlations in Table 1 are the Pearson's coefficient correlations, based on the mathematical notation:

$$r = \frac{n\left(\sum_{i=1}^{n} x_i y_i\right) - \left(\sum_{i=1}^{n} x_i\right)\left(\sum_{i=1}^{n} y_i\right)}{\sqrt{\left[n\sum_{i=1}^{n} x_i^2 - \left(\sum_{i=1}^{n} x_i\right)^2\right]\left[n\sum_{i=1}^{n} y_i^2 - \left(\sum_{i=1}^{n} y_i\right)^2\right]}} \quad (1)$$

where x_i, y_i are different questions and $n = 62$, is the number of responses.

As we can observe from Table 1, the highest correlation is found at the intersection of the variable expressing whether the first job and the present job are relevant to the specialty of the graduate (0.89), suggesting that a graduate that finds a relevant job early sticks to that job. The second highest correlation is at the intersection of the height of the first salary and the response whether the job is the desired job of the graduate (0.85), indicating that a candidate that is at a job posting starting at a higher salary tends to consider it as a desired job. Finally, the third higher correlation (0.80) is evidenced at the intersection of the first salary and the relevance of job. Thus, our findings suggest that the driving force of "happiness" of a graduate towards a desired job is a combination of job relevance to specialty from studies and the first salary. This finding would be examined statistically with cross-tabulation analysis, based on contingency tables.

In contrast, the lowest (negative) correlation is observed at the intersection on the evaluation of the professional knowledge provided by the vocational upper-secondary school and the willingness of the respondent to change specialty (-0.74). As it is noted, the low evaluation on the preparation for the labour market, provided by the school, is a strong motivation for graduates to look for another specialty and the willingness to return to studying. The second highest negative correlation (-0.70) is at the evaluation of the desired specialty and the relevance of the current job posting. As the specialty in not the one that the candidate pursues during her/his studies, there is a little likelihood that she/he would seek for a relevant job in the future. Finally, the third most negative correlation (-0.66) is at the intersection of first salary and the time to find the first job posting, as the more time one seeks for a job the more she/he would accept a lower salary.

2.2 Cross-tabular analysis

Our analysis proceeds with the cross-tabular analysis of the statistical relationship between variables. In statistics, a contingency table (known also as crosstab or as a cross tabulation or two-way frequency table) is a type of table in a matrix format that displays the (multivariate) frequency distribution of the variables in question. Expressing the two variables in a contingency table, where columns express one variable and rows the other, we are able to test the null hypothesis that columns are independent of the lines (rows) or in other words that one variable is independent from the other.

The cells follow the χ^2 distribution under the test:

$$\chi^2 \approx \sum_{i=1}^{k} \frac{(observed_i - expected_i)^2}{expected_i} \quad (2)$$

where k is the number of cells of the matrix, $observed$ are the observed values of the matrix and $expected_i = \frac{\sum_{i=1}^{lines} x_i \sum_{j=1}^{columns} x_j}{\sum_{i=1}^{lines} \sum_{j=1}^{columns} x_{i,j}}$, with $lines$ representing the line number of element $x_{i,j}$ and $columns$ the columns number of element $x_{i,j}$. If $\chi^2 > \chi^2_{a,k-1}$, where a is the statistical significance level, we reject the null hypothesis of independence. An example is the contingency table of Age (rows) and the number of jobs postings (columns) that the graduate has worked (Table 2).

Table 1. Correlations between the responses in the questionnaire

	Gender	Age	Family status	Number of children	Graduation year	Time for 1st job	Relevance 1st job	Number of jobs	Relevant job	Valuation of studies	Valuation of knowledge	Valuation of general knowledge	Infrastructures	Specialization	Relevance of studies to job market	Help in finding job	Desired job	Desired specialty	Willingness to change specialty	First salary	Current income	Optimism on job market
Gender																						
Age																						
Family status																						
Number of children			0.48																			
Graduation year		-0.33																				
Time for 1st job																						
Relevance 1st job	0.36					0.46																
Number of jobs	0.26					0.44	0.46															
Relevant job	0.42					0.47	**0.89**	0.50														
Valuation of studies						-0.44	-0.61	-0.48	-0.60													
Valuation of knowledge						-0.45	-0.42	-0.43	-0.68	0.59												
Valuation of general knowledge						-0.54	-0.49	-0.38	-0.50	0.44	0.44											
Infrastructures																						
Specialization						-0.34				-0.29			-0.26									
Relevance of studies to job market						-0.29	-0.62	-0.42	-0.64	0.58	0.54	0.32										
Help in finding job						-0.26	-0.39	-0.36	-0.39	0.33		0.32			0.35							
Desired job						0.62	0.70	0.49	0.75	-0.56	-0.61	-0.66			-0.51	-0.35						
Desired specialty	0.35					0.46	0.62	0.49	**-0.70**	-0.43	-0.56	-0.52			-0.33		0.78					
Will to change specialty						0.41	0.58	0.51	0.58	-0.49	**-0.74**	-0.49			-0.52	-0.41	0.32	0.56				
First salary						**-0.66**	0.78	0.52	**0.80**	-0.63	0.71	0.68			-0.61	-0.49	**0.85**	0.69	0.68			
Current income						-0.54	-0.42		-0.41	0.45	0.38	0.40			0.36	0.27	-0.57	-0.37	-0.38	-0.52		
Optimism on job market						-0.42	-0.51	-0.40	-0.50	0.36	0.43	0.36			0.27	0.37	-0.52	-0.40	-0.41	-0.54	0.35	

Note: Only statistically significant responses at the 5% level of significance (two-tailed tests) are reported.

Table 2. Contingency Table

		Number of Jobs				Not working / Not	
		None	1	2	3 and above	worked	Total
Age	18-21	0	1	1	3	0	5
	22-25	3	4	12	8	4	31
	26-30	2	2	8	5	5	22
	30 and over	1	0	0	3	0	4
	Total	6	7	21	19	9	62

Where, it is calculated that $\chi^2 = 11.35 < \chi^2_{0.05,19} = 30.14$, concluding that the two variables (row and columns) are independent at the 5% level of significance.

Given that we are interested in the role of the secondary education on preparing young graduates to enter the labour market, we examined the dependence of first job earnings and the time to first job with the rest of the variables. Of course, we could examine current income or current job satisfaction, but that could be influenced by other parameters that affect income and job satisfaction and are irrelevant to studies, appearing after the entrance to the job market. In contrast, we pursued the evaluation of the role of secondary professional education in entering the labour market. Relevance of the first job with the current specialty could also be a variable to examine, but that could also be influenced by other parameters as the conditions in the labour market at the time of entrance or friction unemployment that is irrelevant to secondary education[1]. In Table 3, we report the χ^2 values and the p-values of the tests, with first job earnings as the row variable.

Table 3. Contingency Tables test results

Column variable	χ^2 value	p-value	Conclusion
Row variable – First Salary			
Gender	6.55	0.16	Independence
Age	25.69	0.21	Independence
Family status	10.02	0.19	Independence
Number of children	2.70	1.00	Independence
Specialty	3.14	0.98	Independence
Graduation year	17.05	0.39	Independence
Time for 1st job	66.25	0.00	Dependence
Relevance 1st job	68.09	0.00	Dependence
Number of jobs	14.79	0.18	Independence
Relevant job	70.90	0.00	Dependence
Valuation of studies	74.58	0.00	Dependence
Valuation of knowledge	65.01	0.01	Dependence
Valuation of general knowledge	51.17	0.02	Dependence
Infrastructures	7.69	0.99	Independence
Specialization of professors	2.03	0.79	Independence
Relevance of studies to job market	46.16	0.00	Dependence
Help in finding job	19.01	0.41	Independence
Desired job	98.65	0.00	Dependence
Desired specialty	68.82	0.00	Dependence
Reason for selection	12.24	0.48	Independence
Will to change specialty	63.60	0.00	Dependence
Current income	48.41	0.00	Dependence
Optimism on job market	45.66	0.22	Independence

As we can observe, at the 5% level of significance, the evaluation of the professional and general knowledge provided by the program, the overall satisfaction reflected in the evaluation of the studies and the evaluation of

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[1] As strange as it may sound, it is not feasible to alter educational curricula, specialties and channeling students to certain specialties according to the unemployment conditions in the market, given that most of these factors move slower than unemployment evolution.

the link of the studies to the labour market are determinants of the first salary. Moreover, the situation in the market (relevance of first job, time to find first job) and the relevance of the current job, the current income, the desired of the specialty and the current job are also significant parameters, determining the first income. In other words, we gain statistical proof that i. the knowledge provided by the vocational upper-secondary school; ii. the selection of a specialty and iii. the preferred job posting by the graduate, could determine her/his first salary. In Table 4 we repeat the analysis on the time to find a job posting variable, immediately after graduation.

Table 4. Contingency Tables test results

Column variable	χ^2 value	p-value	Conclusion
Row variable – Time for 1st job			
Gender	6.60	0.16	Independence
Age	18.81	0.08	Independence
Family status	7.92	0.44	Independence
Number of children	4.20	0.89	Independence
Specialty	4.02	0.42	Independence
Graduation year	16.12	0.45	Independence
First Salary	66.25	0.00	Dependence
Relevance 1st job	71.41	0.00	Dependence
Number of jobs	59.04	0.00	Independence
Relevant job	62.45	0.00	Dependence
Valuation of studies	65.78	0.00	Dependence
Valuation of knowledge	74.37	0.00	Dependence
Valuation of general knowledge	51.94	0.00	Dependence
Infrastructures	14.83	0.84	Independence
Specialization of professors	9.96	0.43	Independence
Relevance of studies to labour market	50.73	0.00	Dependence
Help in finding job	15.01	0.36	Independence
Desired job	67.55	0.00	Dependence
Desired specialty	58.62	0.00	Dependence
Reason for selection	13.59	0.90	Independence
Will to change specialty	64.77	0.00	Dependence
Current income	50.55	0.00	Dependence
Optimism on job market	5.19	0.84	Independence

The parameters detected in the previous analysis for the salary of the first job (Table 3) are also determinants of the time that a graduate finds her/his first job.

2.3 Regression analysis

Given the results of the cross-tabular statistical analysis in the previous sections, we regress first salary and time to first job on the significant parameters of tables 3 and 4. The regression is an ordinal regression in the sense that the dependent and the independent variables are ordinal variables (that are the result of counting) and not continuous values of the form:

$$link\left(\gamma_j\right) = \frac{\theta_j - [\beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k]}{e^{(\tau_1 z_1 + \tau_2 z_2 + \cdots + \tau_k z_k)}} \quad (3)$$

Where γ_j is the cumulative probability for the *jth* category (answer), θ_j is the threshold for the *jth* category (answer) in the probability distribution, $\beta_1, \beta_2, \cdots, \beta_k$ the regression coefficients, $x_1, x_2, \cdots, x_k$ the independent variables, $\tau_1, \tau_2, \cdots, \tau_k$ the coefficients of the scale component and $z_1, z_2, \cdots, z_k$ predictors of the scale component. The link function of the probabilities is given by:

$$\ln\left(\frac{prob(\gamma_j)}{1 - prob(\gamma_j)}\right) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k \quad (4)$$

Thus, for question *i* the probability of being in answer *j* is given by (3) with the link function (4), expressing the probability of answering a certain question over the other. Table 5 reports the details of the model.

Table 5. Ordinal regression results

	Estimate (Coefficient)	Wald Statistic	Significance

Dependent Variable Log-ratios	First salary = 1	-35.532	0.004	0.950
	First salary = 2	-31.646	0.003	0.956
	First salary = 3	-23.051	0.002	0.968
	First salary = 4	-8.504	0.000	0.988
Independent Variables Log-ratios	Time for 1st job=1	-46.399	0.005	0.942
	Time for 1st job=2	-46.547	0.005	0.942
	Time for 1st job=3	-46.230	0.005	0.942
	Time for 1st job=4	-46.615	0.005	0.942
	Relevance 1st job=1	4.313**	4.066	0.044
	Relevance 1st job=3	0.451	0.000	0.998
	Relevant job=1	0.107	0.000	1.000
	Relevant job=2	2.185	0.000	0.995
	Relevant job=3	0.287	0.000	0.999
	Valuation of studies=1	-0.232	0.000	1.000
	Valuation of studies=2	14.525	0.002	0.969
	Valuation of studies=3	12.752	0.001	0.973
	Valuation of studies=4	16.084	0.002	0.965
	Valuation of knowledge=1	0.738	0.000	0.998
	Valuation of knowledge=3	2.055	0.927	0.336
	Valuation of knowledge=4	1.171	0.303	0.582
	Valuation of general knowledge=1	1.511	0.000	0.997
	Valuation of general knowledge=2	1.224	0.000	0.996
	Valuation of general knowledge=3	1.674	1.958	0.162
	Valuation of general knowledge=4	-0.096	0.007	0.931
	Relevance of studies to job market=1	1.149	0.189	0.664
	Relevance of studies to job market=2	4.098**	4.290	0.038
	Relevance of studies to job market=3	3.176*	2.699	0.099
	Desired job=1	-9.551	0.000	0.984
	Desired job=2	-8.670	0.000	0.985
	Desired job=3	-7.292	0.000	0.988
	Desired job=4	-18.370	0.004	0.951
	Desired specialty=1	-0.309	0.047	0.829
	Desired specialty=2	-2.731	20.515	0.113

Note: ** and * report statistical significance at the 5% and 10% level, respectively.

The estimates on the dependent variable are the log-ratios on the differences between the responses in the Likert scale. The available responses in the questionnaire were "no salary", "less than 300 Euros", "300-500 Euros", "500-700 Euros", "above 700 Euros" and "never worked". For instance, First salary = 1 expresses the log-ratio difference between no salary and less than 300 Euro responses. In other words, the reported log-ratios expressed the variation in moving from one response to the other. The reported thresholds exclude the threshold between the 700 Euros and the last response, given that the last response (over 700 Euros) was not selected by any graduate. The examination of the statistical significance suggests that there was no statistically difference between the responses. That said, the responses included in the five categories of salaries are similar, mainly in terms of forecasting the variable.

The most important part of the table is the independent variables coefficients part. As we can observe, only 3 log-ratios are important: a) "Relevance 1st job=1", which is the log-ratio between the responses that their first job is "relevant" to the case where the response is "not relevant", b) "Relevance of studies to job market=2", namely the log-ratio between average to very relevant regarding the relevance of studies to the skills wanted by the job market and c) "Relevance of studies to job market=3", namely the log-ratio between "enough" to "very much" relevant regarding the relevance of studies to the skills needed by the labour market. Thus, the most important aspects of the secondary professional education in the determination of the first salary are: i. the relevance of the first job to the specialty of the graduate; and ii. the high relevance of the skills obtained during studies compared to the ones pursued by the labour market. When, a graduate finds a job that is relevant to her/his studies then the first salary is expected to be in the band "less than 300 Euros" by $e^{4.313} = 73.68\%$, when the job posting relevance switches from average relevant to very relevant salary is expected to be in the band "300-500 Euros" by $e^{4.098} = 59.47\%$ and the respective change from very relevant to very much relevant provides a chance of being in the category "500-700 Euros" of $e^{3.176} = 23.72\%$.

We proceed the analysis with the "time to first job" as the dependent variable (Table 6).

Table 6. Ordinal regression results

	Estimate (Coefficient)	Wald Statistic	Significance

Dependent Variable Log-ratios	Time for 1st job = 1	-88.379	0.000	0.991
	Time for 1st job = 2	-86.218	0.000	0.992
	Time for 1st job = 3	-83.437	0.000	0.992
	Time for 1st job = 4	-54.075	0.000	0.995
Independent Variables Log-ratios	Relevance 1st job=1	-53.041*	857.442	0.000
	Relevance 1st job=3	0.281	0.000	1.000
	Relevant job=1	-1.147	0.000	1.000
	Relevant job=2	-1.213	0.000	1.000
	Relevant job=3	0.182	0.000	1.000
	Valuation of studies=1	-33.741	0.000	0.997
	Valuation of studies=2	-12.121	0.000	0.993
	Valuation of studies=3	-13.651	0.000	0.992
	Valuation of studies=4	-11.931	0.000	0.993
	Valuation of knowledge=1	0.463	0.000	1.000
	Valuation of knowledge=3	0.317	0.038	0.845
	Valuation of knowledge=4	-0.960	0.356	0.551
	Valuation of general knowledge=1	1.279	0.000	1.000
	Valuation of general knowledge=2	1.098	0.000	1.000
	Valuation of general knowledge=3	1.379	10.960	0.161
	Valuation of general knowledge=4	0.431	0.229	0.632
	Relevance of studies to job market=1	-3.514	20.617	0.106
	Relevance of studies to job market=2	-2.028	10.290	0.256
	Relevance of studies to job market=3	-0.334	0.038	0.845
	Desired job=1	-16.046	0.000	0.999
	Desired job=2	-17.764	0.000	0.999
	Desired job=3	-16.181	0.000	0.999
	Desired job=4	-1.151	0.000	1.000
	Desired specialty=1	1.151	0.858	0.354
	Desired specialty=2	0.186	0.016	0.901
	First salary=1	0.381	0.107	0.744
	First salary=2	-0.703	0.374	0.541

Note: * reports statistical significance at the 1%.

As with the "first salary", again the differences between the responses in the "time for the first job" are statistically not significant. On the independent variables, only the difference between the "relevant" and "not relevant first job" (Relevance 1st job=1) is statistically significant. Nevertheless, the coefficient of change from a non-relevant to a relevant job is extremely small and practically equals zero $\left(e^{-53.041} \approx 0\right)$. For comparison reasons, we regress the current income with all aforementioned variables (responses) of our sample to estimate the influence of the perception of respondents on the secondary education to the current economic conditions of each graduate (Table 7).

Table 7. Ordinal regression results

		Estimate (Coefficient)	Wald Statistic	Significance
Dependent Variable Log-ratios	Current income = 1	75.839	0.061	0.805
	Current income = 2	87.028	0.080	0.777
	Current income = 3	98.022	0.101	0.750
	Current income = 4	108.343	0.123	0.726
Independent Variables Log-ratios	Relevance 1st job=1	68.945	0.104	0.747
	Relevance 1st job=2	24.307	0.007	0.934
	Relevance 1st job=3	3.494	0.003	0.953
	Relevant job=1	15.382	0.020	0.887

Relevant job=2	23.566	0.018	0.893
Relevant job=3	69.811	0.076	0.783
Valuation of studies=1	292.523	0.901	0.343
Valuation of studies=2	140.352	0.477	0.490
Valuation of studies=3	103.587	0.711	0.399
Valuation of studies=4	85.162	0.411	0.522
Valuation of knowledge =1	158.726	0.807	0.369
Valuation of knowledge =3	47.986	0.341	0.559
Valuation of knowledge=4	81.715	0.362	0.548
Valuation of general knowledge =1	23.626	0.046	0.830
Valuation of general knowledge =2	-10.115	0.042	0.837
Valuation of general knowledge =3	59.478	1.528	0.216
Valuation of general knowledge =4	16.342	0.090	0.764
Relevance of studies to job market=1	-163.041	0.470	0.493
Relevance of studies to job market=2	-15.036	0.042	0.837
Relevance of studies to job market=3	23.087	0.103	0.748
Desired job=1	-6.739	0.002	0.961
Desired job=2	-85.571	0.599	0.439
Desired job=3	-44.616	0.108	0.742
Desired job=4	29.648	0.013	0.908
Desired specialty=1	42.642	0.211	0.646
Desired specialty=2	41.521	0.409	0.523
First salary=1	-73.370	0.685	0.408
First salary=2	-92.572	1.300	0.254
Time for 1st job=1	76.985	0.949	0.330
Time for 1st job=2	105.490	1.935	0.164
Time for 1st job=3	49.348	2.119	0.145
Gender=1	-60.654	0.642	0.423
Age=1	-61.362	0.086	0.769
Age=2	26.914	0.019	0.891
Age=3	36.401	0.025	0.873
Family status=1	-126.788	0.502	0.479
Family status=2	-105.572	0.268	0.605
Number of Children=1	22.820	0.007	0.932
Number of Children=2	-64.421	0.019	0.890
Specialty=1	.657	0.001	0.980
Graduation year=1	11.601	0.013	0.910
Graduation year=2	12.286	0.065	0.798
Graduation year=3	45.854	0.461	0.497
Graduation year=4	36.057	0.839	0.360
Number of jobs=1	46.855	0.376	0.540
Number of jobs=2	-52.004	0.635	0.425
Number of jobs=3	-16.783	0.098	0.754
Relationships with professors=3	3.723	0.005	0.945
Relationships with professors=4	-41.945	0.189	0.664
Infrastructures=1	-31.737	0.015	0.903
Infrastructures=2	-61.327	0.092	0.761
Infrastructures=3	-84.232	0.215	0.643
Infrastructures=4	-120.162	0.169	0.681
Infrastructures=5	-11.029	0.003	0.956
Specialization=2	190.594	0.496	0.481
Specialization=3	89.578	1.244	0.265
Specialization=4	94.366	0.832	0.362
Help in finding job=1	-55.580	1.253	0.263
Help in finding job=2	-19.195	0.146	0.703
Will to change specialty=1	-10.566	0.018	0.894
Will to change specialty=2	2.019	0.001	0.977

As expected, no coefficient is statistically significant, suggesting that no influence of secondary education on the current income. This finding should be associated with all the social and labour conditions on the labour market that are irrelevant to the secondary education but affect current income.

3. CONCLUSION

The role of secondary education in preparing young graduates in entering the labour market and especially the professional secondary education is a vibrant research topic in the economic and social sciences. In this paper we focus on the sub-national level, examining the perception of graduates on their studies from the 1st vocational upper-secondary school of Doxato, a rural area in the north-eastern Greece. After compiling responses on questionnaires and the statistical analysis of the responses, our empirical findings suggest that the most important factors, for a young employee entering the labour market for the first time, are the relevance of her/his professional specialty to the ones valued in the labour market and especially to the first position she/his will find. This finding stands not only for the time to find the first job, but also to the level of the first salary she/he would receive. The evaluation of the graduates regarding the alignment of the professional skills provided, to the needs of the labour market, is negative, while their perception on the overall experience on the educational process and the relationship with the professors is positive. Our empirical findings suggest that the professional education in rural areas has a very limited contribution to the labour market. The main suggestion provided by the responders in improving this situation was the introduction of career guidance counsellors on all institutions and the introduction of dedicated employment programs in hiring young graduates to enhance the integration of young graduates to the labour market.

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THE IMPACT OF ISLANDS TRANSPORTATION POLICY. CASE STUDY OF A NORTHEAST AEGEAN ISLAND

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ABSTRACT

In recent years and due to economic crisis, transportation policy has a big impact on people's lives, especially for those that live on distant islands. It has been observed that there is a significant economical difference between the transportation through mainland of Greece and the islands of Greece. This economical difference occurs for both passengers and products and the consequences can be detected on the budget of those families. Furthermore, if someone wanted to move from an island to the mainland or to another island, the cost for the same distance was higher than if the same person wanted to move through mainland. Another aspect that should be mentioned is about people who have decided to move on those islands in order to work there, such as teachers, doctors, military personnel or even athletes. The high cost of living and moving there was really deterrent. For all the above reasons, Greek government decided to apply Transport Equivalent. The purpose of this

article is to present the current situation regarding the influence of this measure at the economic and social level of people living on distant islands and to present proposals in order to fortify more the Transport Equivalent. The article approaches this phenomenon and analyze the view of people living on a northeast Aegean island. A research that may be continued for other distant islands of Greece.

KEYWORDS

Transportation policy, transport equivalent, transportation, economical effect

JEL CLASSIFICATION CODES

I.91, E.64, E.31

1. INTRODUCTION

Transport Equivalent, in Greece, is a measure that Ministry of Maritime Affairs and Insular Policy applied. The establishment of this measure equalizes the transport costs within public transport from mainland Greece to a Greek island or from a Greek island to another Greek island and the cost that was valid in mainland Greece for the same distance (Transport Equivalent, 2020). It aims to better harmonize the tariff charge for maritime transport users in relation to the one of land transport so that they enjoy similar services in terms of frequency, cost, travel, time, distance and their quality, regardless the means of transport used.

Greece is a country with a large number of inhabited islands compared to European Union countries. However, the prices of ferry and airline tickets are much higher than those of land transport, if we consider the distances. Ticket prices are deterrent to the frequent movement of islanders to and from the islands. This has resulted in a reduction in passenger traffic. This in turn demonstrates the difficulties in the movement of islanders as well as the additional problems that arise in local businesses on the islands and therefore in their economy (European Parliament, 2011). The pilot implementation of Transport Equivalent measure was also a demand of the island communities in Greece, in their effort to reduce the intensity of the phenomenon of insularity. This measure started its implementation from the islands of North and East Aegean, four islands of Cyclades as well as three Ionian islands. The purpose of the method of implementation of Transport Equivalent is to ensure the equality of citizens, in terms of the financial burden of the user during the trip. Under the law of 2018, the measure is either funded by the national system or co-financed with public investment programs. It applied pilot in July 2018 on 49 Greek islands and concerned both residents and businesses. The Transport Equivalent has as its beneficiaries' Greek citizens and foreigners (with a residence permit) who reside in the islands. These categories include, not only permanent residents of the islands but also, seasonal workers, such as temporary deputies and teachers, doctors, rural service officials and medical staff in general, military and very small, small and medium-sized enterprises (with a turnover of up to 40 million euros), which are engaged in production, trade, industry, catering, tourism and recycling. Beneficiaries can submit an application, which has the status of a responsible declaration law 1599/1986, regarding the data they declare and which must be informed by the tax data they submit. According to article 8 of the measure, the shipping cost may be paid to its beneficiaries upon application and after cross-checking the applicants' data and processing the relevant supporting documents they have submitted, the amount due to be refunded shall be certified to the beneficiary.

Through this measure, there is a balance in the increased costs of maritime travel of the beneficiary residents of the islands through the payment of Island Cost Compensation. The same measure may apply to air travel as well. In order to be able to do this, the beneficiaries must be able to declare the Unique Islander Number code when booking their airline tickets, while in turn the airlines will have to send the necessary travel details in accordance with the relevant Ministerial Decision. As the maximum number of routes subsidized for each islander is predetermined, the beneficiary must have chosen whether to use his or her Unique Islander Number for ferry or air travel.

During the last year, the transfer of strategic cargoes to the small and remote islands has been included also in the measure, in order to reduce the cost of living of the islanders and to strengthen the enterprises. An effort is being made to reduce the cost of unleaded petrol and diesel.

According to the data from Greek Ministry, the measure of the Transport Equivalent has not yet received a great response, as only 43% of the island's population has registered and obtained Unique Islander Number. Of this percentage, however, only 3 in 10 exercised their right, a percentage corresponding to 27%.

The aim of this paper is to study Transport Equivalent and to evaluate its application on the island of a northeast Aegean island, Chios. In particular, the beliefs of the permanent residents regarding the Transport Equivalent and the degree that this can facilitate their personal life. In other words, the purpose of this research is

to understand the importance of Transport Equivalent and investigate the ways of how citizens could be informed about it. In the end, recommendations for measures and actions, that would be taken, will be given.

2. METHODOLOGY

For the purpose of this paper, a survey was specially designed. A questionnaire was designed with emphasis on the anonymity of the respondents. The sampling method used was the snowball method. The responses were then coded appropriately in IBM SPSS for Windows version 26.0, in order to run the statistical analysis, following the adequate statistical procedures. The research approach was through quantitative methods. The most interesting results will be presented below.

The questionnaire consisted of 7 general and 23 specific questions. The first seven questions included demographic characteristic, such as gender, age, level of education, professional status, marital status, existence and number of children and monthly income. The questions 8 to 22 were related to the profile of the respondents regarding the Transport Equivalent, the application process and the trips that they make. The next six questions, 23 to 28, were more specific and focused on the degree of satisfaction that the respondents have from Transport Equivalent. The last two questions, 29 and 30, were related to possible ways to improve the measure of Transport Equivalent. Most questions were designed with Likert's scale in order to gather the intensity of their responses.

3. ANALYSIS

A total of 751 permanent residents of northeast Aegean island, Chios, were participated in the survey. A participant was considered to be suitable, if he was adult and had already a Unique Islander Number. Most of the respondents were female (421 females over 330 males). The median age of the participants was between 26 years old and 35 years (range between 18 years and over 66 years). Regarding the professional status of the participants, 26% of them were freelancers, almost 20% worked in public sector (municipalities and region), 19% worked in private sector (businesses and topical shops), almost 17% were householders while other occupations, included university students, retired and unemployed people had a total of 18%. The median monthly income was 501-700 euros (range from less than 500 euros to over 2001 euros) and the median education was university.

There is an equal distribution regarding the means that they prefer for their travels. The respondents use both ships and airplanes as their means of travel and they travel, on average, one to five times annually (range from zero to over 17). The total average number of trips with ships and airplanes is almost 3.

The participants stated that they were informed from their friends or family about the Unique Islander Number and they applied for it from July 2018 to March 2019.

The results about the motivation that Transport Equivalent offers was the following: Regarding to their responses, Transport Equivalent constitutes a moderate motivation to travel more, to choose their destination and to increase the duration of their holidays. On the other hand, they believe that Transport Equivalent can help the local economy to be extended. Concerning the registration process, the respondents are really satisfied.

After the frequencies and descriptive statistics, inferential statistics was used. Gender and age are significantly associated with the satisfaction rate from the time of the refund and the way that beneficiaries could be informed about Transport Equivalent, as shown in Table 1. Due to the fact that there is a great number of respondents with age up to 45 years old, that they are really familiar with technology and social media, the results are expected.

Table 1. Correlation between time refund from Transport Equivalent, the ways a beneficiary is informed about Transport Equivalent and gender, age

	p-value	
Variables	Gender	Age
Time of refund	**0.025**	**0.037**
Ways to better inform the beneficiaries:		
SMS/Mail	**0.008**	**0.000**
Social media	**0.002**	**0.006**

Level of education and professional status are correlated with the opinion that Transport Equivalent is a motive for someone in order to select a destination for his vacation and to increase the number of leisure trips. It is also correlated with the belief that Transport Equivalent could help local economy and will increase the number of tourists in the area, as shown in Table 2.

Table 2. Correlation between Transport Equivalent will help in the selection of destination for vacation and increase the number of leisure trips, Transport Equivalent could help the local economy and will increase the number of tourists in the area and level of education and professional status.

Variables	p-value	
	Level of education	Professional status
Transport Equivalent will help someone to select a destination for vacation	**0.004**	**0.012**
Transport Equivalent will help someone to increase the number of leisure trips	**0.000**	**0.021**
Transport Equivalent could help local economy	**0.006**	**0.000**
Transport Equivalent will increase the number of tourists in the area	**0.010**	**0.008**

Monthly income was found to be significantly associated with the integration of fuel transport in the Transport Equivalent, how it may help in the family budget and the amount of money someone is entitled to, as shown in Table 3.

Table 3. Correlation between the integration of fuel transport in the Transport Equivalent, Transport Equivalent will help in the family budget, amount of money someone is entitled to and monthly income.

	p-value
Variables	Monthly income
Integration of fuel transport in the Transport Equivalent	**0.000**
Transport Equivalent will help in the family budget	**0.018**
Amount of money someone is entitled to	**0.001**

4. CONCLUSION

The Transport Equivalent is a measure that will benefit the islanders, especially those who live in remote and isolated islands. However, there is not enough information about it, in order the islanders to know its benefits and to be able to use it.

Some indicative suggestions that could help the measure to receive the response it needs, could be mentioned. First of all, more accurate and detailed information, about what the Transport Equivalent exactly is and the purpose of its implementation should be given to all the beneficiaries. This can be achieved via e-mails, messaging and social media.

The idea is to extend this survey to the other islands that take part in the measure of the Transport Equivalent. The purpose of this is to study the possible problems that are being arise during the implementation of the measure. The improvement proposals that will emerge from each island separately may be differentiated due to complexity and peculiarity of Greek islands. This study could also be performed on island complexes and comparisons could be made.

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THE EFFECT OF EDUCATION ON UNEMPLOYMENT RATES CONSIDERING THE EXTENDED TIME FRAMEWORK OF THE GREEK DEBT CRISIS

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ABSTRACT

Economists have long thought of investment in schooling or "human capital" as the fundamental source of economic growth in a country's economy. Especially in today's increasingly globalized world, the role of education has been highlighted as the most influential tool in the establishment of a higher quality economy. Links between education and economic growth and stability are long established based on the extensive empirical economic research suggesting a positive correlation between higher educational attainment and growth indices, such as GDP per capita, productivity levels and unemployment rates. This paper considers the causal effect of education on unemployment rates in Greece for fifteen time-periods 2000-2015. Moreover, this study identifies the level of education with the greater influence on unemployment in an attempt to develop well-targeted public policies in the future. This longitudinal analysis adds to the existing economic literature while accounting for certain observed limitations in previous works. In particular, this study employs panel data gathered from various studies and surveys conducted by the Hellenic Statistical Authority (ELSTAT) and the statistical office of the European Union (EUROSTAT). Consistent with past economic literature, I found that there exists a negative correlation between lower secondary education and the rates of unemployment. Nevertheless, my findings align with a series of studies conducted with respect to Greece that reveal that unlike most of the EU country-members, Greek college graduates find it more difficult to get absorbed into the Greek labor force compared to their less educated competitors.

1. INTRODUCTION

Nowadays, there exists a strong consensus that formal education is an important determinant of individual earnings as well as labor force status. It appears that educated workers have three major advantages relative to less-educated workers: higher wages, greater employment stability, and greater upward mobility in income (Vilorio, 2016). Moreover, drawing on previous economic literature (Riddell et al., 2011), education is said to improve the ability of the labour force to adjust to economic shocks. Economic theory suggests that there exists a negative correlation between education levels and unemployment rates. In particular, unemployment rates appear to decrease as the educational level rises. Although many factors can be understood to impact the likelihood individuals will stay unemployed, such as global competition, automation, and aggregate demand, this study will seek to better understand the effect higher education levels have on the risk and duration of unemployment. The chosen time framework is divided into fifteen time-periods: 2000 - 2015.

This is due to the acute effect the Greek fiscal crisis (2009 - present), following the 2008 Great recession had on unemployment rates and access to education. In addition, the austerity measures taken by the Greek government as part of three successive bailout packages, totaling up to 330 billion dollars, aggravated the state of the economy. These stern financial policies, including inter alia government spending cuts and tax increases, resulted in a further depression of the Greek economy. In terms of figures, the Greek economy shrank as a whole by 25%, more than 400,000 individuals emigrated, the total unemployment immensely increased reaching an all-time high of 27.9% in 2013 (Figure 3, Appendix), while the youth unemployment rate climbed up to almost 60% in April of that same year (McBride et al., 2017). In this day, Greece has yet to recover. As of January 2019, Greece has only repaid 41.6 billion euros whereas its scheduled debt payments date beyond 2060 (McBride et al., 2017). Taking this economic background into consideration, I decided to closely examine the extent to which the amount of education affects the ability of the labor force to react to economic changes.

The ideal experiment that could be used to answer this question would include three pairs of two identical groups with their only difference being that one would receive a treatment (tertiary education attainment), while the other (control group) would not (lower secondary education attainment). The treatment would be applied as mentioned above, in fifteen different time periods; from 2000 to 2005 for pair number one (before the Greek Sovereign Crisis), from 2006 to 2010 for pair number two (during the Recession) and from 2011 to 2015 for pair number three (under the Three Economic Adjustment Programmes). My econometric model will include the dependent variable "Unemployment Rates" and the causal variable of interest "Educational Level" - measured by the following variables: School attainment, Primary attainment, Secondary (lower and post) attainment and Tertiary attainment - as well as the control variables such as " Working Age, Marital Status, Nationality, Total Gross Value Added, Live Births and Labor force participation rate", while the observations are reported for each one of the thirteen regions of Greece.

In terms of feasibility, data sources for this application include: the Hellenic Statistical Authority (ELSTAT) database and the statistical office of the European Union (EUROSTAT). In this application, I find a strong negative correlation between education and unemployment indicating that individuals with higher educational attainment levels are more likely to adjust to severe economic conditions relative to adults that have not completed upper secondary education.

2. LITERATURE REVIEW

Economists have long thought of the investments in schooling or "human capital" as the fundamental source of economic growth in a country's economy. Especially today, as the world grows increasingly globalized, the role of education has been highlighted as the most influential tool in the establishment of a higher quality economy. This upward shift of importance stems from the fact that nowadays the formerly huge manufacturing sector has given way to the dominant service system, involving more highly educated and highly skilled workers. Links between education and economic growth and stability are long established based on the extensive empirical economic research suggesting a positive correlation between higher educational attainment and growth indices, such as GDP per capita, productivity levels and unemployment rates. This paper aims to establish a causal link between education and fluctuations in unemployment.

As the study by Howe (1988) suggests, college graduates seem to have a comparative advantage compared to high school graduates, particularly in times of significant downturns in the business cycles. This is due to the position that individuals with a college degree hold in the economy as well as the business sectors they tend to work in. While examining the shifting demographic composition and educational level of the U.S. labor force during the 1967-1987 period, Howe (1988) found that the unemployed differential between college and high school graduates increased given that the former usually occupied overseeing and managerial posts, while the latter were mostly employed in the production sector which is more susceptible to great labor reductions during recessions as product demand diminishes.

Recent regional and cross-national studies also support Howe's findings. As Riddell and Song reported, higher education at the tertiary level significantly reduces the rate of unemployment. Their study *"The Impact Of Education On Unemployment Incidence And Re-Employment Success: Evidence From The U.S. Labour Market"*, based on longitudinal data constructed from the U.S. labour market from 1980-2005, examined the scope of influence of education on re-employment outcomes among unemployed laborers. However, they managed to establish only a partial negative correlation between education and job loss as there was not identified any relationship between an additional secondary schooling and the likelihood of being out-of-work. Consistent with this conclusion were also the differences between educational attainment and employment that Bloemen and Stancanelly identified in their 2001 study titled *"Individual wealth, reservation wages, and transitions into employment*.

As they argued, individuals with relatively low levels of education (i.e. lower secondary and below) were more likely to be employed compared to fellow more educated competitors. According to their study, this unexpected result could be due to the different reservation wages among the employees. That is; one would expect that individuals with a higher level of education will be less likely to accept any kind of job vacancies but would rather seek fitting opportunities with satisfactory levels of compensation. This so-called "employment polarization" is documented in a more detailed manner in Autor's 2010 study of the job opportunities in the U.S. Labor Market. Autor attributed this decrease in demand for middle-class jobs relative to high- and low-skilled jobs to the interrelation between technological advancements and data processing. In his paper, he highlighted the greater influence that tertiary and lower secondary education levels have on employment opportunities as opposed to upper secondary attainment that appears to have little to no effect in the decision making process carried out by employers.

In a similar manner, Zimmer determined a strong short-term connection between education and re-employment in his 2016 study "*The Importance of Education for the Unemployed*". His conclusions also confirm the positive influence tertiary education has on individuals wishing to re-enter the job market. As he found, the negative impact on wages such as the increasing wage inequality gap caused by high unemployment, can be relatively regulated by higher levels of education attainment. In addition, it is important to note that all the aforestated studies have been conducted in a particular region and hence their findings might be subject to unique limiting conditions, such as size of labour force, GDP growth rates, demographics etc.

In contrast to these localized analyses, the investigation conducted by Núñez and Livanos accounts for a more diverse and broader sample size. In specific, they discussed inter alia the extent to which an academic degree can impact short and long-term unemployment at a European level relying on Labour Force Survey (LFS) data on 700,000 individuals. According to their study's results, the positive relationship between higher education and employment was again reinforced. Nevertheless, a considerable variation across countries was observed. As reported, tertiary education had a greater impact on employment levels in advanced economies such as Finland, Belgium and the UK, whereas considering the labor market of Southern European Countries, namely Greece, Italy and Portugal, it was found that a university degree does not particularly increase the probability of employment relative to short-term unemployment.

This distinction stresses the severe effects that the global financial crisis had on unemployment rates and educational opportunities across different countries. While some studies, such as the Guardiola and Guillen-Royo cross-sectional research paper (2014), indicated that tertiary schooling and employment status in Spain were positively associated even under severe economic conditions, there were others that regarded their relationship as considerably weak. Such was the study conducted by Monastiriotis and Marteli (2013) regarding unemployment and labour market adjustments across Greek regions covering the period 2000-2012. Their research results suggested that there exists a weak link between education and employment probabilities in Greece as supported by regional data. As they stated in their paper, this lack of a strong association can be explained by the over-supply of education relative to the demand for skills in the depressed Greek labour market.

This paper considers the causal effect of education on unemployment rates in Greece, shifting however the time framework to fifteen time periods: 2000 - 2015. Moreover, this paper identifies the level of education with the greater influence on unemployment in an attempt to develop well-targeted public policies in the future. This longitudinal analysis adds to the existing economic literature while accounting for certain observed limitations in previous works; in particular, it employs panel data instead of cross-section data as used by Guardiola and Guiillen-Royo (2014) and others.


3.   METHODOLOGY

This empirical study adopts a quantitative methodological approach through secondary data collection to examine the causal effects of education on individuals' transitions between employment and unemployment in Greece from the year 2000 to 2015.

3.1 Underlying Economic Theory

The formulated hypothesis is based upon the premises of the Signaling Theory by Spence (1973) and the Human Capital Theory by Becker (1962) and Rosen (1976) (Figure 1).
Becker (1962) and Rosen (1976) argued that individuals and thus future employees, have a set of marketable skills which they can ameliorate through training and higher education attainment levels. Acting accordingly would result in an increased accumulation of human capital which in result would drive up their value in the labor market and hence have a payoff in terms of higher wages. Nevertheless, in order for high levels of human capital to be directly linked to increased labor market returns, the future employers need to possess such information upon personnel recruitment.

Figure 1. Human Capital Theory (Usher, 2018)
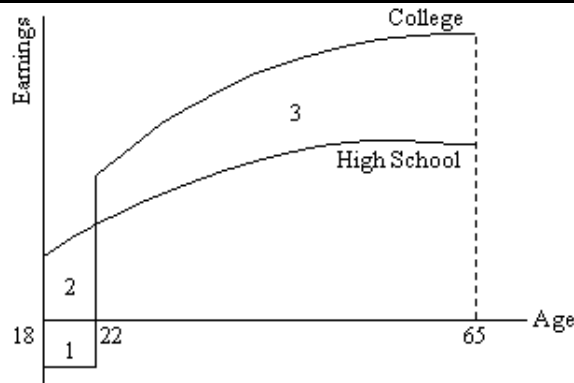
In view of this, Signaling Theory proposes the use of education as an initial signal of aptitude since, as argued, acquiring an academic degree requires a set of superior inherent abilities. Furthermore, Spence (1973) claims that such signaling does not generate any cost and provides a solution to the problem of asymmetric information between the labourers and the future employers who cannot directly observe the workers' productivity levels. In particular, Spence (1973) considers two types of laborers: more-productive ones with a productivity level of 2 and less-productive ones with a productivity level equal to 1. He further supposes that employers expect that job seekers with S* or more years of schooling will be Type 2 labourers, while the ones that have less than S* years of schooling will be Type 1 labourers. Employers pay their labourers in accordance with their anticipated productivity level and hence, they pay those with S* or more years of schooling a wage equal to 2 and those with less than S* years of schooling a wage equal to 1. As a result, the present discounted value of lifetime earnings for labourers with S* or more years of schooling is E2 and E1 for those with less than S* years of schooling (Figure 2). Supposing that individuals are rational and that labourers care primarily about their earnings, labourers will choose the level of education that results in the biggest (positive) difference between lifetime earnings and cost of schooling. Given that education is not costless, the cost of schooling differs between types of labourers. That is; an additional year of schooling incurs a cost of C for Type 1 labourers but a cost of C/2 for Type 2 labourers (Figure 2). In other words, investing in an additional year of schooling is cheaper for Type 2 labourers than for Type 1. For instance, Type 2 labourers that possess a higher level of productivity than Type 1 labourers might need less time studying. Therefore, as it can be seen in Figure 2, in order to maximize the difference between lifetime earnings and cost of schooling Type 1 labourers will have to choose 0 years of schooling. In contrast, Type 2 labourers will choose accordingly S* years of schooling. Thus, education sorts labourers differently given their productivity levels which ratifies employers' beliefs regarding education and the use of S* as a valid signal of productivity.

Figure 2. Signaling Theory. (Spence, 1973)
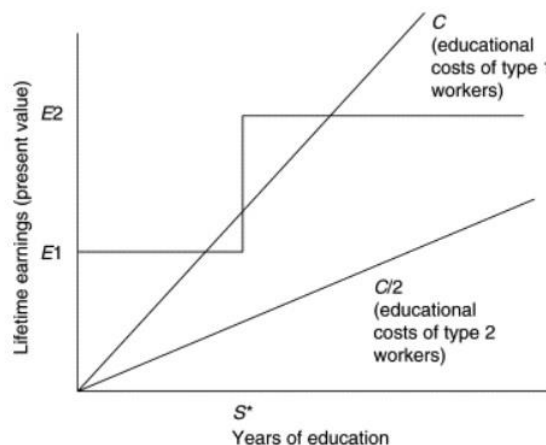
The combination of these two theories leads to the paper's hypothesis that education, and especially attainment of tertiary education levels, has a positive correlation with employment and wage levels and thus is inversely related to unemployment.

3.2 Econometric Model

The econometric model of this study consists of:

- The dependent variable (Unemployment Rates)
- A causal variable of interest (Educational level - measured by four different variables: School attainment, Lower Secondary attainment, Post-Secondary attainment and Tertiary attainment)
- Several control variables (Marital Status such as Single, Married and Widowed/Divorced/Legally Separated, Total Working age (set to be 15-64 years old), Nationality; Greek, EU/Other and Labor Force Participation Rate)

The variables were measured in fifteen different time periods across 13 regions of Greece. The variables and the resulting model are estimated as panel data.

The general model is:

$$Y_{it} = \beta_0 + \delta_0\,2000 + \delta_1\,2001 + ... + \delta_{15}\,2015 + \beta_1 unedu_{it} + \beta_2 prim_{it} + \beta_3 secl_{it} + \beta_4 secu_{it} + \beta_5 tert_{it} + \beta_6 single_{it} + \beta_7 married_{it} + \beta_8 divorced_{it} + \beta_9 age_{it} + \beta_{10} greek_{it} + \beta_{11} other_{it} + \beta_{12} lab_{it} + \beta_{13} tgva_{it} + \beta_{14} lbirths_{it} + \alpha_i + u_{it}$$

(1)

Where:

i= 1,…,13 (indicator of each region)

t=2000,...,2015 (indicator of each year)

Y_i represents the variable *Unemployment Rates (measured as percentage)*

$unedu_{it}$ represents the variable *Portion of the Population that has not attended any educational institute; no school attainment (in thousands)*

$prim_{it}$ represents the variable *Portion of the Population that has attained Primary Educational Level (in thousands)*

$secl_{it}$ represents the variable *Portion of the Population that has attained Secondary Educational Level (Lower) (in thousands)*

$secu_{it}$ represents the variable *Portion of the Population that has attained Secondary Educational Level (Upper) (in thousands)*

$tert_{it}$ represents the variable *Portion of the Population that has attained Tertiary Educational Level (in thousands)*

$single_{it}$ represents the variable *Single Portion of the Population (in thousands)*

$married_{it}$ represents the variable *Married Portion of the Population (in thousands)*

$divorced_{it}$ represents the variable *Divorced, Widowed or Legally Separated Portion of the Population (in thousands)*

age_{it} represents the variable *Portion of the Population of working age - defined as those individuals aged 15-64 years old*[2] *(computed as percentage)*

$greek_{it}$ represents the variable *Portion of the Population identified as Greek nationals (in thousands)*

$other_{it}$ represents the variable *Portion of the Population identified as EU/other nationals (in thousands)*

lab_{it} represents the variable *Labor Force Participation Rate (computed as percentage)*

$tgva_{it}$ represents the variable *Total Gross Value Added per region*[3] *(in million euros and current prices)*

$lbirths_{it}$ represents the variable *Live Births per 1,000 individuals (in thousands)*

β_0 is the constant parameter, and the parameters $\beta_1…\beta_{14}$ correspond to $x_1…x_{14}$ while the parameters $\delta_0….\delta_{15}$ correspond to *2000...2015*.

It should be mentioned that while the above model is sufficiently reliable to test the proposed hypothesis, it fails to take into account how individuals from advantaged backgrounds with well-connected social networks may be able to acquire higher levels of education, considering its high cost, and also be subject to better job opportunities. This omission may result in an overestimation of the effect of education levels on unemployment rates and hence, in a misrepresentation of their relationship.

Furthermore, we initially difference the original model to allow for the elimination of the fixed effect; α_i and enable the development of more accurate simpler models.

That is:

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[2] As defined and reported by the Organization for Economic Cooperation and Development (OECD) in its Labor Force Statistics Annual Report: OECD (2019), OECD Labour Force Statistics 2019, OECD Publishing, Paris.

[3] As defined by the statistical office of the European Union; the Total Gross Value Added refers to the total regional output minus intermediate consumption and is considered a measure of the gross regional domestic product: "Gross Value Added". 2019. EUROSTAT. European System of National and Regional Accounts (ESA 2010).

$\Delta Y_{it} = \beta_0 + \delta_0\, 2002 + ... + \delta_{13}\, 2015 + \beta_1 \Delta unedu_{it} + \beta_2 \Delta prim_{it} + \beta_3 \Delta secl_{it} + \beta_4 \Delta secu_{it} + \beta_5 \Delta tert_{it} + \beta_6 \Delta single_{it} + \beta_7 \Delta married_{it} + \beta_8 \Delta divorced_{it} + \beta_9 \Delta age_{it} + \beta_8 \Delta greek_{it} + \beta_{11} \Delta other_{it} + \beta_{12} \Delta lab_{it} + \beta_{13} \Delta tgva_{it} + \beta_{14} \Delta lbirths_{it} + \Delta u_{it}$
(2)

In order to control for moderately skewed distributions in the model, as seen in the generated histogram of the residuals and the residuals' normal distribution plot in the Appendix (Figure 4 & 5), logistical transformation is employed for the dependent variable; Y_{it} as well as for the control variables for education; $unedu_{it}$, $prim_{it}$, $secl_{it}$, $secu_{it}$ and $tert_{it}$.

The resulting first-differenced model for the MLRM model is:

$\Delta lY_{it} = \beta_0 + \delta_0\, 2002 + ... + \delta_{13}\, 2015 + \beta_1 \Delta lunedu_{it} + \beta_2 \Delta lprim_{it} + \beta_3 \Delta lsecl_{it} + \beta_4 \Delta lsecu_{it} + \beta_5 \Delta ltert_{it} + \beta_6 \Delta single_{it} + \beta_7 \Delta married_{it} + \beta_8 \Delta divorced_{it} + \beta_9 \Delta age_{it} + \beta_8 \Delta greek_{it} + \beta_{11} \Delta other_{it} + \beta_{12} \Delta lab_{it} + \beta_{13} \Delta tgva_{it} + \beta_{14} \Delta lbirths_{it} + \Delta u_{it}$
(3)

After estimating the first-differenced MLRM model form, I proceed with determining which of the five measures of education are more significant for the model and construct a proposed model using one of the measures as the independent variable for interest.

Having determined the key independent variable, I closely examine it and the other control education variables to check for presence of endogeneity as suggested by Monastiriotis and Marteli (2013). Finally, I test for heteroskedasticity and use the appropriate tools and tests, when needed, such as the Breusch-Pagan Test or the White's test to attain a targeted correction.

3.2.1 Empirical Application

The panel data used for the empirical analysis are primarily gathered from various studies and surveys conducted by the Hellenic Statistical Authority (ELSTAT) and the statistical office of the European Union (EUROSTAT). These databases provide a timely and reliable source of data since all the data are collected, following standard practices and methodology from national statistical systems and international statistical agencies. However, due to the limitation of the study to a certain time period and the region of Greece, the lack of available datasets to public access should be taken into account. In addition, it is important to consider that this study has a regional focus, being conducted in Greece and thus, any results might be contingent on certain limitations such as size of labour force, regional population, growth indices, demographics, sectors of economic activity, etc.

The summary statistics with respect to my research objective are presented in Table 1. As seen, most variables are discrete and mostly measured in thousands while there are some computed as percentage. At first glance, it can be observed that on average 252 thousand individuals attained upper-secondary education ("upper secondary") while only 122 thousands attained tertiary education ("tertiary"). It is important to note that Education in Greece is compulsory from nursery school to junior high school ("lower secondary").

Table 3. Summary statistics

	mean	sd	min	max
regionordi~l	7	3.750684	1	13
year	2007.5	4.620894	2000	2015
emloyed	321.1476	396.4285	62.3	1780.6
unemployed	54.16923	79.76676	3.5	527.5
laborforce~e	.5167067	.0304281	.434	.587
attendedno~r	45.66394	35.84895	5.9	166.6
primary	204.2587	169.1561	47.5	805.8
lowersecon~y	90.5899	101.7594	19.9	433.1
uppersecon~y	252.1601	362.3574	39.5	1475.4
tertiary	121.962	201.0348	13.5	963.2
single	333.238	415.8161	66.9	1708
married	423.5486	472.9041	99.2	1953.6
widoweddiv~e	83.09519	102.2102	18.4	455.1
age1564yea~e	.646226	.0206223	.613	.705
greek	792.1442	904.5279	186.1	3683.7
euothernat~s	47.74183	91.25953	.5	457.1
TGVA	13323.92	21064.05	1694.5	103722
LBirths	8085.048	9805.117	1639	42899
lunrate	-2.040439	.4323271	-3.057608	-1.152013
N	208			

3.2.2 Results

Looking at Table 2 which summarizes the first-difference model regression, it can be said that at first glance the control variables for education appear to be statistically insignificant (absence of asterisks: high p-values, low t-values) while the full first-differenced model is not deemed a good fit since its value of R-squares is moderate. That is; the model seems to explain only 54% of the variability present in the dataset.

Table 4. First-differenced model regression

	Model A	
d02	-0.0446	(0.0571)
d03	-0.0878	(0.0555)
d04	0.0555	(0.0631)
d05	-0.0697	(0.0554)
d06	-0.103	(0.0575)
d07	-0.0878	(0.0546)
d08	-0.0912	(0.0620)
d09	0.148*	(0.0604)
d10	0.220***	(0.0571)
d11	0.279***	(0.0554)
d12	0.266***	(0.0552)
d13	0.0998	(0.0566)
d14	-0.0254	(0.0571)
d15	-0.0623	(0.0618)
dlnoschool	0.187	(0.114)
dlpr	0.801	(0.434)
dlsec	-0.141	(0.209)
dlsecu	0.243	(0.391)
dltert	0.263	(0.187)
dgreek	-0.144	(0.0985)
deuothernationals	-0.142	(0.0984)
dsingle	0.142	(0.0984)
dmarried	0.142	(0.0983)
dwidowed	0.144	(0.0982)
dlworkingage	-1.736	(3.863)
dtotalgva	-0.00000564	(0.0000107)
dbirths	-0.00000273	(0.0000383)
dllaborforceprate	0.938	(0.513)
Constant	0.0225	(0.0464)
Observations	195	
Adjusted R-squared	0.546	

Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Before moving forward with exploring and constructing better-fitted models using singular or pair-wise control variables for education, I test for the presence of heteroskedasticity in the data, using both the Breusch-Pagan and the White's test.

Looking at Tables 3 & 4, it can be said that the Null hypothesis can be retained and thus, there is no considerable presence of heteroskedasticity in the data. This is mainly due to the "relatively high" p-values (~0.4 - 0.5) present in both tests. In other words, both tests indicate that we would fail to reject the Null Hypothesis regarding the presence of homoscedasticity at any level of significance between 5% - 40%; we are only able to reject the Null Hypothesis down to ~ 45% - 50%.

Table 5. Breusch-Pagan test

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Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
          Ho: Constant variance
          Variables: fitted values of dlunrate

     chi2(1)       =      0.60
     Prob > chi2   =    0.4387
```

Table 6. White's test

```
White's test for Ho: homoskedasticity
          against Ha: unrestricted heteroskedasticity

     chi2(208)     =    208.00
     Prob > chi2   =    0.4870

Cameron & Trivedi's decomposition of IM-test
```

Source	chi2	df	p
Heteroskedasticity	208.00	208	0.4870
Skewness	32.62	26	0.1734
Kurtosis	8.02	1	0.0046
Total	248.64	235	0.2585

In addition, I examine the possibility of endogeneity in the independent variables due to the effects[4] that unemployment rates may have on educational attainment as suggested by the economic literature (Monastiriotis and Marteli, 2013).

As it can be seen in Table 5, we fail to reject the Null hypothesis that states that all our independent variables with respect to education are exogenous, and thus valid.

Table 7. Endogeneity test

```
. estat endogenous

  Tests of endogeneity
  Ho: variables are exogenous

  Durbin (score) chi2(1)       =  .294469  (p = 0.5874)
  Wu-Hausman F(1,199)          =  .282127  (p = 0.5959)
```

Having ensured that the control variables for education are good instruments of regression, I proceed at looking at different and simpler models using a combination of causal and other control variables.

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[4] Such might include students voluntarily dropping out to help financially sustain their families, termination of education due to lack of funds etc.

Table 6 demonstrates that the only statistically significant causal variable regarding education is the lower secondary educational level of attainment. Nevertheless, it should be mentioned that while this proposed model has the greatest adjusted R-squared value (0.540), it is still significantly low.

Table 6. Simple linear regression models with a single control variable for education; Model A (No school attendance), Model B (Primary education attainment), Model C (Lower secondary education), Model D (Upper secondary education) and Model E (Tertiary education attainment)

	Model A	Model B	Model C	Model D	Model E
s02	-0.0107	0.0119	-0.0234	-0.00613	-0.00649
	(0.0487)	(0.0503)	(0.0487)	(0.0487)	(0.0487)
s03	-0.0407	-0.0329	-0.0634	-0.0428	-0.0444
	(0.0488)	(0.0490)	(0.0490)	(0.0486)	(0.0486)
s04	0.0565	0.0991	0.0544	0.0629	0.0479
	(0.0487)	(0.0558)	(0.0481)	(0.0491)	(0.0510)
s05	-0.0549	-0.0394	-0.0573	-0.0567	-0.0533
	(0.0486)	(0.0494)	(0.0481)	(0.0488)	(0.0486)
s06	-0.0868	-0.0733	-0.0971*	-0.0910	-0.0912
	(0.0487)	(0.0496)	(0.0483)	(0.0487)	(0.0487)
s07	-0.0845	-0.0673	-0.0877	-0.0849	-0.0882
	(0.0487)	(0.0495)	(0.0482)	(0.0487)	(0.0487)
s08	-0.0769	-0.0605	-0.0846	-0.0791	-0.0752
	(0.0486)	(0.0496)	(0.0483)	(0.0488)	(0.0486)
s09	0.185***	0.207***	0.180***	0.187***	0.193***
	(0.0487)	(0.0501)	(0.0483)	(0.0486)	(0.0491)
s10	0.256***	0.266***	0.241***	0.250***	0.255***
	(0.0486)	(0.0490)	(0.0485)	(0.0492)	(0.0486)
s11	0.305***	0.322***	0.291***	0.301***	0.302***
	(0.0486)	(0.0499)	(0.0486)	(0.0489)	(0.0487)
s12	0.272***	0.282***	0.267***	0.266***	0.270***
	(0.0491)	(0.0495)	(0.0481)	(0.0486)	(0.0488)
s13	0.128**	0.150**	0.111*	0.126*	0.127**
	(0.0486)	(0.0506)	(0.0489)	(0.0487)	(0.0486)
s14	-0.0198	0.000217	-0.0325	-0.0222	-0.0175
	(0.0486)	(0.0504)	(0.0485)	(0.0487)	(0.0488)
s15	-0.0631	-0.0396	-0.0758	-0.0669	-0.0666
	(0.0489)	(0.0519)	(0.0483)	(0.0486)	(0.0486)
s1noschool	0.0645				
	(0.0905)				
s1pr		0.367			
		(0.252)			
s1sec			-0.303*		
			(0.149)		
s1secu				-0.145	
				(0.228)	
s1tert					0.100
					(0.146)
Constant	0.00381	-0.00940	0.0113	0.00561	-0.00302
	(0.0346)	(0.0350)	(0.0344)	(0.0351)	(0.0349)
Observations	195	195	195	195	195
Adjusted R-squared	0.531	0.535	0.540	0.531	0.531

Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.001

The proposed simple linear regression model (Table 7 suggests a negative correlation between the dependent variable; unemployment rates and the chosen causal variable of interest; Lower secondary educational level attainment ("sec"). In numbers, a one percent increase would decrease the regional unemployment rates by approximately 0.4 percentage points (Table 7). Furthermore, it can be argued, looking at both Tables 7 & 8, that the years concerning the peak of the Greek economic crisis (2009-2013) are highly statistically significant and positive, verifying the strong correlation between these years and the steep rise of the unemployment rates in the Greek economy.

Even though the aforestated model (Tables 7 & 8) has a slightly significant adjusted R-squared value which differs from the adjusted R-squared value of the full first-differenced model (Table 2) by - 0.005 points, it is preferred to the full model since it is indicative of a level of significance within the independent explanatory measures of education. In contrast, in the full model (Table 2) there was no evidence of any level of significance of education. Moreover, a somewhat surprising finding (Table 7) is that while the coefficient of the upper secondary educational level of attainment is almost equivalent in both sign and value to the coefficient of the main variable of interest, it is not statistically significant.

Table 7. Proposed model using the education control variable "sec" (Lower secondary attainment) including other/more controls - after running various combinations

	Model A	
d02	-0.0247	(0.0491)
d03	-0.0601	(0.0494)
d04	0.0648	(0.0488)
d05	-0.0703	(0.0496)
d06	-0.102*	(0.0503)
d07	-0.0950	(0.0485)
d08	-0.0999	(0.0532)
d09	0.165**	(0.0493)
d10	0.212***	(0.0514)
d11	0.265***	(0.0512)
d12	0.257***	(0.0499)
d13	0.0913	(0.0502)
d14	-0.0478	(0.0493)
d15	-0.0818	(0.0494)
dlsec	-0.391*	(0.161)
dlsecu	-0.392	(0.246)
dlnoschool	0.0604	(0.0898)
dbirths	0.00000800	(0.0000356)
dtotalgva	-0.00000843	(0.00000898)
Constant	0.0353	(0.0372)
Observations	195	
Adjusted R-squared	0.541	

Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Table 8. Proposed model using the education control variable "sec" (Lower secondary attainment)

	Model A	
d02	-0.0234	(0.0487)
d03	-0.0634	(0.0490)
d04	0.0544	(0.0481)
d05	-0.0573	(0.0481)
d06	-0.0971*	(0.0483)
d07	-0.0877	(0.0482)
d08	-0.0846	(0.0483)
d09	0.180***	(0.0483)
d10	0.241***	(0.0485)
d11	0.291***	(0.0486)
d12	0.267***	(0.0481)
d13	0.111*	(0.0489)
d14	-0.0325	(0.0485)
d15	-0.0758	(0.0483)
d1sec	-0.303*	(0.149)
Constant	0.0113	(0.0344)
Observations	195	
Adjusted R-squared	0.540	

Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.001

4. CONCLUSION

In my research, I found a negative correlation between the level of education and the rates of unemployment as our initial hypothesis stated. In particular, I found that an increase in lower secondary education reduces unemployment. Similarly, upper secondary education was also found to have a negative relationship with unemployment rates, however there was no indication of respective statistical significance and thus, this negative correlation was not taken into further consideration. However, the lack of statistical significance among the dependent variable (unemployment rates) and the remaining control variables for education, such as "no school attainment", "primary attainment", "upper secondary attainment" and "tertiary attainment", seems to contradict the popular economic literature which claims an inverse proportional correlation between unemployment and education. Nevertheless, my findings align with a series of studies conducted with respect to Greece that reveal that unlike most of the EU country members, Greek college graduates find it more difficult to get absorbed into the Greek labor force compared to their less educated competitors (Rodokanakis and Vlachos, 2013). Moreover, my results regarding the significance disparity between upper and lower secondary education attainment lend support to Autor's theory of "employment polarization.".

As far as the time frame is concerned, it can be said that the economic rationale for choosing this time frame was justified by the overall significance of selected years (2009-2013) with respect to their negative effect on unemployment rates. These particular years were also indicated as the "key" years of the Greek sovereign economic crisis. That is; in that time interval, the most important and dramatic effects of the financial crisis were evidenced in the Greek economy and society.

Additionally, unlike other models in previous economic literature (Monastiriotis and Martelli, 2013), this study's dataset did not exhibit any sign of heteroskedasticity or endogeneity amongst the dependent and independent variables which strengthened the validity of the regressors and rendered unnecessary any tools of correction, such as the use of robust errors. However, the adjusted R-squared value for all the resulting models

was at a moderate level (~0.54) indicating an average goodness of fit since only 54% of the variability was and could be explained.

Finally, it can be said that my findings could be of particular interest for policymakers, especially those interested in the Greek economy. As Hulsman and Kaiser mention in their 2002 study titled "*A comparative view on policy trends in western European higher education.*", there has been a societal growing demand for policymakers to implement a convergence education plan in order to facilitate mobility and employment opportunities across Europe. While the limitations of such projects, including the variation among nations with respect to socioeconomic and structural factors, could discourage its advancement, studies similar to mine that pinpoint cross-national tendencies in the labor market could steer such plans to the right direction.

Lastly, while this study adds to the existing economic literature by proposing a negative correlation between a less-common measure of education and unemployment rates, it should be stressed that my findings, besides being subject to certain regional limitations, are only moderately significant and hence should not be taken at face value. A further study controlling for present limitations could include the expansion of the dataset and hence the implementation of a cross-national approach in lieu of a regional focus. Moreover, it could account for the event that certain individuals come from privileged backgrounds, and thus are able to acquire higher levels of education despite the high cost correlated with it. If these limiting conditions are taken into consideration and be controlled for, then we might be able to obtain highly significant results in the future and even mitigate the acute effects of economic shocks on unemployment rates by means of education reforms.

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APPENDIX

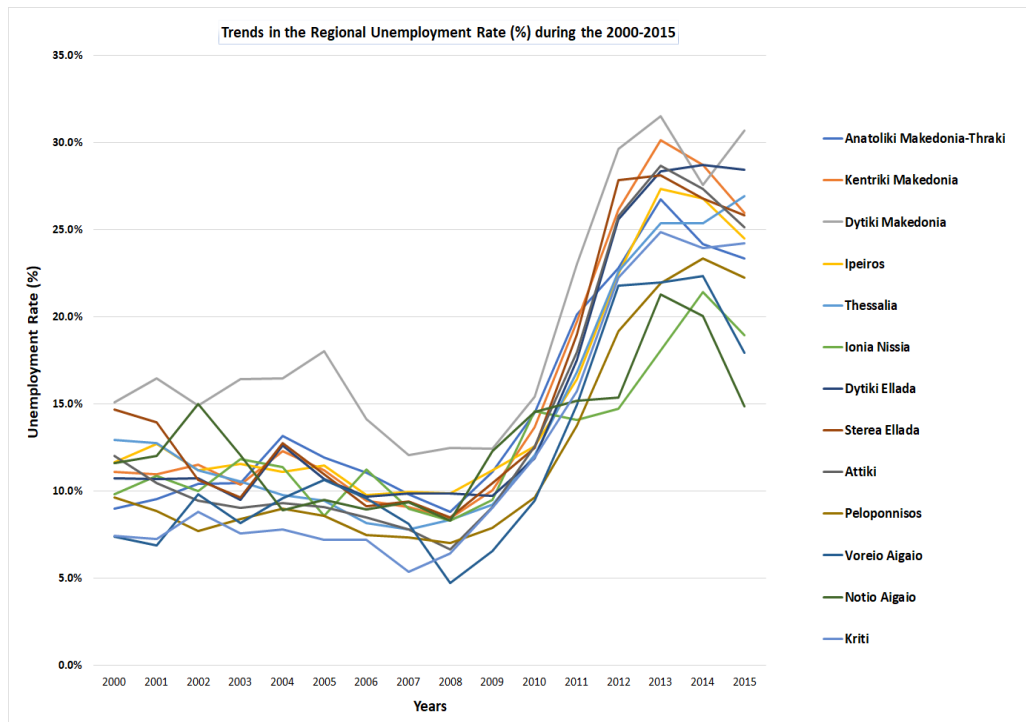Figure 3. Trend in Regional Unemployment Rates (%) for the years 2000-2015

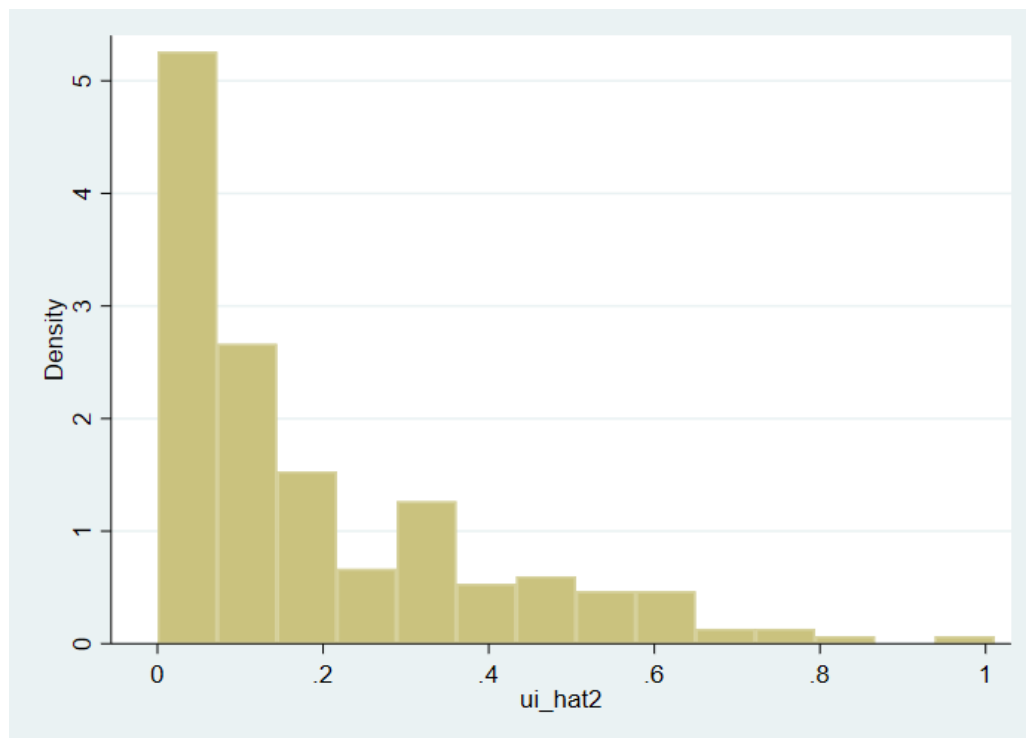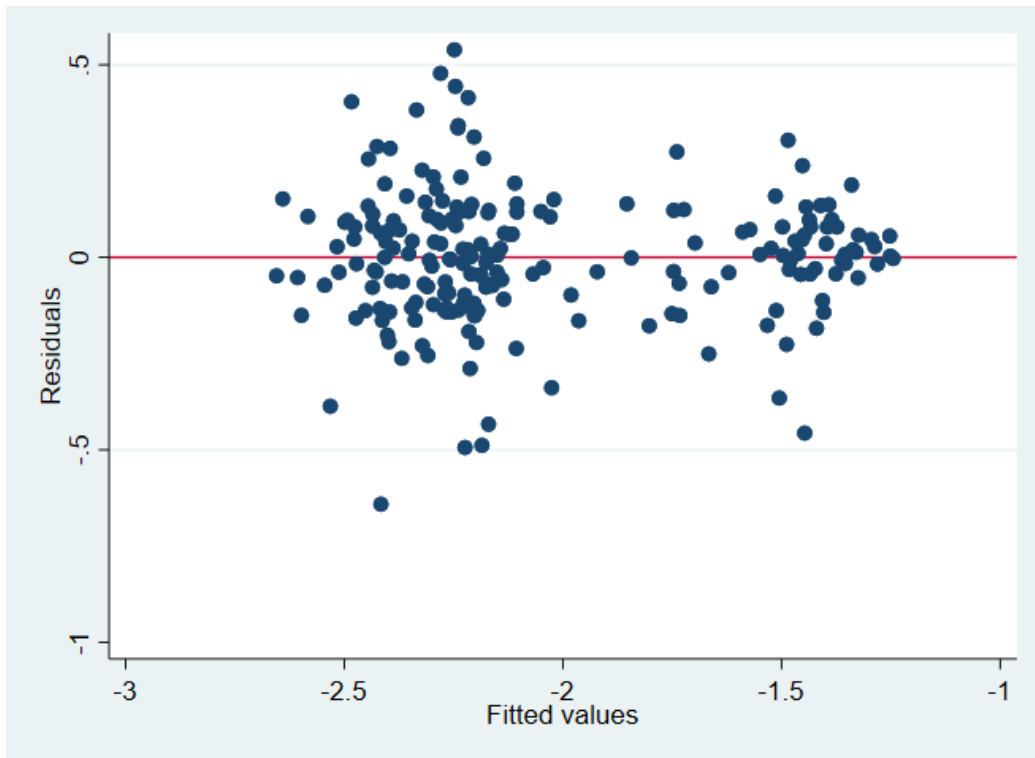Figure 4. Histogram of Data Residuals indicating presence of Heteroskedasticity

Figure 5. Normal Distribution Plot for the Data Residuals indicating violation of the equal variance assumption

THE ECONOMIC EFFECTS OF THE PANDEMIC COVID-19: GREEK CITIZENS EXPRESS THEIR FAITH IN THE GREEK GOVERNMENT FOR THE PROTECTIVE MEASURES TOWARD THE PANDEMIC AND ECONOMIC MEASURES TOWARD A NEW ECONOMIC CRISIS

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ABSTRACT

This paper estimates the economic impact to the Greek economy because of the pandemic COVID-19. Although the most crucial aspect of the pandemic COVID-19 is, and will always remain, human suffering and the loss of lives. On the other hand the blowout of the virus can also have essential economic consequences. In this study Greek citizens were asked about the economy progress, the risk of unemployment and a new and more serious economic crisis. Greek citizens take seriously the stance of the virus, show trust in specialist epidemiologists, show confidence in the health system and the implementation of distance learning in primary and secondary education as well as in e-government. However, despite the financial measures to support workers and businesses, they are pessimistic about the rapid recovery of the economy as Greece's heavy industry has been collapsed.

KEYWORDS

Economic, impact, pandemic, COVID-19

JEL CLASSIFICATION CODES

A1, I3, F6

1. INTRODUCTION

A After a decade-long economic crisis, the first signs of a recovery were finally starting to emerge for Greece. But the coronavirus pandemic swiftly brought this to an end. Greece found itself confronted with a potential public health disaster on its hands, as a highly contagious virus crashed with a staggering public healthcare system picked apart by years of austerity.

Greece, which was about to arise from a 12-year-long financial crisis, now faces the risk of a post-COVID-19 recession. Allowing for the risk of recession worldwide even for solid economies, a weakened Greece faces an even bigger threat. Greece locked down reasonably early, and the measures taken so far have paralysed its crumbly economy, with a probable downturn of about 16 percent of GDP.

The first case of coronavirus was reported on February 26. The first death was recorded on March 12. Twenty-six days after the first case was conveyed and with demises accumulation 16, full lockdown measures were conveyed into strength.

COVID-19 carries with it the opportunity of widespread mortality and morbidity. COVID-19 pandemic has pushed the world into a recession. The effects of lockdowns are visible. As many countries and world capitals have been put under strict lockdown, major industrial production chains have been brought to a halt. Investors fear the spread of the coronavirus will terminate economic growth and that government action may not be enough to stop the deterioration. For 2020 it will be worse than the universal financial crisis. The economic damage is increasing across all countries, pursuing the sharp rise in new infections and containment measures put in place by governments. The fall in labor supply, avoidance of public places and procedures, the closure of schools is bound to impact the global economy and therefore traditional one.

It was about the beginning of February 2020 that a national experts committee on public health was authorized by the government to block the pandemic. Professor S. Tsiodras was in charge of the committee and with the help of undersectatary of civil protection Mr N. Chardalias have the responsibility to announce and analyze the

situation to the Greek people daily. During this hard time not only for Greeks but for people all over the word, the government took serious as well as hard measures in order to assure people lives and supports the healthcare system. The prime minister himself made an amusement pointed out that the priority was the human life.

2. THE STUDY

In the following subsections the purpose of the study, the instrument, the research methodology, the research sample as well as the Research Hypothesis are going to be presented.

2.1 The purpose of the study
This paper estimates the economic impact to the Greek economy because of the pandemic COVID-19. Although the most crucial aspect of the pandemic COVID-19 is, and will always remain, human suffering and the loss of lives. On the other hand the blowout of the virus can also have essential economic consequences. In this study Greek citizens were asked about the economy progress, the risk of unemployment related to a new and more serious economic crisis

2.2 The instrument

The study used a 5 point Likert scale questions divided into the following six dimensions, starting from 1 equal to strongly disagree to 5 equal strongly agree.
- Trust in Government' protective measures (e.g. The decision for keeping citizens at home was necessary).
- Trust in Greek Government' economic measures (e.g. To support the economy, compensation was provided for employees of businesses whose operations were suspended).
- Trust in Greek Government' decision making connected with pandemic COVID-19' circumstances (e.g. The government reacted in a very competent manner).
- Trust in e-government services (e.g. The government brought about a major administrative and digital change).
- Trust in Government' decision implementation of distance learning in all levels of education (e.g. Implementation of distance learning in primary education)
- Economic Consequences Employment rate will be increased (e.g. Many jobs will be lost).
- One item measured the Trust toward Government (e.g. I Trust the Government).

2.3 The research methodology

Principal Components Analysis and Structural equation modeling ware performed, in order to validate the conceptual constructs of measurement model and test the hypothesized relationships.

2.4 The research sample

The sample comprised of 222 interviewees, of whom 140 were men and 82 were women. With respect to the ages of participants, 114 of them were from 18 to 24 years old, 54 were from 25-34, 26 from 35-44, and, finally, 28 were from 45 up to 54 years old. With respect to their family status, 172 were single, while 44 were married and 6 were separated or divorced. 188 of 335 interviewees stated that they live in an urban setting, while 28 in a rural one. Regarding the education of interviewees, 2 said that they had graduated elementary education, 108 secondary, 80 tertiary, while 32 hold a postgraduate diploma or doctorate.
Out of the 222 interviewees, 138 claimed their income was less than €10,000 per year, 60 claimed their income was between € 10,000 and €24.999, while for 14 it ranged between €25,000 to €49,999 and for 2 from €50,000 to €74,999. Finally, 8 interviewees declined to answer the question relating to their income.

2.5 Research Hypothesis

The present paper examines the following research hypotheses.
Ho1: Trust in Government' protective measures has a positive effect on Trust toward Government
Ho2: Trust in Greek Government' economic measures has a positive effect on Trust toward Government
Ho3: Trust in Greek Government' decision making connected with pandemic COVID-19 circumstances has a positive effect on Trust toward Government
Ho4: Trust in e-government services has a positive effect on Trust toward Government
Ho5: Trust in Government' decision implementation of distance learning in all levels of education has a positive effect on Trust toward Government
Ho6: Economic consequences has a positive effect on Trust toward Government

3. RESULTS

Trust in Government' protective measures: The reliability of the factor Trust in Government' protective measures according to Cronbach's alpha coefficient is α=0.876 (Table 1). The composite reliability CR=0.922 is observed to be larger than 0.7 (CR>0.7), indicating internal consistency (Formell & Laarcker, 1981). AVE assumes the price 0.570 and also supports the scale's reliability (Table 1) (Fornell & Lacker, 1981).

In addition the eigenvalue for the conceptual construct Directions Trust in Government' protective measures is 6.976 and it furnishes evidence that all of the items across all structures load on one factor with an eigenvalue over 1, fact that verifies convergent validity (Kim, 2008) (Table 1).

More specifically, the conceptual construct Trust in Government' protective measures με eigenvalue 6.976 collects or is constructed from items 'The decision for keeping citizens at home was necessary', 'Greek Government has managed to gain the trust of the people', 'Citizens largely respected restrictions', 'Government gain international Recognition for the protective measures', 'Greek health care system is trusted', Specialist epidemiologists are trusted', 'The team of experts puts above all the protection of citizens from COVID-19', 'Greek authorities make the greatest effort for elderly people safety' and 'Greek authorities make the greatest effort for elderly people safety' and indeed with very high loads, 0.830, 0.793,0.0791, 0.786, 0.769, 0.765, 0.703, 0.673 and 0.669 respectively. From the eigenvalue or characteristic root criterion (eigen value≥1) it is verified that the items 'Citizens largely respected restrictions', 'Government gain international Recognition for the protective measures', 'Greek health care system is trusted', Specialist epidemiologists are trusted', 'The team of experts puts above all the protection of citizens from COVID-19', 'Greek authorities make the greatest effort for elderly people safety' and 'Greek authorities make the greatest effort for elderly people safety', represent the same conceptual construct (Table 1).

The only extracted factor had an eigenvalue which met the criterion of being larger than 1 and the values of the loadings of the items of which the conceptual construct comprises support the acceptability of the convergent validity. More specifically, the three items, 'Citizens largely respected restrictions', 'Government gain international Recognition for the protective measures', 'Greek health care system is trusted', Specialist epidemiologists are trusted', 'The team of experts puts above all the protection of citizens from COVID-19', 'Greek authorities make the greatest effort for elderly people safety' and 'Greek authorities make the greatest effort for elderly people safety' which construct the factor Trust in Government' protective measures verify that the measurements/items lead to the same results and render convergent validity acceptable (Spector, 1992; Churchill, 1979). All structures should load on one factor with eigenvalue over 1, thus convergent validity is acceptable. In addition the loadings of all the previous items are over 0.50 and thus convergent validity is assessed (Wixon & Watson, 2001).

Table 1. Trust in Government' protective measures -Factors Loadings, Eigenvalues and Reliability Estimates

Construct=**.883** PCA results	Eigenvalues	% of variance	Loadings	Communalities	Cronbach's alpha	CR	AVE	M	SD
Trust toward Government									
Trust in Government' protective measures	6.976	26.167			.876	.922	.570		
The decision for keeping citizens at home was necessary			.830	.837				4.51	.475
Greek Government has managed to gain the trust of the people			.793	.698				4.11	.956
Citizens largely respected restrictions.			.791	.696				4.06	.890
Government gain international Recognition for the protective measures			.786	.673				4.12	.954

Greek health care system is trusted	.769	.629	4.02	.818
Specialist epidemiologists are trusted	.765	.574	4.48	.878
The team of experts puts above all the protection of citizens from COVID-19	.703	.539	4.37	.912
Greek authorities make the greatest effort for elderly people safety	.673	.521	4.53	.800
Greek authorities make the greatest effort for elderly people safety	.669	.504	4.18	.924

Trust in Greek Government' economic measures: The reliability of factor Trust in Greek Government' economic measures, according to the Cronbach alpha coefficient, is 0.914 and is high. Values of Cronbach's a coefficient over 0.7 are considered as satisfactory (Spector, 1992; Nunnally, 1978). The composite reliability CR=0.904 is shown to be larger than 0.7 (CR>0.7), indicating internal consistency (Formell & Laarcker, 1981). AVE takes a value of 0.579 and supports the reliability of the Trust in Greek Government' economic measures scale (Table 2) because values of the average variance extracted with the cutoff of 0.5 are considered as satisfactory (Fornell & Lacker, 1981). Furthermore the eigenvalue for the conceptual construct Trust in Greek Government' economic measures is 1.894 and thus is evidence that all the items of all the structures load on one factor with eigenvalue over 1 fact which verifies convergent validity (Kim, 2008) (Table 2).

More specifically, the conceptual construct Trust in Greek Government' economic measures with an eigenvalue of 6.619 collects or is constructed from items 'To support the economy, compensation was provided for employees of businesses whose operations were suspended', 'To support the economy, rents of certain professional spaces were reduced', 'Tax and Other Relief measures were quite satisfy', 'Acceleration of refunds that are currently pending for the return of income tax and VAT to enterprises were quite satisfy', 'Extension of the deadline for the payment of social security contributions were quite satisfy', 'Financial support handout worth 600 euros per person for doctors, lawyers, engineers, etc. and other freelance professionals, were quite satisfy' and 'Assessed taxes suspension' measures were quite satisfy' and, indeed, with very high loads, 0.885, 0.849 and 0.803 respectively. From the eigenvalue or characteristic root criterion (eigenvalue≥1) it is verified that the items 'To support the economy, compensation was provided for employees of businesses whose operations were suspended', 'To support the economy, rents of certain professional spaces were reduced', 'Tax and Other Relief measures were quite satisfy', 'Acceleration of refunds that are currently pending for the return of income tax and VAT to enterprises were quite satisfy', 'Extension of the deadline for the payment of social security contributions were quite satisfy', 'Financial support handout worth 600 euros per person for doctors, lawyers, engineers, etc. and other freelance professionals, were quite satisfy' and 'Assessed taxes suspension' measures were quite satisfy' represent the same conceptual structure.

The only extracted factor had an eigenvalue satisfying the criterion of being larger than 1 and the loadings of the items comprising the conceptual construct attest that convergent validity is acceptable. More specifically, the items 'To support the economy, compensation was provided for employees of businesses whose operations were suspended', 'To support the economy, rents of certain professional spaces were reduced', 'Tax and Other Relief measures were quite satisfy', 'Acceleration of refunds that are currently pending for the return of income tax and VAT to enterprises were quite satisfy', 'Extension of the deadline for the payment of social security contributions were quite satisfy', 'Financial support handout worth 600 euros per person for doctors, lawyers, engineers, etc. and other freelance professionals, were quite satisfy' and 'Assessed taxes suspension' measures

were quite satisfy' make up factor Trust in Greek Government' economic measures and verify that the measurements/items lead to the same results and render convergent validity acceptable (Spector, 1992; Churchill, 1979). All structures load on one factor with eigenvalue over 1, fact that suggests that convergent validity is acceptable (Kim, 2008). In addition the loadings of all the previous items are over 0.50 and thus convergent validity is assessed (Wixon & Watson, 2001) (Table 2).

Table 2. Trust in Greek Government' economic measures, Factors Loadings, Eigenvalues and Reliability Estimates

Construct	Eigenvalues	% of variance	Loadings	Communalities	Cronbach's alpha	CR	AVE	M	SD
Trust in Greek Government' economic measures	6.619	16.196			.914	.927	.766		
To support the economy, compensation was provided for employees of businesses whose operations were suspended			.921	.801				3.75	1.137
To support the economy, rents of certain professional spaces were reduced			.911	.766				3.82	.977
Tax and Other Relief measures were quite satisfy			.676	.758				3.91	1.130
Acceleration of refunds that are currently pending for the return of income tax and VAT to enterprises were quite satisfy			.664	.725				4.23	.922
Extension of the deadline for the payment of social security contributions were quite satisfy			.661	.775				4.01	1.031
Financial support handout worth 666 euros per person for doctors, lawyers,			.764	.654				2.10	1.290

engineers, etc. and other freelance professionals, were quite satisfy					
Assessed taxes suspension' measures were quite satisfy	.676	.576		2.24	1.333

Trust in Greek Government' decision making connected with pandemic COVID-19 circumstances: The reliability of factor Trust in Greek Government' decision making connected with pandemic COVID-19 circumstances, according to Cronbach's alpha coefficient, is 0.798 and is high. Values of the Cronbach's a coefficient over 0.7 are considered as satisfactory (Spector, 1992; Nunnally, 1978). The composite reliability CR=0.949 is shown to be larger than 0.7 (CR>0.7), indicating internal consistency (Formell & Laarcker, 1981). AVE takes a value of 0.653 and supports the reliability of the Trust in Greek Government' decision making connected with pandemic COVID-19 circumstances scale (Table 3) because values of the average variance extracted with the cutoff of 0.5 are considered as satisfactory (Fornell & Lacker, 1981).

Furthermore the eigenvalue for the conceptual construct Trust in Greek Government' decision making connected with pandemic COVID-19 circumstances is 4.612 and thus is evidence that all the items of all the structures load on one factor with eigenvalue over 1 fact which verifies convergent validity (Kim, 2008) (Table 3).

From Principal Components Analysis only one factor was extracted, Trust in Greek Government' decision making connected with pandemic COVID-19 circumstances. More specifically, the conceptual construct Trust in Greek Government' decision making connected with pandemic COVID-19 circumstances with an eigenvalue of 4.612 collects the items 'The government reacted in a very competent manner', 'The government listened to the right people', 'The government made the right judgements', 'The government communicated its decisions well', 'The government persuaded people and kept them in their homes', 'The government's media campaigns were rolled out well encouraging people to stay at home', 'The government showed quick reflexes and seriousness in responding to the COVID-19', 'The government's Social distancing regulations restricted the spread of the virus', 'The government priority was to save human lives and Economy was the second most important issue the government' and 'Economy was the second most important issue the government' and, indeed, with very high loads, 0.921, 0.906, 0.861, 0.826, 0.796, 0.766, 0.742, 0.738 and 0.732 respectively, and it is thus verified that the 10 items 'The government reacted in a very competent manner', 'The government listened to the right people', 'The government made the right judgements', 'The government communicated its decisions well', 'The government persuaded people and kept them in their homes', 'The government's media campaigns were rolled out well encouraging people to stay at home', 'The government showed quick reflexes and seriousness in responding to the COVID-19', 'The government's Social distancing regulations restricted the spread of the virus' represent the same conceptual construct. From the criterion (eigenvalue≥1) and the values of the loadings of all the previous items which are over 0.50 it is clear that convergent validity is assessed (Wixon & Watson, 2001).

The only extracted factor had an eigenvalue satisfying the criterion of being larger than 1 and the loadings of the items comprising the conceptual construct attest that convergent validity is acceptable (Spector, 1992; Churchill, 1979). More specifically, the previous items make up factor Trust in Greek Government' decision making connected with pandemic COVID-19 circumstances and verify that the measurements/items lead to the same results and render convergent validity acceptable (Spector, 1992; Churchill, 1979). All structures load on one factor with eigenvalue over 1 fact that suggests that convergent validity is acceptable. In addition the loadings of all the previous items are over 0.50 and thus convergent validity is assessed (Wixon & Watson, 2001) (Table 3).

Table 3. Trust in Greek Government' decision making connected with pandemic COVID-19 circumstances -Factors Loadings, Eigenvalues and Reliability

Construct	Eigenvalues	% of variance	Loadings	Communalities	Cronbach's alpha	CR	AVE	M	SD
Trust in Greek Government'	4.612	16.691			.798	.949	.653		

decision making connected with pandemic COVID-19 circumstances				
The government reacted in a very competent manner	.921	.667	4.20	.805
The government listened to the right people	.916	.669	4.45	.737
The government made the right judgements	.861	.764	4.32	.840
The government communicated its decisions well	.826	.727	4.26	.723
The government persuaded people and kept them in their homes	.796	.769	4.13	.711
The government's media campaigns were rolled out well encouraging people to stay at home	.766	.669	4.14	.739
The government showed quick reflexes and seriousness in responding to the COVID-19	.751	.646	4.05	,864
The government's Social distancing regulations restricted the spread of the virus	.742	.662	4.15	,699
The government priority was to save human lives	.738	.621	4.26	.747
Economy was the second most important issue the government	.732	.602	4.14	.864

Trust in e-government services: The reliability of factor Trust in e-government services, according to Cronbach's alpha coefficient, is 0.766 and is high. Values of the Cronbach's a coefficient over 0.7 are considered as satisfactory (Spector, 1992; Nunnally, 1978). The composite reliability CR=0.925 is shown to be larger than 0.7 (CR>0.7), indicating internal consistency (Formell & Laarcker, 1981) (Table 4). AVE takes a value of 0.646

and supports the reliability of the Trust in e-government services scale (Table 4) because values of the average variance extracted with the cutoff of 0.5 are considered as satisfactory (Fornell & Lacker, 1981).

Furthermore the eigenvalue for the conceptual construct Trust in e-government services is 4.018 and thus is evidence that all the items of all the structures load on one factor with eigenvalue over 1 fact which verifies convergent validity (Kim, 2008) (Table 4).

From Principal Components Analysis only one factor was extracted, Trust in e-government services. More specifically, the conceptual construct Trust in e-government services with an eigenvalue of 4.018 collects the items 'The government brought about a major administrative and digital change), 'The government brought about the intangible prescription', 'The government brought about the interconnection of e-EFKA with the Citizens' Register', 'Government commitment to e-governance incorporated technology into the functioning of the state as well as the digitization of services', 'The government brought about single digital portal of the State services gov.gr', 'Greece has leapfrogged into digitalization through this crisis', 'Greece opens an opportunity to develop sectors in technology such as cyber security', and 'Greece opens an opportunity to develop sectors in technology such as cloud computing' and, indeed, with very high loads, 0.876, 0.865, 0.826, 0.764, 0.757, 0.742, 0.721 and 0.716 respectively, and it is thus verified that the 8 items represent the same conceptual construct. From the criterion (eigenvalue≥1) and the values of the loadings of all the previous items which are over 0.50 it is clear that convergent validity is assessed (Wixon & Watson, 2001).

The only extracted factor had an eigenvalue satisfying the criterion of being larger than 1 and the loadings of the items comprising the conceptual construct attest that convergent validity is acceptable (Spector, 1992; Churchill, 1979). More specifically, the previous items make up factor Trust in e-government services and verify that the measurements/items lead to the same results and render convergent validity acceptable (Spector, 1992; Churchill, 1979). All structures load on one factor with eigenvalue over 1 fact that suggests that convergent validity is acceptable. In addition the loadings of all the previous items are over 0.50 and thus convergent validity is assessed (Wixon & Watson, 2001) (Table 3).

Table 4. Trust in e-government services-Factors Loadings, Eigenvalues and Reliability Estimates

Construct	Eigenvalues	% of variance	Loadings	Communalities	Cronbach's alpha	CR	AVE	M	SD
Trust in e-government services	4.018	10.891			.766	.925	.646		
The government brought about a major administrative and digital change			.876	.630				4.23	.877
The government brought about the intangible prescription			.865	.621				4.10	.876
The government brought about the interconnection of e-EFKA with the Citizens' Register			.826	.543				4.27	.865
Government commitment to e-governance incorporated technology into the functioning of the state as well as the			.764	.527				4.31	.810

digitization of services The government brought about single digital portal of the State services gov.gr	.757	.502	4.24	.920
Greece has leapfrogged into digitalization through this crisis	.742	.487	4.13	.895
Greece opens an opportunity to develop sectors in technology such as cyber security	.721	.473	4.09	.937
Greece opens an opportunity to develop sectors in technology such as cloud computing	.716	.452	4.06	.913

Trust in Government' decision implementation of distance learning in all levels of education: The reliability of factor Trust in Government' decision implementation of distance learning in all levels of education, according to Cronbach's alpha coefficient, is 0.914 and is deemed high. Values of Cronbach's a coefficient over 0.7 are considered as satisfactory (Spector, 1992; Nunnally, 1978). The composite reliability CR=0.928 is shown larger than 0.7 (CR>0.7), indicating internal consistency (Formell & Laarcker, 1981). AVE takes the value 0.755 and thus supports the reliability of the Trust in Government' decision implementation of distance learning in all levels of education scale (Table 5) because values of the average variance extracted with the cut-off of 0.5 are considered as satisfactory (Fornell & Lacker, 1981) (Table 5).

Furthermore the eigenvalue for conceptual construct Trust in Government' decision implementation of distance learning in all levels of education is 3.639 and it, thus, serves as evidence that all the items of all the structures should load on one factor with eigenvalue over 1, fact that verifies convergent validity (Kim, 2008) (Table 5).

More specifically, the conceptual construct Trust in Government' decision implementation of distance learning in all levels of education with an eigenvalue equal to 3.639 collects items 'Implementation of distance learning in primary education', 'Implementation of distance learning in secondary education', 'Implementation of distance learning in tertiary education', and 'Distance learning as an alternative form of education was legalized and, indeed, with very high loadings 0.879, 0.885, 0.876 0.7834 and 0.805 respectively.

From criterion (eigenvalue≥1) it is verified that these 4 items 'Implementation of distance learning in primary education', 'Implementation of distance learning in secondary education', 'Implementation of distance learning in tertiary education', 'Distance learning as an alternative form of education was legalized' represent the same conceptual construct.

For only factor extracted, the value of its eigenvalue which meets the criterion of being larger than 1 and the loadings of the items comprising the conceptual structure support that the convergent validity is acceptable. More specifically, these 4 items, 'Implementation of distance learning in primary education', 'Implementation of distance learning in secondary education', 'Implementation of distance learning in tertiary education', 'Distance learning as an alternative form of education was legalized', construct the factor Trust in Government' decision implementation of distance learning in all levels of education and verify that that measurements/items lead to the same results and render convergent validity acceptable (Spector, 1992; Churchill, 1979).

All structures should load on one factor with eigenvalue over 1, fact that verifies that convergent validity to be (Kim, 2008). In addition the loadings of all the items 'Implementation of distance learning in primary education', 'Implementation of distance learning in secondary education', 'Implementation of distance learning in tertiary education' and 'Distance learning as an alternative form of education was legalized' are over 0.50 and thus convergent validity is assessed (Wixon & Watson, 2001).

Table 5. Trust in Government' decision implementation of distance learning in all levels of education-Factors Loadings, Eigenvalues and Reliability Estimates

Construct	Eigenvalues	% of variance	Loadings	Communalities	Cronbach's alpha	CR	AVE	M	SD
Trust in Government' decision implementation of distance learning in all levels of education	3.369	13.190			.914	.927	.755		
Implementation of distance learning in primary education			.879	.812				3.84	1.079
Implementation of distance learning in secondary education			.885	.804				3.88	.971
Implementation of distance learning in tertiary education			.876	.782				3.90	.774
Distance learning as an alternative form of education was legalized			.834	.709				3.51	.803

Economic consequences: The reliability of factor Economic consequences according to Cronbach's alpha coefficient, is 0.766 and is deemed high. Values of Cronbach's a coefficient over 0.7 are considered as satisfactory (Spector, 1992; Nunnally, 1978). The composite reliability CR=0.858 is shown larger than 0.7 (CR>0.7), indicating internal consistency (Formell & Laarcker, 1981). AVE takes the value 0.567 and thus supports the reliability of the Economic consequences scale (Table 6) because values of the average variance extracted with the cut-off of 0.5 are considered as satisfactory (Fornell & Lacker, 1981) (Table 6).

Furthermore the eigenvalue for the conceptual construct Economic consequences is 2.912 and thus is evidence that all the items of all the structures load on one factor with eigenvalue over 1 fact which verifies convergent validity (Kim, 2008) (Table 6).

More specifically, the conceptual construct Economic consequences, with an eigenvalue of 2.912 collects or is constructed from items 'Employment rate will be increased, Many jobs will be lost', 'There will be a reduction in wages', 'The economy will not be able to recover for a long time', 'There will be a global economic crisis' and 'Tourism entrepreneurship will be reduced' and, indeed, with very high loads, 0.795, 0.776, 0.662, 0.647, 0.621 and 0.604 respectively. From the eigenvalue or characteristic root criterion (eigenvalue≥1) it is verified that the 7 items 'Employment rate will be increased, Many jobs will be lost', 'There will be a reduction in wages', 'The economy will not be able to recover for a long time', 'There will be a global economic crisis' and 'Tourism entrepreneurship will be reduced' make up factor Economic consequences, and verify that the measurements/items lead to the same results and render convergent validity acceptable (Spector, 1992; Churchill, 1979).

All structures load on one factor with eigenvalue over 1 fact that suggests that convergent validity is acceptable (Kim, 2008).

In addition the loadings of all the items'Employment rate will be increased, Many jobs will be lost', 'There will be a reduction in wages', 'The economy will not be able to recover for a long time', 'There will be a global economic crisis' and 'Tourism entrepreneurship will be reduced' are over 0.50 and thus convergent validity is

assessed (Wixon & Watson, 2001) (Table 6).Table 1: Trust in Government' protective measures -Factors Loadings, Eigenvalues and Reliability Estimates

Table 6. Economic consequences-Factors Loadings, Eigenvalues and Reliability Estimates

Construct	Eigenvalues	% of variance	Loadings	Communalities	Cronbach's alpha	CR	AVE	M	SD
Economic consequences	2.912	11.930			.756	.858	.467		
Employment rate will be increased			.795	.760				4.55	.799
Many jobs will be lost			.776	.711				4.54	.758
There will be a reduction in wages			.662	.645				4.13	.967
The economy will not be able to recover for a long time			.653	.627				4.09	1,169
There will be a global economic crisis			.647	.612				4.05	.764
The country's Gross Domestic Product (GDP) will fell 26 percent during the economic crisis			.621	.597				4.02	.697
Tourism entrepreneurship will be reduced			.604	.5522				4.12	.767

The Cronbach alpha coefficient regarding the total instrument was equal to a=0.883, fact that revel the reliability of the instrument. The measurement model fits the observed data (x2=876.93, x2/df=1.79, CFI=0.95, GFI=0.94, RMSEA=0.03, AGFI=0.90, IFI=0.95) well.

The following table, table 7, presents the intercorrelations across the 6 constructs used in this study plus an item measure the Trust toward Government. An assessment of the bivariate correlations indicates that all of the correlations are significant and are in the expected direction.

Table 7. Correlation Estimates

	0	1	2	3	4	5	6
0. Trust toward Government	1.00						
1. Trust in Government' protective measures	.76**	1.00					
2. Trust in Greek Government' economic measures	.47**	.55**	1.00				
3. Trust in Greek Government' decision making connected with	.68**	.66**	.38**	1.00			

pandemic COVID-19 circumstances						
4. Trust in e-government services	.51**	.49**	.42**	.37**	1.00	
5. Trust in Government' decision implementation of distance learning in all levels of education	.44**	.48**	.43**	.35**	.39**	1.00
6. Economic consequences	.43**	.33**	.48**	.31**	.36**	.39**	1.00

In addition the six hypothesized effects were supported

Table 9. Hypotheses Testing

Hypotheses	Standardized estimates	p-value	Results
Ho1: Trust in Government' protective measures has a positive effect on Trust toward Government	.34	<0.001	Supported
Ho2: Trust in Greek Government' economic measures has a positive effect on Trust toward Government	.52	<0.001	Supported
Ho3: Trust in Greek Government' decision making connected with pandemic COVID-19 circumstances has a positive effect on Trust toward Government	.60	<0.001	Supported
Ho4: Trust in e-government services on Trust toward Government	.36	<0.001	Supported
Ho5: Trust in Government' decision implementation of distance learning in all levels of education has a positive effect on Trust toward Government	.39	<0.001	Supported
Ho6: Economic consequences has a positive effect on Trust toward Government	.25	<0.001	Supported

4. CONCLUSION

In general, this empirical study revealed the six dimensions related toTrust in Government' protective measures, Trust in Greek Government' economic measures, Trust in Greek Government' decision making connected with pandemic COVID-19 circumstances, Trust in e-government services, Trust in Government' decision implementation of distance learning in all levels of education, Economic consequences.

Trust in Government' protective measures, Trust in Greek Government' economic measures, Trust in Greek Government' decision making connected with pandemic COVID-19 circumstances, Trust in e-government services, Trust in Government' decision implementation of distance learning in all levels of education, Economic consequences which have a strong direct effect on Trust toward Government. Actually Trust in Government' protective measures is the most important factor point out the value of humans' life that is above all.

Trust in Government' protective measures, Trust in Greek Government' decision making connected with pandemic COVID-19 circumstances, Trust in e-government services are the most important factors among the six dimensions on Trust toward Government.

In addition Trust in Greek Government' economic measures plays more important role than Trust in Government' decision implementation of distance learning in all levels of education and Economic consequences regarding Trust toward Government.

Furthermore the conceptual constructs Trust in Government' protective measures and Trust in Greek Government' decision making connected with pandemic COVID-19 circumstances have a very strong

correlation as well as Trust in Greek Government' economic measures and Trust in Government' protective measures.

But future research may further investigate the role of these six dimensions in relation to the economic consequences of the pandemic COVID-19 regarding the financial situation within six months or twelve months period.

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