THE IMPACT OF PUBLIC INVESTMENTS ON MACROECONOMIC INDICATORS

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ABSTRACT

Public services and investments have been dealt with and addressed in many political and economic debates lately. In doing so, making this indicator a part and cause of many analyzes, whether for developed or developing countries. Different types of methodologies have been used for this purpose, but the real impact of road infrastructure on economic growth remains uncertain. The assumptions cast on this fact are divided in two directions. One is that road infrastructure affects directly, while the other is that it follows a backward path and the impact is small. Literature is what argues the theses outlined above. The selection of literature is based on neoclassical school considering the investment in road infrastructure as a production factor. The empirical results show that the impact on revenue growth was minimal. This may be due to factors such as inefficiency, low productivity of infrastructure investments, and low growth capacity of Albania or developing countries to support high-end investments. Another obstacle for Albania and developing countries is the limited fiscal space and lack of capacity to cover the debts used for road investments.

Key words: *economic growth, GDP, road infrastructure, public investment, gross capital formation*

NDIKIMI NE INDIKATORET MAKROEKONIMIKE NGA INVESTIMET PUBLIKE

ABSTRAKT

Sherbimet dhe investimet publike jane disktuar dhe trajtuar ne shume debate politike dhe ekonomike kohet e fundit. Ne kete menyre duke e bere kete indicator pjese dhe shkak te shume analizave, qofte per vendet e zhvilluara apo ato ne zhvillim. Per kete jane perdorur lloje te ndryshme metodologjish por ende mbetet e paqartesuar ndikimi real infrastructures rrugore tek rritja ekonomike. Supozimet e hedhura mbi kete fakt ndahen ne dy drejtime. Njera eshte se infrastruktura rrugore ndikon drejtpersedrejti, ndersta tjetra eshte qe ajo ndjek nje rruge te terthorte dhe ndikimi eshte i vogel. Literatura eshte ajo qe argumenton tezat e hedhura me siper. Perzgjedhja e literatures bazohet mbi shkollen neoklasike duke konsideruar investimet ne infrastrukturen rrugore si faktor prodhimi. Rezultatet empirike nxoren qe ndikimi mbi rritjen e te ardhurave ishte minimal. Kjo mund te ndodhe per shkak te disa faktoreve si ineficenca, produktiviteti ulet i ivestimeve ne infrastructure dhe kapaciteti ulet i rritjes ekonomike te Shqiperise apo vendeve ne zhvillim per te suportuar investime te rangut te larte. Nje pengese tjeter per shqiperine dhe vendet ne zhvillim eshte hapesira e paket fiskale dhe pafuqia per te mbuluar borxhet e perdorura per investimet rrugore.

Fjaletkyce: *rritja ekonomike, PBB, infrastruktura rrugore, investime publike, formimi i kapitalit bruto*

DEDICATION

I would like to show through this part of my thesis the appreciation and how thankful I am to my family, friends and everyone else who staid my side, supported and assisted me. And of course, most of all to God for giving me the will and desire to work and develop this.

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I would also like to thank all the staff of Epoka University for the professional service in teaching during my 5 years of study there.

DECLARATION

I hereby declare that this Master's Thesis titled "The impact on macroeconomic indicators of public investments in road infrastructure." is based on my original work except quotations and citations which have been duly acknowledged. I also declare that this thesis has not been previously or concurrently submitted for the award of any degree, at Epoka University, any other University or Institution.

Ismete Vila

21 June 2018

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ARDL Model : Autoregressive Distributed Lag Model

WDI : World Bank Indicators

GCF : Gross Capital Formation

EU : European Union

NATO : North Atlantic Treaty Organization

EFTA : European Free Trade Association

DEA : Data Envelopment Analysis

CHAPTER 1
INTRODUCTION

1.1 Focus of the study

A developed economy positively affects all aspects of a country. All stakeholder policies are aimed at achieving economic stability, as this stability will bring economic growth and political stability. But can we have a constant economic growth without being influenced by political turbulence? Albania comes from a dictatorial history, with a total lack of free market, free speech, and basic concepts of freedom. A long transition, of 25 years, a daily struggle to consolidate freedom, market functioning and rule of law. Discussions, analysis, numerous economic tests have been made over these years for him given a more actual and realistic picture of the situation. Albania is considered one of the key Western Balkan countries, both from its geographical position and from the natural resources it possesses. It has received continuous attention and support from the European Union and the United States of America with recommendations, suggestions, experts and development programs. Albanian governments together with international actors aim for long-term economic and political stability for Albania and the countries of the region. But, in the critical eye, if we compare it with the countries of the region, Albania remains the last country in terms of size of economy and per capita income. It still has significant shortages or outdated capital infrastructure, low educational levels, fluctuations in economic growth, high poverty rates, and disproportionate disproportion income. Also, in the efficiency and productivity of public investments as well as on performance economic, there are many factors that influence, such as the level of economic

development, the quality of governance; structural characteristics of the economy; climate, geographic position; legal and institutional system.

Foreign Reports on Albania (IMF, WB) assess the transport infrastructure (such as airports ports, roads and railways) still poor quality and insufficient for the needs of the population. Also, investments in the system energy and water supply require concrete and efficient investment, as many areas inhabited suffer their lack. Moreover, also spending on education and health have been criticized as the lowest, compared to neighboring countries, bringing one poor educational and health system. But the dilemma lies in the fact: to investing in roads or education and health? In this situation, the priority for each government remains development of the infrastructure as a whole, education, health, agriculture and energy, as public investment supports the distribution of key public services, connect citizens and businesses with opportunities economic, and may serve as catalysts for economic growth. Problem the allocation of funds remains, due to the limitation of financial resources.

To speed up the development of priority sectors, governments have undertaken investments funded partly by the state budget and the rest with external funding. But in terms of the presence of fiscal constraints, governments promote partnership public-private, providing fiscal and technical expertise for specific projects investment. The interest in new sources of private funding for infrastructure grew longer years of the Economic Crisis of 2008. Many governments want to attract investors private partnerships in many areas of the economy, through various forms of partnership, so as to maintain public investment at the same levels but reduce public spending. This is a form where public works are also built expenditures are not recorded in the balance sheets of public institutions but are accounted for in private financiers. PPPs undertake construction, operations and financing public investment under a single contract, where part of the agreement is capital and credit that the financier can take from the bank. These are part of the guarantee that a private funder can undertake construction of public works. However, numerous problems have emerged from PPP market operations, which need to be regulated by relevant, more accurate and stronger legislation. The economic impact of public investment in infrastructure has been central to academic and political debates, at least in the last two decades. Infrastructure generates positive externalities for the

private sector, contributing to wellbeing family and manufacturing firms. But it is hard to believe that in many countries, development strategies are based infrastructure investments; Meanwhile, in other countries, failure to achieve the necessary growth has been attributed to the inadequacy of infrastructure. But in the face of an economic crisis, where the private sector reduces its activity, the state factor is the one that stimulates the economy to react and develop. Public capital investments make a significant contribution to the constant holding of economic growth or the protection of the economy from a rapid and profound decline.

Also, public capital investments have a social effect, but that depends much of their efficiency (Pereira and Andres, 2013). But what links the investment public in infrastructure with economic growth and how does it affect its fluctuations? Like change public investment in infrastructure with GDP for the long-term? It is the investment link to infrastructure with strong GDP over time? Is it significant in different countries? The performance and development of road infrastructure affects the well-being of citizens. Promoting a new, well-maintained and accessible infrastructure across the country's territory is key to human development. If there is no public investment, it is assumed that there will be very little economic growth, because the signing of contracts, property protection and infrastructure development would be very difficult if there were no government presence. In other words, some government investment is needed for the success of law enforcement operations, although they require financial cost (Do et al., 2011). In the case of Albania, although involved in the global crisis, Albania managed to protect the economy from deep re-enactment, where state intervention with capital spending was essential in maintaining economic stability. In low-income countries, infrastructure shortages remain key and are often cited as an obstacle to long-term growth of the economy.

In advanced countries, an increase in infrastructure investment can bring an increase in demand, and these remain one of the only levers that can support economic growth, having an already accommodating monetary policy approach. While in developing countries, public investment can be addressed in the current or new investment shortages that the economy may need. Also, in all economies, investments can help drive final product for the medium term,

since high infrastructure capital can help boost production capacities. Based on the G20 (2014) meeting, it was found that infrastructure investments are critical for the economy to pass from the transition to a strong and stable transition. There are also objections to this incitement. Many developed countries do not have a valid fiscal space because of the very high debt / GDP ratio and the need for further fiscal consolidation. There are still debates and discussions on the size of public investment multipliers in infrastructure and long-term return on public capital, as both play a key role in determining how debt / GDP ratio will develop in response to high public investment. Moreover, there are controversies also from critical scholars arguing that the impact of investment on productivity has been overstated, as other factors have been ignored, and the direction of causality between public investment and the growth of the final product is still unclear. Also, although empirical findings may be correct, they do not provide clear clues to this policy. "The Wagner Law" is one of the strongest laws that has resisted the years for the contribution it has made to the perception that if the per capita income increases, then public spending will also increase.

Adolph Wagner, a German social scientist (1835-1917) introduced the Law on Growth Activity The state, which said, with long-term economic development, activities and functions of the government also grow (Internet 1). Studies that supported Wagner's Labware numerous and found that there is a positive link between public spending and per capita income, both in the short to long term and in the long run (Lamartina and Zaghini, 2003; Sideris, 2006).To accurately determine the benefits and costs of increasing public investment in infrastructure it is very important to determine the macroeconomic impact that public investment will have.

Our paper will also answer the following questions:

- How has public capital and investment developed over time? How it changes the situation of infrastructure between groups of states and types of infrastructure?
- What are the macroeconomic effects of public investment? To what extent boosts national product for the short and long term? Does it grow ratio Debt / GDP ratio if the project is financed with debt? How varied these effects with the key

characteristics of the economy, such as the economic situation, the efficiency of public investment and how the investment is funded?

- What do you suggest for public investment, studies and economic outcomes? Is It Time to Increase Public Investment? How they influence laws and fiscal institutions in the evolution of public investment?

Our work, through the literature, to be studied and the results that will come from the econometric model will answer the above questions as well as provide relevant suggestions.

It has also been concluded that public investments are closely related to the sector private and banking sectors. The banking sector plays an important role in the economy Albanian, as it is the largest contributor to the economy. This sector consists of 16second tier banks (2 with Albanian capital and 14 with foreign capital) and Tirana Stock Exchange Institution, which I non-functional. Banking system and sector private can be considered partially strong an mature, as under the effects of crisis, they suffered a withdrawal from investment and lending. Banks suffered another bad credit growth, from 2010 to 2015 (24% of the total loans). Bad loans also grew as a result of non-lending to the economy (granting new loans from banks) and the non-return of loans received mainly from the private sector. This sector also holds the largest share of loans and bad credit in second-tier banks. From banks' records, most of them Huge bad loans come from businesses (94%), which were related to jobs public. Non-liquidation from the state of public affairs in time caused problems with the liquidity of the companies, which led to the difficulty of paying credit to businesses had taken over the construction of public works, obtained from bidding for works public. This was a big cost to business and the state at the same time, as the benefits of public investment come in the coming years, while the cost of the investment is calculated in the year that the investment is carried out, without being distributed in different years.

The cost sharing over the years will reduce the total cost per year and by investing committed will also pay generations that will benefit in the future (BoA, 2015).

Our study will be oriented towards examining empirical evidence of the link between public investment in road infrastructure and economic growth. Based on foreign and domestic studies, this study aims to bring an additional contribution to literature and give valuable

suggestions to policy-makers, making this subject with interest and with concrete practical effects for stakeholders. Good studying Albania, about IP in road infrastructure does not, making the topic chosen most needed for the Albanian economy.

The study will be based on two schools that have analyzed public investment(Keynesian, where economic growth occurs first and then this will cause growth of public investment; as well as Neo-classical schools, where they see infrastructure as a factor of production entreated equally as labor and capital). The focus of our study is to test the impact that public capital investment has on economic growth, and their importance for increasing the well-being of the population. The study will build the econometric model based on Neo-classical school, and depending on the results of obtained, will discuss whether the Neo-classical theory applies in Albania or not (for years of analysis and selected variables) and policies will be proposed, which should be undertaken by the executive. Moreover, various studies of loans committed over the years are not always in line with each other, by leave the discussion on public investment in road infrastructure still open and with interest.

In addition, the paper will analyze sectors that bring economic growth and areas where public expenditures and investments are focused. The paper will be analyzed the first years of transition to the present day (1990-2015). Moreover, taxes and customs will be taken into account as key elements in earning income of the state budget. Based on government revenue and priorities, they are also set spending objectives and strategic development sectors. Albania has changing the tax system from the proportional to the progressive. This change came in force in January 2014, believing that the state coffin would enter more income, which would bring an increase in public spending. But in terms of one the deficit and the high public debt, the measures taken by the government are the reduction of public spending, as a measure to reduce public debt. Many structural reforms remain to be drafted in order to improve the political-economic climate and public finances of Albania.

1.2 Objective of the Study

The aim of this paper is to analyze the impact of public investments on the economy. The paper takes the first years of analysis the transition to the present day (1996-2014).

Studies that have been taken into account will show the impact they have on spending public and especially those in road infrastructure in economic growth and another macroeconomic parameter. Also, in the analysis are taken the areas of public capital investment, the impact that road infrastructure has on economic growth.

Importance of this paper is clarification of this report, as there may be one impact on continuity of research and improvement of policies and reforms, which can be undertaken in the field of public investment, the allocation of funds state budget and investment priorities.

The study also aims to achieve are as follows:

1. Evaluation and analysis of theoretical studies on the impact of public investment on road infrastructure in a country's economic growth.
2. Theoretical treatment of public investments by classifications. Analysis a dip discussion, comparing countries in transition, developing countries and developed places.
3. Identify key factors affecting public investment as well the ratio of investments in road infrastructure.
4. Evaluation of international and national studies on the concept, if public investment (road infrastructure) determines whether or not growth economic.
5. Analysis with macroeconomic indicators, giving and suggestions relevant.
6. Explanation, analysis of public investment.

1.3 Motivation of the Study

The topic choice came as a result of many discussions on the Albanian economic problems and the needs of the population in different regions today. Based on my professional and research wishes, I decided to work with the analysis and empirically measure the effects of infrastructure investments in the Albanian economy.

This topic was far from exhausted in Albanian empirical studies and, considering the many problems that arise from the lack of road infrastructure, we want to give a further boost to studies with relevant recommendations.

Although the subject was treated in similar forms in foreign countries, Albania did not have a proper study. Also, based on the foreign literature, we constructed an econometric model with variables, not previously tested in their links and combinations. trying to bring an additional contribution to the Albanian economy and developing countries.

1.4 Research model

The work is supposed to be divided into two parts. The first part will include the side the theoretical part of the study, and the second part focuses on evidence and empirical analysis for Albania.

The Literature chapter will outline and evaluate theoretical research on links between public investment in road infrastructure and economic growth. Treatments theoretically indicate that public investments are generally, but also those in infrastructure road, positively impact on economic growth, regardless of the level of impact. Studies are divided into 3 groups, summarizing groupings of states at different stages of development, as the findings found differ from one group to another. Some studies highlight the positive side of public investment and some argue against them.

The Sector Analysis chapter will focus entirely on spending analysis government, income, budget, public investment, macroeconomic parameters, the banking system and its links with public investments (mainly with businesses, which have been part of the investment chain). Also will be analyzed in detail the story in public investment in Albania, focus, issues and the role of policy makers in Albania investment priorities; investment priorities before and after parliamentary elections, as well as revenue management versus domestic and foreign

investment and borrowing. The second part of the paper is elaborated in three chapters: Methodology, Results and discussions; Conclusions and Recommendations.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

This second chapter will focus on foreign and domestic literature. Review of literature helped us to look at different economic trends and study's authors who belong to these thoughts. Also, the literature was numerous for developed and least developed countries. Almost all the studies had used different definitions of public physical capital and specifically for public investment in road infrastructure. Specific Literature for Albania, regarding public investment in infrastructure there was no, so we focused on the literature on capital investments and then on statistical data from domestic and foreign sources. However, we had difficulties because of the lack of specific literature, as the measurement and impact of public investment in infrastructure on the economy is still difficult to measure. For this reason, we divided the literature chapter into sections to give the fullest possible linkage of public capital investment to economic growth, the level of public debt and the role of the state. Also, the literature summarized econometric models and the use of capital investments as a production function. In the end, literature is divided according to groups of countries under analysis: developed countries and developing countries. This will serve as a comparative level between the two groups and the comparison of Albania's results with the empirical findings of the literature for developing countries.

2.1 Public Investments in Infrastructure and the Role of the State

Economic freedom and the free market is key to economic development, to encourage free enterprise and the fight against monopolies. Over the last two decades it is much debated about economic views, about the state's role in the process of development. Indeed, it has become very necessary for the state not to be anymore the main actor in economic activities, but the state must limit itself only in creating the right environment, where the private sector can lead and to flourish. Specifically, state intervention in the economy should be projected with very carefully, in order to support the private sector and not prevent it. But, one the excessive presence of the state on investments and shares indicates de-liberalization of the market and stimulating policies. Restricting the free market brings constraints and deviations well-functioning of the private sector and the government. The state needs to regulate and govern the economy according to the laws drafted by it, which must be consistent with requirements for well-functioning by interest groups. The main purpose of a government is:

1. Customer protection from abuse,
2. the development of the sectors that generate more income,
3. Favorable laws for domestic producer / customer,
4. Ensure enforceability of the law.

Thus, the acceptance in principle of this paradigm is evident in the gradual decline of the importance of governmental activities, especially in the economies of developed countries. But can this new paradigm mean that government investment does not play any role in the economic growth of developing countries? In reality, public investments account for most of the total investments made in developing economies. The focus of studies lies in the importance of public investment against private investment to stimulate economic growth (Khan, 1996; Countinho and Gallo, 1991; Koti, 2016).

Based on studies by Rebelo (1991), Devarajan et al. (1996) were found three features that differentiate infrastructure from other forms of capital. Those consist of:

1. First, infrastructure investments are in huge numbers, projects intensive capital, tending to become "natural monopoly" after services are cost-effective if provided by a single business.
2. Secondly, these have very high starting costs, but benefits and returns continues for very long periods of time, often for decades, but this long investment and return time brings major challenges to funding and provisions.
3. Third, infrastructure investments have the potential to generate positive externalities, so the social return of a project can overcome private investor return. This can bring down the required investment provision.

To decide which infrastructural projects should be invested, governments need to carefully consider the weight of social returns against the costs of financing and fiscal consequences. For this, it should be considered that investment in infrastructure is not primarily intended to increase revenues. Some infrastructure projects may have high social returns, although costs cannot be recovered by setting tariffs for investment users or increasing income tax from the activity. These situations bring about discrepancy between social benefits on the one hand and negative fiscal consequences on the other (Costa et al., 1987; Khan, 1996).

2.2 Public Investments in Infrastructure and Public Debt

The enforceability of Maastricht's Tractate fiscal policies and the Stability and Growth Pact are an obligation for European Union countries. Many times, they have been criticized as a further obstacle to stimulating economic cycles, due to the lack of flexibility. Balassone and Franco (2000) and IMF (2004) tested fiscal policies set by the Treaty and the Pact. They also took into account the risk that these fiscal policies could lower the public sector's contribution to capital accumulation. In this regard, they suggested adopting a "golden rule". This rule requires the reduction of public debt as well as sufficient margins to stabilize budget policies. From the analysis of the study, the authors suggested that the rules imposed on Tractate and the CPA could negatively affect spending on public investment. However, according to some studies, the golden rule does not seem to be a proper solution to debt problems.

In various studies, the high level of debt is attributed to capital investment, despite the fact that there is no accurate empirical finding. Studies performed by Calderon et al. (2003) and Chongo (2013) tested the impact of public debt growth on economic growth. For suggesting policy adoption, the study also analyzed the channels through which public debt has an impact on economic growth, called private investment, public investment, and domestic savings. Results from statistical analysis confirmed a long-term negative link between public debt and economic growth. Also, a positive relationship was found between public investment and public debt, while in terms of private investment and domestic savings, there was a very high presence of government in the domestic market because the government mobilizes all the resources to finance the fiscal deficit.

Likewise, the arguments against the logic of public investment financing will cause the deficit and public debt to rise. Even public investment with significant public impact may not be sustainable if governments are not able to meet the tax collection and taxation targets, and especially if they are unable to manage the revenues they generate come from public investment. Borrowing can be difficult because of the limits that a government can have to ensure long-term debt stability. Moreover, if easing policies for public investment are pursued such as tax cuts or the elimination of interim taxes, these could cause a rebalancing against other private investment in infrastructure (Ter-Minassian and Allen, 2004).

An increase in public investment in infrastructure affects the economy in two ways: firstly, in the short run, it generates aggregate demand through a short-term fiscal multiplier, similar to other government spending, and secondly, increasing private investment as a result of complementary nature , which have infrastructure services. Also, if the government finances the debt, then this debt is added to the public debt stock that the state has. If the debt increases as part of GDP in the short run, it depends on the fiscal multiplier and the elasticity of revenues from the final product (La Ferrara and Marcellino, 2000)

Other studies raise questions about public investment efficiency on the one hand and their linkage to private investment on the other. They also argue that public investment may not

have a favorable impact on economic growth. Moreover, as investments cause transferable benefits, the essence of their financing (more tax-owed) also affects generic capital. Tax funding affects the loss of the current generation's welfare in favor of future generations. The current generation pays the entire project, which will be obtained in the future (Kitterer, 1994; Devarajan, 1996; Khan, 1996).

Some arguments (Fitoussi and Creel, 2002, Blanchard and Giavazzi, 2004) have been in favor of the golden rule. First, financing out-of-revenue investment may conflict with other institutional expenditure or policy lines. Under these conditions, by modifying the budget line with the gold rule, an increase in investment productivity may be allowed, which increases the stock of public capital and increases the final product. Secondly, the golden rule takes into account the borrowing for the financing of productive public investment, given that these investments can pay themselves over the long run, setting user fees and increasing income as a result of the growth of the final product. Thirdly, the allocation of investment cost over time, promotes cross-generating capital, shifting part of the investment cost to future beneficiaries. Lastly, if the investment is productive, a current balanced budget is consistent with a positive and stabilized debt-to-GDP ratio as well as an optimal fiscal policy. Also, the golden rule has significant risks associated with the development of the budget and the economy.

- First, in the presence of demand surplus, public investment should be part of fiscal adjustment, which will bring domestic absorption into line with resource opportunities.
- Secondly, investments have no guarantee of success, even public investments that may push the growing economy cannot reduce budget pressure if the taxable base is limited or tax consolidation is poor.
- Third, facilitating public investment from fiscal frameworks may discriminate private investors from their involvement in infrastructure projects.
- Finally, the golden rule could create a new accounting that could exclude some current spending from fiscal targeting by classifying it as an investment.

Strong institutional capacities are needed to ensure that the adoption of the golden rule reaches its objectives without causing increased fiscal risk. In addition, in countries with major

concerns over government debt sustainability, the implementation of the golden rule could not be very tangible, as there are few alternatives to focus on the overall balance.

2.3 Capital Investments and Economic Growth

Public capital expenditures are considered as an important element to stimulate economic growth, as under the conditions of a global economic crisis, the state factor is the one that stimulates the economy to react and develop. The role of public investment in the economic growth process has been the subject of research from theoretical and empirical literature. The starting point of both literature is the notion that governmental actions have a significant effect on economic performance. For example, the level of public investment may affect private investment and long-term economic growth. Munnell (1990) showed a strong link between the final product per unit of private equity and the stock of public capital.

Also, a positive correlation was found between the multifactorial productivity level and the stock of public capital, as well as a positive correlation between the national stock of public capital and the level of labor force productivity the study conducted by Otto and Voss (2003) tested the growth pattern from Solow to steady states and to states that are moving from transition to sustainability. The Model for Sustainable Countries showed that public investment does not have a significant effect on the level of final product for each employee. While for countries still in transition, a significant contribution to the economic growth of public investment was noted.

Another study by Devarajan et al. (1996) and the IMF (2015) show that public investment may have a negative impact on economic growth, due to their ineffective and not productive nature. If the value of public capital (input) and the quality measurement and infrastructure coverage (output) are compared, the public investment inefficiency is on average about 30%. Also, improvements in public investment management would significantly increase efficiency and productivity. Studies show that the strengthening of institutions, which have competence in planning, allocation and implementation of public investment, should be priorities of support

and funding. Strengthening these institutions would help improve the situation and close the pit of inefficiency of public investment. The priority to strengthen the institutions, which have the task of managing public investment, depends on the development of the countries. Countries, which have high public investment management, have more predictable, reliable, more efficient investments and more productive and vice versa. Developed countries should ensure that fiscal and budget plans are stabilized and consolidated, at high levels to support public investment. While developing countries need to adopt more rigorous rules and laws for the assessment, selection and approval of investment projects. All countries should have a better integration of the national strategic plan and capital budgeting.

If we return to the founders of the economic world, Keynes (1936) with his theories behind the Great Depression, firmly argued that the fastest and best way the economy can recover is by increasing public investment because it stimulates strength economic. Barro (1991) tested data on different states regarding public investment and economic growth. He found the link between large human capital states, which at the same time had the highest investment / GDP ratio. But it also showed that economic growth was negatively related to the level of public spending.

Another study by Jean-Pierre et al. (2002) and Lorenzo et al. (2007) conclude with the results found that high-income countries have the highest public expenditure level. But public policies have a very critical role in improving investment efficiency, which is not seriously done by governments. In order to increase funding resources and their efficiency, governments should: 1) Identify the needs for public investment in infrastructure for their population; 2) developing effective policies; 3) their implementation and monitoring. Also, studies have found that strengthening management is a very important factor in the relationship between public investment and economic growth. Low-income countries have shortcomings in physical infrastructure, which cause significant barriers to long-term economic growth. In developed countries, an increase in infrastructure investment can bring about an increase and increase in demand and may be one of the only valuable levers that can support economic growth, since the monetary policy in these countries is already depleted. While in emerging economies,

investment in infrastructure can help improve or build new infrastructure by filling infrastructure gaps. But in all economies, public investment can boost the final product for the medium to long term, as a high infrastructure capital expands productive capacity (Isaksso, 2009; Calderon and Chong, 2004).

2.4 Capital Investments as a Production Factor

A good road infrastructure is essential for economic development. It promotes movement and reduces transport costs. Moreover, it promotes market integration, significantly reducing product price volatility and resource reallocation in line with comparative advantages. Public investment in road infrastructure can influence production capacities through its use as a direct input into the production process, resulting in increased resources. For example, a new built road allows freight transport to the market faster, reducing total production and transportation costs. On the other hand, road infrastructure may affect the final product of the economy by changing aggregate demand through creating and increasing the demand for immediate inputs from other sectors, measuring them with multiplier effects in the economy. This infrastructure can indirectly affect the productivity of existing resources. Moreover, this may lead to natural withdrawal of resources from other regions beyond the infrastructure development region, reducing production and distribution costs, and stimulating private investment by improving labor productivity and investment in innovation technological development (Straub, 2011).

Part of the literature and scholars who followed the neoclassical growth model as well as internal growth theories have underlined the role of public investment in economic growth. A literature line takes the positive side of public investment and argues that public investment stimulates private sector productivity, boosting the economy. Based on this view, the importance of public investment in determining long-term growth lies in the fact that public investment not only generates positive effects on the economy through the development of education, health, scientific research and physical infrastructure, but can to develop private investment by increasing the economy (Barro, 1991; Barro and Lee, 1993; Barro and Sala-i-Martin, 1999).

Other studies have focused on infrastructure investment components as determining factors. Infrastructure can contribute to the growth of the final product directly or indirectly. Direct contribution is evidenced by Barro (1996), which took into consideration a model where infrastructure costs are productive. Thus, the infrastructure is expected to have a direct effect, taking into account a production function where final aggregate production is produced, putting into operation capital, labor force and infrastructure as production inputs. Also, Morrison and Schwartz (1996) argue that infrastructure forecasts improve the productivity of private firms and contribute to final output. However, Canning and Pedroni (2004) give their opinion, saying the effect of the infrastructure stock may depend on the nature of the growth model or the external growth model. While the indirect effects of investment in infrastructure relate to employee productivity through cost reduction (Turnovsky, 1996, Agenor and Aizenman, 2006). Brenneman and Kerf (2002) and Helpman (2004) stand on the same line, arguing that infrastructure investments impact human development, as investments have been made to improve health.

2.5 Public investment studies in developed countries

Munnell (1992) verified several earlier studies, analyzing the G7 countries for the years 1966-1985. The studies focused on the link between public infrastructure capital and the aggregate private sector product, based on the Cobb-Douglas function. The results of the study showed the importance of infrastructure capital in the private aggregate product and explained that the productivity slowdown in some countries after 1973 was low or low public capital. Two other studies used the approaches of simultaneous equations, taking into account 28 metropolitan regions, to analyze that local public investment has a positive effect on per capita income. They also shaped the process of political economy, how public investment in infrastructure is channeled. Their empirical results found that electoral campaigns and important activities were very important in determining the allocation of public investment in infrastructure across regions (Duffy-Deno and Eberts, 1991; Cadot et al., 2006).

Other studies (Romp and De Haan, 2007; Straub, 2011) show that to properly predict the benefits and costs of an infrastructure investment, policy makers should have a clear picture of

the macroeconomic implications that this investment will have. Based on empirical studies conducted in developed countries (Coenen, 2014, Forni and Gambetti, 2010; Leeper, Walker and Yang, 2013), they have analyzed whether the effects of public investment in infrastructure vary according to the country's economic development, efficiency of public investment and how the investment is financed (with debt or part of the budget). Studies show that public investment has a long-term effect on the final product, 1 percentage point increase in public investment of GDP increases by 0.4% the final product that year, which is the investment and 1.5% after the next 4 years. Then, if we take the average of public investment as a% of final product (~ 3% of GDP), this will have effects for the short and medium term with 0.4% and 1.4% respectively. These results are also verified by other studies, but always if public investment is not influenced by other government investment or by significant changes in GDP. Also, other studies (Ben Zeev and Pappa, 2014; Leeper, Richter and Walker, 2012) show that high public investment reduces the debt / GDP ratio both for the short-term (0.9% point of GDP) and for the term -medium (4% point of GDP).

Akitoby and Stratmann (2008) found that the effects on the final product are greater when public investments are financed with debt rather than the part of the state budget. For example.a publicly-funded investment with debt as much as 1 percentage point of GDP increases the level of final output by 0.9% in that year and 2.9% after 4 years; while the effects of the investments financed by the budget are not significant for the short and medium term. It is also possible that debt-funded public investment, when already heavily indebted, may increase sovereign debt and financing costs if investment productivity is suspicious (due to lack of proper selection), and which will lead to debt accumulation, worsening the country's financial situation.

Other analyzed studies revealed that public investment in infrastructure could be self-financed (fees and maintenance and use taxes), not causing rapid and high growth of the debt / GDP ratio. They contribute to the well-being of a country as a result of the need, which may have a place for infrastructure investment. Moreover, in developed economies, the private sector is sufficiently developed to produce goods and services, which in other countries should be

provided by the public sector. Thus, in low-income countries, the impact of public investment is greater than in high-income countries. So why do governments in the developing world not invest when the investment effects are supposed to be positive and efficient? When is the time to invest in infrastructure? (Levine and Renelt, 1992; Fischer, 1993).

2.6 Public Investment Studies in Developing Countries and low-income

Certainly, transport is a potential development stimulus linking economic activities with a cross-regional distribution within a country, but also outside it, as well as affecting unemployment, income and migration fluctuations. However, investment in infrastructure and economic development is a complex process, especially in developing countries (Haynes and Button, 2001). The authors argued that the link between transport and investment systems in developing countries is different from industrialized countries, because infrastructure and investment in transport in developing countries is deficient and problematic. In many developing countries, investment in transport is an important component of capital formation, as public spending on transport is the only investment made by the state budget. But, an important part of the reality for many developing countries is that even though governments have priority on new infrastructure investment projects, public capital stock continues to be consumed and rapidly degraded, contributing less to economic growth. So, closing down the "infrastructure pit" is more important than simply raising the level of public investment. What is important for growth is a gradual increase in productive services that the stock of public capital offers to private production factors, who in the meantime seek in return for the stock of capital to operate efficiently and be maintained. Accumulation of capital should be accompanied by actions to cover operating and maintenance costs.

These additional cost problems come as a result of poor public budgeting and implementation of spending systems (Adam and Bevan, 2014; Fay and Yepes, 2003). However, studies conducted in developing countries have been done for a small number of countries and in limited time periods and have not dealt with the ineffective macroeconomic situation of these

countries, thus still questioning the validity and conclusions of the empirical results found by the studies.

Studies that have been most deployed in developing countries have tested more traces of periods when public investment effects have begun than anticipating the spill effect of infrastructure investments. These studies did not take into account a very important aspect of public infrastructure, where investments implicate the benefits of individuals and businesses beyond the locality and the state where infrastructure is concentrated. On the other hand, a good local infrastructure can help neighboring businesses easily access resources that are essential to the functioning of firms where infrastructure is built. These (positive and negative) related effects are very important in the elasticity calculations of infrastructure built locally as well as nationally (Haughwout, 2002; Cohen, 2007).

Further, we continue with a study conducted by Kayode et al. (2013) for a developing country (Nigeria), which is developed according to the domestic growth model, where public investment in transport enters the production function as input, using the OLS forecasting technique (small squares technique). The results of the study showed that transport does not play a significant role in determining economic growth. An increase in public funding and a complete transport structure is suggested. Public and private investments have shown that have a positive effect on long-term economic growth, but in the short run only private investment has a positive relationship to economic growth.

Other authors (Corsetti and Roubini, 1997) argue that in practice, public investment in infrastructure is not driven by economic rationality. This is the case when, inefficient and productive projects are approved by governments simply for image or corrupt affairs, omitting projects that really need society and the economy. The need for road infrastructure is still high in developing and low-income countries as a way of supporting economic development. But increasing public investment can bring a limited increase in the final product, if efficiency does not improve in the investment process. Improvement, in addition to other reforms, may include: better evaluation and selection of projects that identify infrastructure gaps;

verifications by independent external experts; rigorous cost and benefit analysis as well as cost of risk. Public investments to become more efficient must meet two conditions: whether funds are allocated to projects with high cost-benefit benefits, and the aggregate level should be in line with fiscal sustainability. Efficiency does not only relate to the fair allocation of sector investment, but also to the production of public assets with the lowest cost. When public investment is not efficient, then the high level of spending will lead to an increase in public debt, without resulting in an increase in the quantity or quality of roads that help economic growth.

2.7 Literature Review Summery

In the summary of the literature, we see that the selected literature is insufficient to give final conclusions regarding the impact of public investment in road infrastructure on economic growth and transmission channels. Studies conducted in both groups have found similar results but also different; meaningful and vice versa. So, further studies are more than necessary to be carried out in both developed and developing countries. Also, it would be necessary to determine the variables and the correct metrics of public physical capital and capital investments in infrastructure, as almost all studies have focused on different variables with incompletely available statistics as well as with the application of methodologies of different. On the one hand, this variety brings us more information, but we still see that there are no clear and accurate conclusions for each study. So, interest still remains high for other investigations. Our work will contribute to the partial fulfillment of this lack of literature and empirical study for Albania.

CHAPTER 3

SECTOR AND INFRASTRUCTURE ANALYSIS IN ALBANIA

3.1 Sector analysis

The analysis of the economy sectors gives us a better picture of which sectors contribute more to the economy, how the funds from the state budget and the investment priorities are distributed. Albania, as a transitional country, has undergone difficult economic times with sluggish economic growth and high poverty rates. The priority for every government is the growth of welfare, to reduce poverty. The policies followed by governments have been stimulating and compelling, according to macroeconomic situations over the years. The level of poverty is an important indicator, where Albania has reduced significantly from 25.2% in 2002 to 12.5% in 2008, with a slight increase in 2012 to 14.5% due to the global crisis, resulting in a reduction of easily in 14.1% in 2015. Thus, government priorities should not be economic growth, but growth of prosperity, and this requires stimulating and facilitating policies, where the state and the market function, enhancing individual well-being (WB, 2014).

The level of government borrowing is a very important aspect of fiscal policy as well as the management of aggregate demand in an economy. A government is called a budget deficit, when in a fiscal year, total government spending exceeds total revenue. The budget deficit constraint forces the government to borrow short-term or long-term debt, always depending on the needs and destination of the funds being used. The treasury bills auction is carried out by the Central Bank, with the largest share being bought by financial institutions (in Albania about 97%) and a share of individuals (BoA, 2015). Among financial analysts, governors and politicians, the only consensus among them is that a high budget deficit can turn into the

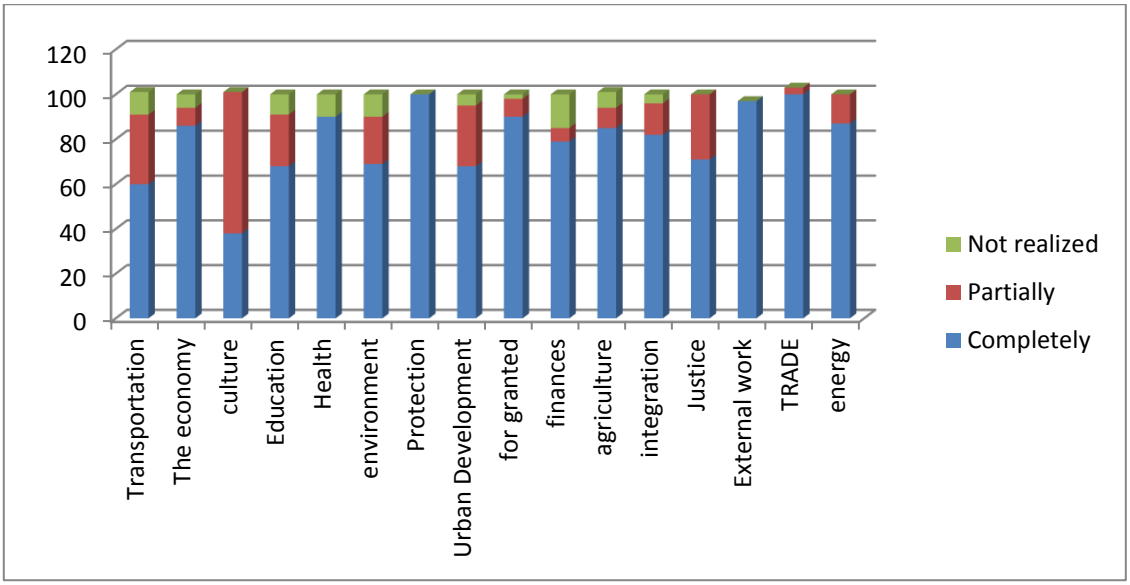
country's biggest economic problem. Studies confirm the theoretical assumption that the expenditure structure is important for the effects of budget expenditures on economic growth and empirical analysis showed that capital investment incentives have positive effects on economic growth over the long-term and short-term recession periods. Also, substantial conclusions were found, arguing that total budget expenditures do not have sufficient effect on GDP growth. In this way, economic growth is influenced by changing the structure of budget expenditures and the orientation of public borrowing towards financing of investments (Sever et al., 2011). The following chart shows data from the World Bank and the Ministry of Finance, regarding the level of total expenditures, total revenues and donations, as well as the overall balance. Budget revenues are critical to the level of investment and public spending.

Revenues are closely related to the performance of Taxes and Customs. From the following data we can see that income has undergone negative fluctuations during 2010-2013 and then an increase as a result of tax system change, from proportional to progressive (business pays 10% to 15% profit tax, while individual escalated tax). Furthermore, spending has been more balanced over 2010-2013 and has grown considerably after 2013. Over the past few years, current spending has increased, reducing capital spending. This can be called problematic for Albania's economic situation, as it significantly affects the deepening of the budget deficit and public debt.

Below are data on public expenditures by sectors and projects realized, where the greatest expenditures and achievements are for health, defense, welfare and foreign policy. Meanwhile, transport remains one of the non-priority sectors in terms of completion of public works launched, which will also lead to cost increases in the future both for the state budget and for economic actors.

Table 3.1

Public Expenditure by Sector (MF, 2016)



3.2 Public investment plan in road infrastructure of Albania

Public investments in road infrastructure are considered the largest investments made by the Albanian government. Investment in infrastructure is essential to economic growth, trade development, growth of prosperity, growth of production and regional development. Researchers have studied the definition of a minimum and maximum public investment limit, which should be around 15-25% of national income. But discussions continue, as there are studies that do not set limits, because it also depends on the macroeconomic situation, the degree of development and the needs for public investment.

Albania has the level of spending about 29-30% of GDP, but funding sources are still distorted and ineffective (MF, 2015). It is evident that many sectors and their development depends on structural issues, which mostly hinder private activity and the welfare of the population. Our country suffers from a close taxation base and high taxes, where the entire fiscal concentration

is in some priority sectors, discouraging the development of other sectors of investment and employment. Also, it is very important that Albania has enormous opportunities to improve the quality and efficiency of public investment in infrastructure, productivity and functioning as an independent source of economic growth, being the main contributors to private sector capital investment. Public expenditures and their management have always been the focus of Albanian governments, due to the structural situation inherited from the communist regime. Fostering investment and increasing their efficiency has been a challenge for Albania in response to poverty and inequality of service delivery.

Infrastructure plays an important role in the well-being of the population as it is:
a) Improve the country's macroeconomic situation by designing a comprehensive institutional regulatory framework for the development of public investment;
b) Creates jobs;
c) Increases the private sector's contribution to the economy and provides public services in every area of Albania at lower cost;
d) Contributes to the creation and accumulation of human capital, which increase the productivity of public investment and influence the efficiency of private sector investment (BB Report, 2006).

In Albania, during 2002-2005, most of the financial resources went to public investment in infrastructure, which accounted for about 8% of total public investment and 37% of public budget investments. Of these, the street subsector consumed about 90% of the fund. Even during 2007-2012, infrastructure has received 5-6% of public investment, declining over the last two years. Infrastructure has improved considerably, facilitating access to Albania's land borders by tourists, migrants and travelers.

From the studies conducted by WB (2006, 2014) show that the road network in Albania has improved considerably, but the maintenance quality is poor. Municipal roads are of poor quality, especially in mountainous and rural areas, where road signs are out of use, causing numerous road accidents. According to studies conducted by the Ministry of Finance and

Foreign Financial Institutions, Albania has sufficient capacity to improve the efficiency and productivity of public investment as an additional source of economic growth and providing additional productivity growth of the private sector. Also, the main principles of drafting the public investment plan consist in:

a. Saving and economizing
b. Earnings per share according to periodic public investment income
c. Investment according to priority needs and proportionality
d. The principle of productivity, where investments directly and indirectly affect (productivity growth).
e. Realization of public investments always based on the legal basis.
f. Construction of public investment only for social interests.
g. Public investments spent within the scope of budget revenues.

Also, the ministry classifies public investment in:

a. Regular and exceptional expenditures for public investment
b. Productive and non-productive public investment
c. Reckless and unhelpful expenses

In Albania, no doubt the road transport has received the greatest attention of governments and the allocation of capital expenditures, while air transport has received less attention. The tables below show investment in infrastructure by sectors, where priority continues to be the road network. The combination of sea ports and water development has been more developed than that of the rail. In this situation, where the state as the main provider of these investments and services does not have the opportunity to provide the necessary quality and quantity, then there is a need for public-private partnerships. This partnership improves not only the expansion of sectoral resources, but also the productivity and technical efficiency of public investment. So far, aviation has been the sector where this partnership has developed, but a clearly defined institutional and regulatory framework for PPPs in the road network, ports and railways is needed.

Table 3.2

Public Expenditures in the Transport Sector in million Euros (MF, 2013)

Roads	505.2	487.1	241.8	210.1	156.9
Porte	3.4	3.1	5	10	4.5
Railways	1.6	0.2	0.4	0.9	0.4
Air transport	0.1	0.1	0.1	0.1	0.1
Total	510.3	490.5	247.3	221.1	161.9

CHAPTER 4
DATA AND METHODOLOGY

4.1 Data

The database of this paper will be secondary, where mainly all the necessary data to be used will be statistical years from resources such as World Bank, International Monetary Fund, Central Bank of Albania, Ministry of Finance, Ministry of Transport, Ministry of Economy, etc. Other sources based on the study design are works of foreign and partly native authors, as specific studies in Albania were limited. Concrete cases have been analyzed for countries at various stages of economic development as well as relevant methodologies for each case. The infrastructure investment problems in Albania have been studied as expropriations and concessional relationships or PPP forms. Experts in the field discussed relevant legislation and possible suggestions for amending the relevant laws. Also, other discussions are underway at the end of the study.

We are taking in study data for 5 developing countries for the period from 1996 until 2014. The variables taken are Gross Capital formation, Labor Force participation, High school enrollment, trade and GDP Growth and dependent variable.

Also for further analyze us took the same variables for three developed countries: Germany, France, United Kingdom. After particular econometrical analyzes we came on conclusions that are explained on the 5th chapter for further information.

4.2 Methodology

4.2.1 Unit Root Test

Economic theory suggests that public spending on infrastructure is positively linked to economic growth. Thus, an increase / (decrease) in public spending on infrastructure (public capital) will lead to an increase / (decrease) in economic growth. Labor force is positively related to economic growth. Thus, an increase / (decrease) in the ratio of enrollment in secondary education will lead to an increase / (decrease) in economic growth. FDI are positively linked to economic growth. Thus, an increase / (decrease) in FDI will lead to an increase / (decrease) in economic growth. T are positively related to economic growth. Thus, a growth / (decrease) in T will result in an increase / (decrease) in economic growth.

Conventional unit roots tests are performed to determine if time series are stationary. The ADF test is used both in the original variables and their first differences under the assumption of a constant and time trend or only a constant. The results show that the variables are I (1). However, authors state that the results may be inaccurate with reference to Perron's (1989) finding that conventional unit root tests have low power when the series is stationary and structural fractures are ignored. So the ADF test results can show a non-stationary series when in fact the series is stationary.

If the variables are not stationary, then the First Difference or Second Difference is obtained until the series becomes stationary. If the variables are not stationary at Levels, then a Kointegration Analysis is required, a test which indicates whether there is a long-term series connection (Phillips and Perron, 1988). In almost all cases, macroeconomic data (time series data) are integrated in order I (1). The cointegration analysis determines the long-term equilibrium of the variables and has become a very important tool for testing the long-term connection of the non-stationary variables. Cointegration means the long-term cancellation of the deviations from the equilibrium and integrating the series into zero order (0) (Hendry and Juselius, 1999).

4.2.2 Panel regression with Fixed Effect

Two solutions to the problem of hierarchical data, with variables and processes at both higher and lower levels, vie for prominence in the social sciences. Fixed effects (FE) modeling is used more frequently in economics and political science, reflecting its status as the ‘‘gold standard’’ default (Schurer and Yong 2012, 1). However, random effects (RE) models—also called multilevel models hierarchical linear models and mixed models—have gained increasing prominence in political science (Beck and Katz 2007) and are used regularly in education (O’Connell and McCoach 2008), epidemiology (Duncan, Jones and Moon 1998), geography (Jones 1991) and biomedical sciences (Verbeke and Molenberghs 2000, 2005). Both methods are applicable to research questions with complex structure, including place-based hierarchies (such as individuals nested within neighborhoods, for example Jones, Johnston and Pattie 1992), and temporal hierarchies (such as panel data and time-series cross-sectional (TSCS) data, in which measurement occasions are nested within entities such as individuals or countries(see Beck 2007).

CHAPTER 5
EMPIRICAL ANALYZES

5.1 Developing countries

Table 4.1

Unit root estimation for developing countries (World Bank 1994-2016)

Dependent Variable: GDP_GROWTH
Method: Panel Least Squares
Date: 06/18/18 Time: 13:59
Sample: 1996 2014
Periods included: 19
Cross-sections included: 5
Total panel (unbalanced) observations: 94

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GROSS_CAPITAL_FORMATION	-2.25E-04	0.001317	-0.17103	0.8647
LABOR_FORCE_PARTICIPATIO	-0.11304	0.188114	-0.60092	0.5499
C	1.01E+01	1.23E+01	0.815883	0.4174

Effects Specification

Cross-section fixed (dummy variables)
Period fixed (dummy variables)

R-squared	0.497065	Mean dependent var	2.645368
Adjusted R-squared	0.322132	S.D. dependent var	3.925798
S.E. of regression	3.232218	Akaike info criterion	5.406941

Sum squared resid	720.8589	Schwarz criterion	6.083349
Log likelihood	-229.126	Hannan-Quinn criter.	5.68016
F-statistic	2.84145	Durbin-Watson stat	1.377929
Prob(F-statistic)	0.000383		

Source: WB (1996-2014)

On the table below, we analyzed 5 Developing countries for a period of 20 years, and we can see that the effect of public investments and also road infrastructure does not effect on the economy growth. Based on the literature we treated previously this is mostly normal due to reasons occurring in such countries, as informality, lack of information, fiscal policy, etc.

To verify that this is only happening on developing countries we made the same study for three developed countries and we saw that there actually was an impact of those variables over the economy growth.

Table 4.2

Unit root estimation for developed countries (World Bank 1996-2014)

Dependent Variable: GDP_GROWTH
Method: Panel Least Squares
Date: 06/18/18 Time: 13:59
Sample: 1996 2014
Periods included: 19
Cross-sections included: 5
Total panel (unbalanced) observations: 94

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GROSS_CAPITAL_FORMATION	-2.25E-04	0.001317	-0.171	0.8647
LABOR_FORCE_PARTICIPATIO	-0.11304	0.188114	-0.6009	0.5499
C	1.01E+01	1.23E+01	0.81588	0.4174

Effects Specification

Cross-section fixed (dummy variables)

Period fixed (dummy variables)

R-squared	0.497065	Mean dependent var	2.64537
Adjusted R-squared	0.322132	S.D. dependent var	3.9258
S.E. of regression	3.232218	Akaike info criterion	5.40694
Sum squared resid	720.8589	Schwarz criterion	6.08335
Log likelihood	-229.126	Hannan-Quinn criter.	5.68016
F-statistic	2.84145	Durbin-Watson stat	1.37793
Prob(F-statistic)	0.000383		

CHAPTER 6
CONCLUSION

6.1 Overall conclusion

Our paper gives a further boost to studies on public physical capital, the factors that affect it, and how the growth of public growth in public capital is transmitted.

Public investment performance largely depends on the performance of fiscal institutions. Weaker government institutions are associated with high levels of public capital investment, with high spending and low efficiency. The high efficiency of public investment is linked to strong institutions, high law enforcement and natural resources of the country. In low-income countries, infrastructure shortcomings remain key and often hinder long-term growth of the economy. In developed countries, an increase in infrastructure investment can lead to an increase in demand, and these remain one of the only levers that can support economic growth, having an already-exhausted monetary policy approach. While in developing countries, public investment can be addressed in the current or new investment shortages that the economy may need. Also, in all economies, the formation of public physical capital can help drive the final product into the medium term, as high infrastructure capital can help boost production capacities. From the literature we found it is very necessary for the state not to be the main actor in economic activities, but the state should limit itself to the creation of a suitable environment where the private sector can lead and flourish. Specifically, state intervention in the economy needs to be carefully designed in order to support the private sector and not prevent it. A state's excessive presence on investment and shares indicates de-liberalization of the market and stimulating policies.

The studies found three features that differentiate infrastructure from other forms of capital. They consist of:

- First, infrastructure investments are in large numbers, intensive capital projects, which tend to become "natural monopolies".
- Secondly, these have very high initial costs, but benefits and returns continue for very long periods of time.
- Third, infrastructure investments have the potential to generate positive externalities, so the social return of a project can overcome the private return of the investor.

So, some infrastructure projects may have high social returns, although costs can not be recovered by setting fees for investment users or increasing income tax from the activity. These situations bring about the discrepancy between social benefits on the one hand and the negative fiscal consequences on the other.

The main principles of drafting the public investment plan are:

a) Saving and economizing
b) Earnings per share according to periodic public investment income
c) Investment according to priority needs and proportionality
d) The principle of productivity, where investments directly and indirectly affect (productivity growth).
e) Observance of the legal basis in the realization of public investments.
f) Construction of public investment only for social interests.
g) Public investments spent within the scope of budget revenues.

In order to cope with the lower cost of debt growth due to public investment, researchers recommend adopting the "golden rule". This rule takes into account the borrowing for the financing of productive public investment, given that these investments can pay themselves over the long-term, setting a switch-over fee for users as well as increasing revenue as a result of the growth of final product. Also, the allocation of investment cost over time, promotes cross-generating capital, shifting part of the investment cost to future beneficiaries. Lastly, if

the investment is productive, the current balanced budget is consistent with a positive and stabilized debt / GDP ratio as well as an optimal fiscal policy.

Moreover, the effect of public investment on the formation of new businesses and employment growth has been measured. Infrastructure may affect the location of businesses and residential areas. Raised infrastructure would encourage people to move from an area to a more developed area; in the same way, businesses can also be located in areas where there is development and movement of consumers, as well as the presence of the labor force for lower cost of labor, production and transportation.

6.2 Implications

Another finding from the literature is that public investment in infrastructure can be self-financed (fees and taxes for maintenance and use), without causing rapid and high growth of the debt / GDP ratio. They contribute to the well-being of a country as a result of the need for a place to invest in infrastructure. Moreover, in developed economies, the private sector is sufficiently developed to produce goods and services, which in other countries should be provided by the public sector. Thus, in low-income countries, the impact of public investment is greater than in high-income countries.

From the set of research, we see that recent literature is insufficient to give final conclusions about the effect that public investment in road infrastructure has on economic growth and transmission channels. Studies conducted in both groups have found similar results but also different; meaningful and vice versa. So, further studies are more than necessary to be carried out in both developed and developing countries. Also, it would be necessary to determine the variables and the correct metrics of public physical capital and capital investments in infrastructure, as almost all studies have focused on different variables with incompletely available statistics as well as with the application of methodologies of different. On the one hand, this variety brings us more information, but we still see that there are no clear and accurate conclusions for each study. So, interest still remains high for other investigations. Our

work will contribute to the partial fulfillment of this lack of literature and empirical study for Albania.

6.3 Contribution of the study

The database of this work is secondary, where mostly all the data
needed, to be used, will be statistical years from resources such as World Bank, International Monetary Fund, Central Bank of Albania, Ministry of Finance, Ministry of Transport, Ministry of Economy etc. Other sources based on the study design are works of foreign and partly native authors, as specific studies in Albania were limited. Concrete cases have been analyzed for countries at various stages of economic development as well as relevant methodologies for each case. The infrastructure investment problems in Albania have been studied as expropriations and concessional relationships or PPP forms. Experts in the field discussed relevant legislation and possible suggestions for amending the relevant laws. Also, other discussions are underway at the end of the study.

6.4 Limitations of the study

There was lack of information for developing country in relation to public and road investments. Also informality is an issue that makes it difficult to find the right data. Literature review was not much in relation to the topic. And another important limitation on the fiscal policy that was different for countries which makes it difficult to make right comparisons.

6.5. Further Studies

The today literature is not enough to give correct and clear results over the impact and correlation of those variables in such countries. Further studies are necessary to develop more right information to assist in improving sectors that are indicated in order to develop a better economy.

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APPENDIX

Year	Country Name	Gross Capital Formation	Secondary school enrollment	Laborforce (participation rate)	Trade	FDI	GDP Growth
1996	Albania		68.14	67.51	43.22	90100000	9.10
1997	Albania	-17.39	69.67	68.09	43.94	47500000	-10.84
1998	Albania	9.37	71.64	68.04	45.48	45010000	9.01
1999	Albania	29.83	71.89	67.79	48.03	41200000	13.50
2000	Albania	38.11	71.43	67.68	55.92	143000000	6.67
2001	Albania	24.61	72.91	67.30	57.43	207300000	7.94
2002	Albania	4.50	73.24	67.00	63.93	135000000	4.23
2003	Albania	17.95	75.63	66.07	65.44	178036401	5.77
2004	Albania	2.72	75.18	65.12	66.36	341285113	5.71
2005	Albania	4.85	78.30	64.20	70.30	262479013	5.72
2006	Albania	12.99	79.60	63.50	73.46	325130000	5.43
2007	Albania	5.45	82.65	62.90	82.87	652270000	5.90
2008	Albania	6.96	84.62	62.37	77.45	1246940000	3.76
2009	Albania	0.98	86.23	62.19	75.09	1342010000	3.35
2010	Albania	-8.47	88.62	62.17	76.54	1089860000	3.71
2011	Albania	5.94	90.21	63.53	81.22	1048087029	2.55
2012	Albania	-7.86	92.61	64.89	76.51	918313371	1.42
2013	Albania	-1.98	95.78	61.11	75.70	1254274472	1.00
2014	Albania	-4.55	96.33	62.32	75.41	1149536244	1.77
1996	Greece	7.88	89.81	62.21	37.50	1058000000	2.86

1997	Greece	2.86	89.18	62.35	39.27	984000000	4.48
1998	Greece	17.13	88.90	63.81	42.27	978000000	3.89
1999	Greece	-0.46	88.05	64.64	47.38	567300000	3.07
2000	Greece	12.36	87.16	64.89	58.42	-8200000	3.92
2001	Greece	4.47	91.18	64.01	56.14	2000000	4.13
2002	Greece	2.23	96.11	64.77	50.35	34197830.1	3.92
2003	Greece	18.60	93.54	65.45	48.19	1407469096	5.79
2004	Greece	-0.65	93.59	66.88	49.90	2147448817	5.06
2005	Greece	-10.64	98.14	66.78	50.90	689960220	0.60
2006	Greece	23.88	97.75	67.21	52.85	5409239581	5.65
2007	Greece	8.53	95.45	67.18	57.52	1957669989	3.27
2008	Greece	-9.21	98.55	67.23	59.33	5733408744	-0.34
2009	Greece	-26.88	99.27	67.90	47.74	2762586782	-4.30
2010	Greece	-10.77	102.27	68.26	52.83	533689273	-5.48
2011	Greece	-21.82	99.41	67.86	57.84	1092091924	-9.13
2012	Greece	-24.01	100.73	68.10	61.82	1663327173	-7.30
2013	Greece	-9.92	102.15	68.11	63.52	2945417938	-3.24
2014	Greece	6.65	99.12	67.94	67.15	2696796379	0.74
1996	Macedonia	-1.82	77.57	61.25	66.70	11210000	1.19
1997	Macedonia	7.50	78.20	60.85	88.16	15740000	1.44
1998	Macedonia	3.79	79.26	60.47	97.29	150482086	3.38
1999	Macedonia	-8.48	80.20	60.10	94.33	88406156.4	4.34
2000	Macedonia	21.90	81.35	60.23	80.16	217507099	4.55
2001	Macedonia	-6.15	81.61	60.38	71.48	469570706	-3.07
2002	Macedonia	18.02	80.90	60.54	71.53	114193471	1.49
2003	Macedonia	-5.05	81.56	61.07	71.07	119041753	2.22
2004	Macedonia	18.65	81.32	58.80	80.87	309137639	4.67
2005	Macedonia	-9.23	81.53	60.53	85.84	145329602	4.72
2006	Macedonia	9.49	81.55	62.15	92.55	427444589	5.14

2007	Macedonia	13.22	81.57	62.73	106.09	733466879	6.47
2008	Macedonia	22.33	81.23	63.46	111.57	611688379	5.47
2009	Macedonia	-0.59	81.01	63.92	87.18	259530321	-0.36
2010	Macedonia	-3.80	82.20	64.21	97.88	301441682	3.36
2011	Macedonia	17.93	82.56	64.22	113.19	507920733	2.34
2012	Macedonia	10.18	82.39	63.86	112.22	337911248	-0.46
2013	Macedonia	0.49	80.95	64.82	104.86	402458310	2.93
2014	Macedonia	10.67	80.57	65.22	112.54	60879915.5	3.63
1996	Bulgaria	-75.13	92.63	65.58	104.37	109000000	1.60
1997	Bulgaria	2820.37	92.25	64.70	87.39	504800000	-1.10
1998	Bulgaria	90.07	91.70	63.74	79.15	537317256	3.50
1999	Bulgaria	11.35	91.95	62.65	90.96	818788155	-5.61
2000	Bulgaria	9.23	92.80	61.38	78.32	1001503842	5.01
2001	Bulgaria	17.11	93.86	63.79	79.35	812942202	4.25
2002	Bulgaria	7.31	95.30	63.15	75.47	904659791	6.02
2003	Bulgaria	16.65	86.76	61.81	79.28	2096788700	5.08
2004	Bulgaria	10.73	88.75	63.02	93.29	3072550962	6.56
2005	Bulgaria	24.12	89.24	62.40	99.87	4098122931	7.24
2006	Bulgaria	20.92	89.74	64.88	111.29	7874476255	6.75
2007	Bulgaria	13.74	90.24	66.72	122.61	1.3875E+10	7.68
2008	Bulgaria	16.61	89.43	68.32	124.84	1.0297E+10	3.64
2009	Bulgaria	-24.32	88.72	67.57	92.94	3896664559	-3.59
2010	Bulgaria	-17.65	90.20	66.72	103.21	1842900000	1.32
2011	Bulgaria	-3.26	93.74	65.99	117.76	2103810000	1.92
2012	Bulgaria	2.50	94.65	67.07	124.78	1788110000	0.03
2013	Bulgaria	-3.28	101.43	68.37	129.71	1989040000	0.86
2014	Bulgaria	4.40	104.16	69.02	130.97	2067540000	1.33
1996	Slovenia	3.64	90.11	66.94	93.63	173300000	3.52
1997	Slovenia	11.28	91.79	67.47	96.33	334500000	5.11

1998	Slovenia	8.11	92.70	68.70	96.78	215700000	3.29
1999	Slovenia	14.78	99.38	67.68	92.63	106600000	5.27
2000	Slovenia	2.40	100.94	67.44	103.68	135800000	4.16
2001	Slovenia	-2.03	106.59	67.60	104.54	501200000	2.95
2002	Slovenia	2.96	107.50	68.50	103.33	1849800000	3.84
2003	Slovenia	8.30	109.00	67.08	102.11	535600000	2.84
2004	Slovenia	10.30	97.11	70.17	111.38	763100000	4.35
2005	Slovenia	0.71	97.08	70.51	119.80	970800000	4.00
2006	Slovenia	12.16	96.84	70.83	129.44	691588429	5.66
2007	Slovenia	17.74	98.50	71.40	136.49	1884932873	6.94
2008	Slovenia	3.23	98.60	71.84	134.14	1081080207	3.30
2009	Slovenia	-32.25	98.51	71.69	112.62	-346269217	-7.80
2010	Slovenia	-5.86	98.66	71.75	127.14	319054953	1.24
2011	Slovenia	-2.16	98.55	70.76	138.91	875544802	0.65
2012	Slovenia	-17.46	97.98	70.87	142.03	33548087.6	-2.67
2013	Slovenia	4.30	110.59	70.76	143.47	103977239	-1.13
2014	Slovenia	3.84	109.96	70.97	144.23	1019291465	2.98

Year	Country	GDP Growth	Labor Force	Gross Capital Formation
1996	Germany	0.817898	39816401	-3.081262459
1997	Germany	1.849201	40043322	1.885978566

1998	Germany	1.979618	40074824	5.204148022
1999	Germany	1.987135	40291717	4.866276911
2000	Germany	2.962045	40252663	2.636624651
2001	Germany	1.695471	40336149	-3.400280117
2002	Germany	0	40453688	-8.490473592
2003	Germany	-0.70991	40658170	0.507237546
2004	Germany	1.16997	40560978	-2.786246371
2005	Germany	0.706714	41261012	-1.189704287
2006	Germany	3.70016	41609632	8.8112952
2007	Germany	3.260535	41888572	7.142139252
2008	Germany	1.082315	41895668	0.675993161
2009	Germany	-5.61886	41956660	-17.4671261
2010	Germany	4.079933	42016700	12.99434902
2011	Germany	3.66	41699644	9.290000731
2012	Germany	0.491993	41807485	-8.244122048
2013	Germany	0.489584	42203758	1.495812717
2014	Germany	1.92969	42457453	2.112399182
1996	France	1.388004	26800553	-3.172242104
1997	France	2.337333	26770280	2.501317667
1998	France	3.556201	26947641	10.38317672
1999	France	3.407099	27263121	7.192058059
2000	France	3.875162	27479615	8.550115932
2001	France	1.954449	27558926	0.743333797
2002	France	1.118457	27903772	-1.962509026
2003	France	0.819532	28468122	0.350480861
2004	France	2.786424	28660874	6.603120651
2005	France	1.607714	28944175	2.840943223
2006	France	2.374947	29089933	3.837253713
2007	France	2.361499	29328351	6.119344858
2008	France	0.195295	29530640	-0.146389302

2009	France	-2.94134	29765570	-13.49817766
2010	France	1.965657	29861054	3.362469226
2011	France	2.079229	29856868	6.983913842
2012	France	0.182693	30091903	-2.501099314
2013	France	0.576242	30231649	0.251775014
2014	France	0.947586	30220420	3.238430511
1996	United Kingdom	2.538654	28517679	2.79850446
1997	United Kingdom	4.038248	28692663	5.714687092
1998	United Kingdom	3.137808	28761240	8.329395791
1999	United Kingdom	3.216725	29050150	2.878302536
2000	United Kingdom	3.664129	29295681	0.72561058
2001	United Kingdom	2.544131	29259367	1.330714283
2002	United Kingdom	2.457878	29588702	0.984388233
2003	United Kingdom	3.325909	29868748	1.832181457
2004	United Kingdom	2.364455	30142943	0.231003253
2005	United Kingdom	3.096089	30589897	2.285817439
2006	United Kingdom	2.456	31037309	4.602036471
2007	United Kingdom	2.356708	31240900	2.706127956

2008	United Kingdom	-0.47254	31647690	-6.194916799
2009	United Kingdom	-4.18776	31825552	-17.44635446
2010	United Kingdom	1.694547	32010415	14.09268505
2011	United Kingdom	1.452624	32192066	2.481461466
2012	United Kingdom	1.48133	32543044	6.214400853
2013	United Kingdom	2.052389	32852108	10.31130954
2014	United Kingdom	3.054251	33143711	10.9095754