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Understanding Greek Unemployment: Is Greece's Nightmare Over ?

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Understanding Greek Unemployment: Is Greece's Nightmare Over ?



Senior Project Submitted to

The Division of Social Studies

Of Bard College

by

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Annandale-on-Hudson, New York

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Abstract

This senior project talks about the unemployment problem of Greece, and examines the conditions of Greek unemployment for the last 25 years. In this project I traveled through the years from 1995 to today, I wrote down the statistics, trends, and projections for the future of unemployment in Greece. In this project I attempt to answer the question, **Is Greece's Nightmare Over** which is something difficult to answer. In this project, I review historical decisions by the Greek governments over the years and its consequences regarding unemployment. In order to understand the problem of Greece we need to first understand its labor market structure, something that is explained in this project. I also depicted the social effect of the financial crisis on people of Greece over the years of harsh austerity by presenting the suicide rates increases in those years. Continuing, I talked about the current trends and the big 10% reduction in unemployment from 28% in 2014 to 18.0% in December of 2018 and the policies that the current Greek government used to achieve this reduction. Finally, I introduced a projection of unemployment, from 2019 to 2022 which shows a further reduction of unemployment if the current trend continues, and I shared an employment program that I believe can certainly help Greece recover even more from its problem, which is still relatively high compared to the rest of the EU countries.

Preface

In today's world of economic uncertainty, unemployment is one problem that seems to matter to everyone. After the international financial crisis of 2008, many countries felt its effect to their economic core. As we know, it all started in the United States of America through the banks and it spread throughout world markets like wildfire. Soon after the crisis hit the US, many great economies around the world began feeling its effects including China, Japan, Russia and the European Union (EU). More specifically, many European member states found themselves unprepared to face the crisis and the future seemed uncertain. One of those member states was Greece, which displayed a great lack of preparation and that cost them greatly as we will see later. Unemployment had become a problem for many EU states such as Spain, Portugal, and Ireland, but Greece was more severely hit compared to these countries.

Unemployment reports suggest that Greece was one of the countries hit hardest by unemployment, maybe even clinching the first spot in this specific category. Greek governments had established a framework to battle unemployment over the years, but apparently they had not calculated that a major financial crisis would hit them. The EU and the International Monetary Fund (IMF) had a framework to help the member states in need of financial help with packages of that sort, however in return, austerity measures

would have to be taken. This is exactly what happened when Greece requested those packages.

In this senior project I talk about the progression of Greek unemployment throughout the years 1995 to 2019. I was inspired to write about this topic from my own personal experience as a Greek citizen, growing up in Greece during the years of the crisis. At the time, attending junior high school, I remember trying to comprehend what was happening around me, and I couldn't. How much could a 12-year old kid and his bewildered schoolmates comprehend about an economy in disarray? I was a silent observer of my country entering a state of financial emergency. As I was growing up, my parents did everything they could to exclude me from this sad reality and they partially succeeded. However, while going to school and intermingling every day in a small city that always had a strong local economy based on olive oil, providing income to most of its residents, I could still see the destructive effects of unemployment around me. Watching the evening news was my main source of information to what was happening around me. Now having chosen to follow the path of economics in college, I wanted to understand more about how my country reached this point.

During this research project, I encountered some difficulties, mostly psychological, as I started researching more and more in depth about my country's past and present. The recollections of the crisis I had from back in 2011, 2012, 2013 resurfaced and I now fully understand the chain of events that took place around me, something that, I admit, made

me somewhat uncomfortable writing about. Despite that, I chose to continue writing and investigate why unemployment has improved since 2015. This is not only a report about of an economy trying to recover from a major setback, it is also a result of my personal journey and experiencing the unraveling of the crisis which ultimately led me to become one of the 400.000 young people who left Greece in search of opportunities for a better education and a better career development.

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Introduction

In today's world of economic uncertainty, unemployment has played a significant role in the livelihood of people. Being able to have a steady income, and support your family with it, is of vital importance. History has shown that unemployment is a serious consequence of recession. After the crisis of 1929 in the United States, unemployment skyrocketed leaving millions of people jobless and living in the streets, while the more modern crisis of 2008 took a great toll on the world economy and more specifically, the EU member states. Countries like Greece, Spain, Portugal, and Ireland were among those worst hit. The effects of unemployment directly affect the economic livelihood of people and cause great instability and uncertainty. In addition, there are other effects of unemployment that are less obvious, that involves the psychological well being of individuals who suffer as a result of their unemployed status, especially when they have a family to provide for, thus making the psychological weight much greater because other people depend on them for their livelihood.

Many economists have tried to explain the phenomenon of unemployment from different perspectives and their work has made people look at this problem in a different way. Mainly, there are two schools of thought that attempt to explain the underlying reasons behind the creation of unemployment, and most importantly, to address how it can be reduced to achieve a well running economy. On one side of the argument is the

classical school of economics, which began in the 18th century with economists Adam Smith, David Ricardo, Robert Malthus, etc., who supported that the economy is self-regulating and had built-in mechanisms that adjusted GDP levels by themselves. Adam Smith used to call this part of the theory the “invisible hand”, and thus classical economists argued that equilibrium would be adjusted by the market itself. On the other side of the argument, is the Keynesian school of economics that gained recognition in the 20th century with one very important economist, John Keynes, who went against the classical theory and said that the market cannot regulate itself because of the way that prices and wages are structured. He believed that prices and wages cannot fluctuate as much as Classics thought they could, and he used the term “sticky prices” to denote that prices and wages have the tendency to drop, leading to disequilibrium and thus, a non self-regulating economy.

Unemployment is a very important indicator for economists because they are able to monitor the progress an economy makes, however, let us consider the term unemployment and what it really means. Charles Jones, in his textbook for macroeconomics, defines an unemployed person as, “ A person is said to be unemployed if she doesn’t have a job that pays a wage or salary, has actively looked for such a job during the 4 weeks before the rate was measured, and is currently available to work.” Economists determine the unemployment rate by calculating the total amount of employed and unemployed persons in relation to the total labor force. The labor force

consists of people who are a) employed, b) people who are unemployed and c) people who could work but are not interested to work because the wages offered do not satisfy them; these workers are called discouraged workers. There are three types of unemployment: 1) frictional unemployment, 2) cyclical unemployment and 3) structural unemployment.

Chapter One: Economics of Unemployment

1.1 Introduction

Cyclical unemployment is the difference between the natural rate of unemployment (frictional and structural unemployment combined) and the actual rate of unemployment (natural unemployment plus cyclical unemployment). This type of unemployment has to do with business cycles, or cycles of economics which increase and decrease in relation to the economic activity of a market. In these business cycles, whenever there is an increase in growth or production, cyclical unemployment is usually low because the targets of companies are reached and profits are maximized. Cyclical unemployment exists when in a market of goods and services the demand for those goods and services is not enough and since the demand is not enough, there needs to be a cut in labor in order for a firm to remain competitive in the market. When this happens, there are more job seekers in an economy than there are available jobs, and as a result we have

unemployment. When an economy heals from depressions and recessions, the phenomenon of unemployment tends to become less. (Jones 2008)

The second type of unemployment is frictional unemployment. Economists divided the natural rate of unemployment into two kinds of unemployment, frictional and structural. Frictional unemployment is the time period between jobs when a worker is searching for, or transitioning from one job to another. Sometimes there are cases of workers who find new jobs before they leave their old jobs, however, many times lots of workers leave or lose their jobs before they have other work lined up. In such cases, the person must find another job that fulfils their requirements and this process takes some time. During this employment gap, the job seeker is considered to be unemployed, but unemployment according to frictional unemployment, is usually thought to last for a small period of time and does not present any consequences from an economic standpoint. This statement is particularly true because new technologies are helping both workers and companies make the job search process a lot easier. Frictional unemployment is also considered to be when students enter into the workforce for the first time, when a person moves from one city to another and searches for a new job, or even when a woman after pregnancy wants to re-enter in the workforce. (Jones 2008)

The third type of unemployment is structural unemployment, as I mentioned above, it is one of the two components that constitutes the natural rate of unemployment. Structural unemployment is probably one of the most common types of unemployment

that is mostly caused by outside factors such as technology, competition and government policy. This type of unemployment also exists when there is a surplus of people for available jobs, which means that there are more people with similar qualifications than there are enough jobs to absorb them, at that specific time, and employers do not reduce the wages so the market can end up at an equilibrium. Structural unemployment is also when a worker's abilities are mismatched with the needs of the market and they lack the desired skills that are in high demand. For example, in the technology sector, when new types of scientific advancements bring forth new jobs involving technologies, equipment, and machinery that must be learned, a job seeker will not be able to acquire a position until they learn the skills required. Consequently, they will be unemployed for a longer period of time than normal. Structural unemployment is a very important problem mainly because it is an abiding process to retrain people to fulfil the needs of the market. (Jones 2008)

1.2 Classical Theory

As I previously mentioned, I will now showcase what other economists have theorized about the subject of unemployment, identify its most crucial problem, and discuss the best ways to fight it. Many economists have expressed their views on the unemployment issue, but the most famous opinions come from the two most prominent schools of economic thought that exist today. First, I will talk about the classical economics school

of thought, that was established in the late 18th century and early to the mid 19th century in the United Kingdom by a British economist named Adam Smith who was very well-known at the time. Alongside other economists such as David Ricardo and John Stuart Mill, Smith in his book *The Wealth of Nations* built the classical theory of economics by arguing that the markets are self-regulating systems that are controlled by the natural laws of economics.

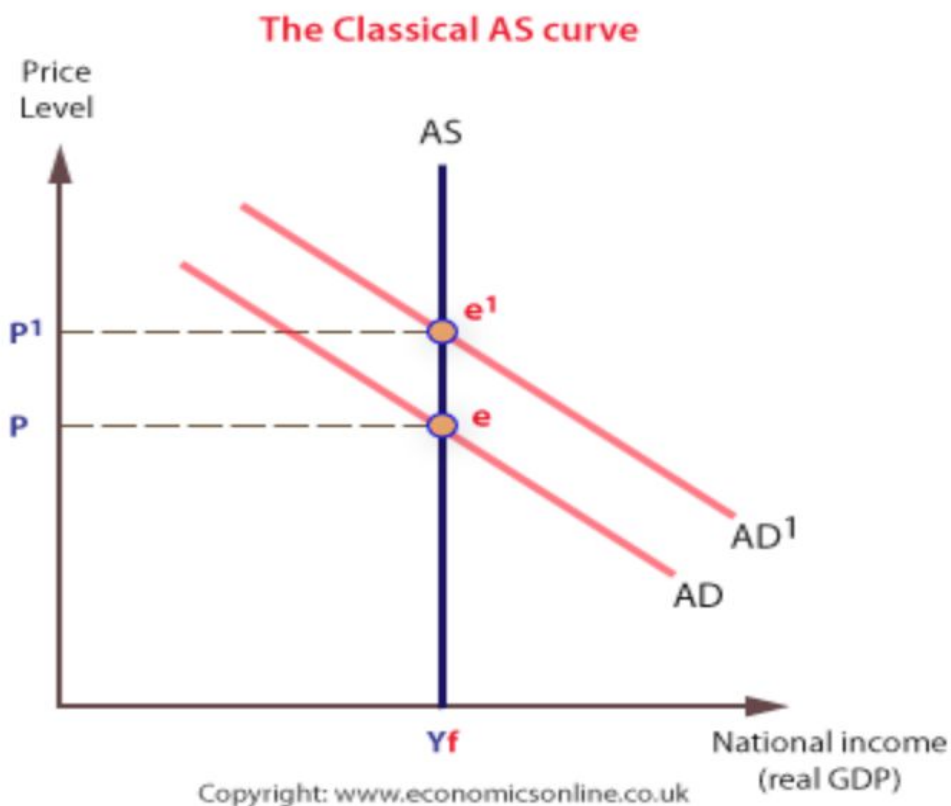
The laws were three. The first law supported that all people want to work for themselves thus their self-interest. According to this law, Smith emphasized that the desires of people are what runs the economy. The second law was the perfect competition law. This law pointed out that it is people's nature to be competitive when they want to achieve something, indicating that in order to beat the other person in sales and have a better result they need to have the better product, thus people will be competitive enough so the economy will have a perfect product to work with. Last was the law of supply and demand. This law said that there will always be an adequate number of goods to fulfil demand for them on the market and that these goods will be produced at the lowest possible price in order to meet the needs of maximization of profit. According to these laws, Smith claimed that the market as a mechanism will be self regulating, meaning that when there is a recession the market will be impacted and wages and prices will fluctuate, but in the end they will be back to equilibrium and the economy will recover. He

described this phenomenon as the invisible hand that will put everything back in order for the economy to work sufficiently. (Smith 1776)

Classical economics is a theory that talks about the long run. It could take years or decades until the effects of the classical theory show and it usually depends on the person's perception and definition of the term long run. The classical belief is based on the theory that markets are always able to come to equilibrium after a period of recession. Let us take a closer look at that now. The theory focuses on the fluctuations of the long run aggregate demand in a market while the long run aggregate supply is stable. The long-run aggregate supply consists of consumer spending, investment spending, imports and exports, and it is fixed at a specific price of a good or service. In an economy there will be changes in aggregate demand due to people's preferences, and these changes in demand will bring changes in aggregate price, but not in aggregate supply, which will remain the same because the economy will always produce enough supply for the economy to reach its full potential no matter what the changes in prices or demand may be.

In order to understand the concept of fluctuations in price and demand let us imagine a graph with an upward aggregate supply line parallel to the y-axis and a downward aggregate demand curve, while on the horizontal x-axis we have Q and on the vertical y-axis we have an aggregate price. In order to picture the changes in demand and price, let us assume that there is increased consumption in the economy and that brings the

aggregate demand curve to the right, meaning that prices will increase and the economy will experience mild inflation. Due to the increase in prices, people who are employed will see an increase in their wages in order to be able to still consume goods and services at a level of price that they will be willing to pay for. This process can be repeated multiple times and cannot be fixed by a small increase in wages, but with a stoppage of consumption that people will impose after thinking that they are not willing to pay this high a price for a good or a service.



This situation of high inflation can cause a recession in the economy, so the classical theory claims that through the three natural laws of economics, the market will

correct itself and after a while aggregate demand will start falling again, resulting in a deflation in aggregate prices around the economy. This process will repeat itself, until aggregate prices are in equilibrium with aggregate demand. As such, the classical model supports the belief that the periods of recession are temporary, and that the market will eventually come to an equilibrium through fluctuation in aggregate demand; furthermore, the only way to increase output in the classical model was to increase aggregate supply, but again since the belief was that the economy was always in equilibrium, aggregate supply did not really need to change. Classicists also support the belief that there needs to be no intervention by the government or by any other outside factor with the intention of helping the economy. The term I used earlier “the invisible hand” will bring the economy to balance by having flexible wages and prices, this, and classical theorists say, will work every time in the economy. (Smith 1759)

Milton Friedman, who was a classical economist in the post Keynesian era, and more specifically at the end of the 1960s developed the concept of the natural rate of unemployment which is also called NAIRU, the non-accelerating inflation rate of unemployment after some improvements. It is basically the relationship of unemployment and inflation. The NAIRU suggests that inflation will be steady at this specific level of the natural rate of unemployment. If there is an effort to try to decrease unemployment under the natural rate, this will result in accelerating inflation. It is also emphasized that there is no point in reducing the unemployment more than the natural

rate because in the long run there would not be anything to gain from it because if there is an increase in inflation this will only bring an increase in wages. (Ramalho Da Silva 2011)

The classical view on unemployment cannot be different from the view of the self-regulating economy. Classical theory believes that there is full employment at all times. The basic idea that classical theory was based on, is that wages are equal to the marginal product of labor. If there is an excess of workers looking for a job but there is no job for them in the labor market, then one way to eliminate the problem of this extra workforce is for the existing firms to lower the wages of their workers to create cash flows in the firms so they can hire more staff to work. If this is achieved there will be “full employment” again. The classical theory supports the belief that all unemployment is voluntary, meaning that the market has regulated itself and everything in it is in equilibrium, people are happy and there is full employment. The people who do not wish to receive a reservation wage for their services are voluntarily choosing to stay out of the labor market. If they ever decided that they would enter the search for a job, according to the classical model there would be a job with a lower wage waiting for them. However, let us remember that the classical model does not support government intervention, so benefit programs for unemployed workers cannot be offered. Ultimately, people will be forced to work because they need some kind of income in order to live and consume.

Concluding on the classical theory, economists relied a lot on the nature of market structure rather on their abilities to make the market better when needed.

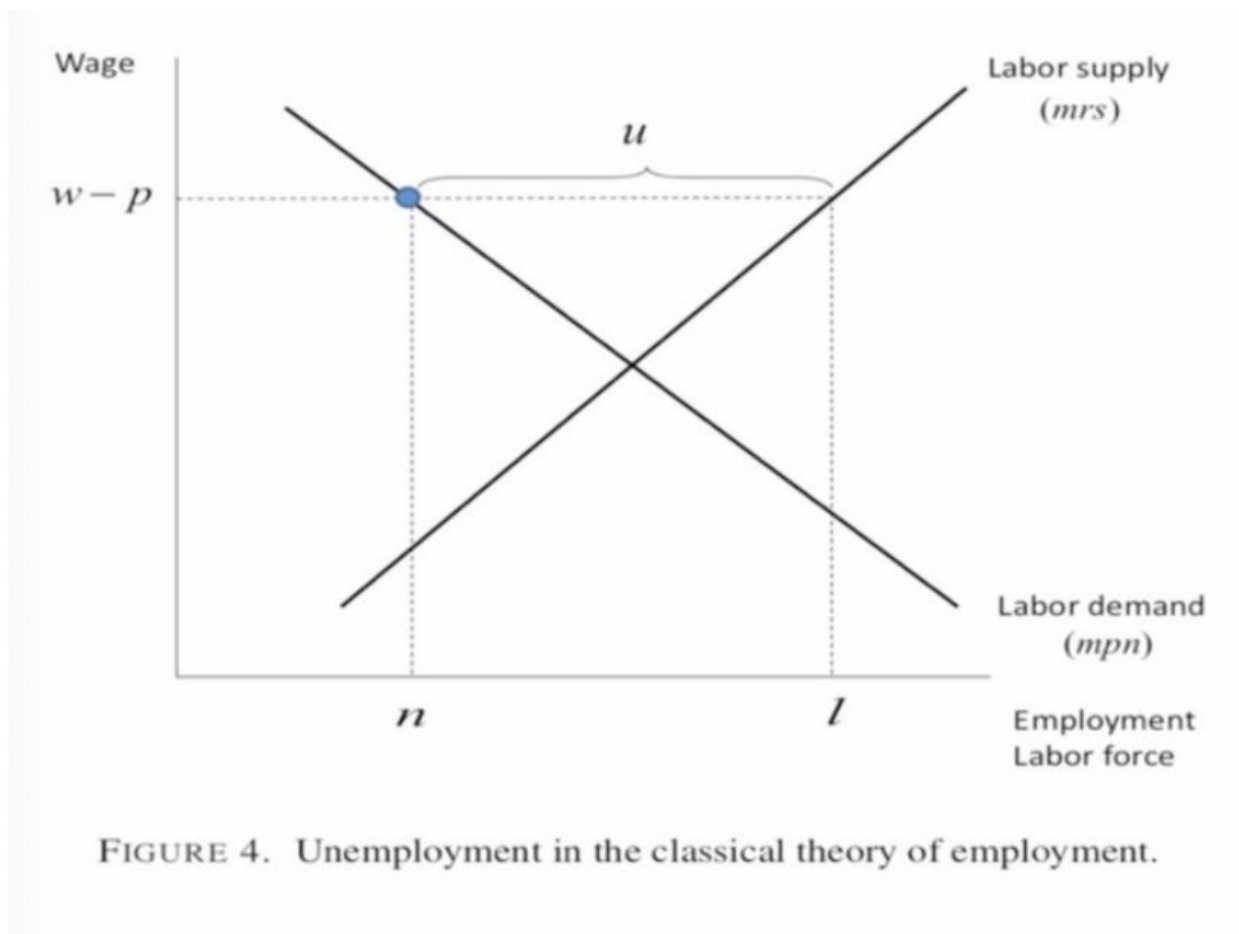


FIGURE 4. Unemployment in the classical theory of employment.

(Gali 2013)

Another economist who expressed his views on unemployment and actually wrote a textbook on it was Arthur C. Pigou. Pigou was a British economist who gained fame at the beginning of the 20th century. With his books, *Wealth and Welfare* and *The Economics of Welfare*, Pigou was considered an innovator in the field of economics and

he was more of a classical economist than anything else. He also published his version of the theory of unemployment which found supporters around the spectrum. Due to his classical ideology, he was a fierce critic of John Maynard Keynes. Pigou focused more on the times of deflation in order to explain how to solve the problem of unemployment. He wrote his book on unemployment only three years before Keynes wrote his, and in it he explained the difference between voluntary and involuntary unemployment. Pigou claimed that there is no such thing as involuntary unemployment, following the classical theory of course, and this was noticed by Keynes who refers to him in his book *The General Theory of Unemployment, Wages, and Money*, seventeen times in order to prove how wrong Pigou was. (Hawtrey 1934)

Pigou's model had two assumptions according to Keynes, "(i) the real rates of wages for which workpeople stipulate, and (2) the shape of the Real Demand Function for Labour." Pigou's theory started by making a distinction between the factories which produced goods at home and those which he calls wage good industries (Keynes 1936). Pigou looked at deflation as a true help for the economy, since there were recessions in the economy, and argued that every time a recession started to fix itself, prices would fall and that would lead to more real money in the pockets of the public. More money in the hands of the public meant more consumption of goods and services which would circulate money into the economy and would expand due to the good economic climate. In the end, employment would go up with more people working in the economy.

1.3 Keynesian theory

Switching gears, I will talk about the other economic school that has expressed its ideas on unemployment, and is currently the leading school of macroeconomic thinking in the world. It is called Keynesianism and it was founded by John Maynard Keynes, a British economist who initiated the Keynesian models during the 1930s in the middle of the great depression. Before Keynes, the reigning models were from the classical ideology. Keynes agreed with some of the ideas, but at the same time he found major holes in the models and that is what helped him argue other theories. We also need to pay attention to the time frame of his work, as the great depression was devastating for the US and it drove almost one-quarter of the people into unemployment, as it was one of the worst recessions in the country's history. At that time of chaos, Keynes looked at the classical models and realised that the idea of full employment and voluntary unemployment was false because during the great depression, factories still existed and people still wanted to work to make money, but there was still an enormous amount of people that were unemployed.

Keynes decided that it was time to argue the policies of classical thinking and initiate his own policies for the economy and the problem of unemployment. Keynes agreed with the classical way of thinking in the long run but a famous quote from him during that time was "In the long run we are all dead". He was interested in the short run results of policies and that is why his policies were interested in tackling problems immediately. In

1936 Keynes wrote the book, *The General Theory of Unemployment, Wages, and Money*, which is considered the Keynesian textbook for macroeconomics. In this book he explained all the differences he had against the classical theory and how his models were more accurate in the short run. He focused a lot on the effective demand of the economy and gave a different perspective on the way that people looked at macroeconomics.

As said before, Keynes's theory was based on the short run, and in the short run things are different than the long run. His theory focused on the shift of aggregate demand and not on the shift of aggregate supply like the classical theory does. Instead, Keynes observed that in the short run where the economy did not produce to its full capacity due to the great depression, prices and wages were not fluctuating, rather they were very stable, and that's how he came up with the term "sticky" prices and wages. As such, he claimed that the aggregate supply was differently handled than the classical theory supported. In a time of economic crisis, people desire work in order to receive income and they are not really interested in the amount of their wage, because it could easily be nothing if they did not have a job. Keynes vouched for the belief that the economy would not bring itself into equilibrium just like that, as the classical theory argued, but there would need to be some type of an outside intervention from the government at a time of a recession in order bring itself back to equilibrium. (Galí 2013)

In order to understand the concept of the short run framework that Keynes suggested, we need to look at the graph below and see the differences. On the y-axis we still have

the price and on the x-axis, we still have Q , the output. We still have a downward labor demand line but there is a change in labor supply, in this way Keynes wanted to show that involuntary unemployment will come to equilibrium but with no “automatic” force ensuring that full employment will be achieved. Keynes said the only way to increase output is to move the aggregate demand curve which could be done by government intervention. The government would play a very important role in the boost of the economy in a time of recession by implementing either monetary policy, which meant that the government can print more money in order to put it back in the economy with some government spending on technology or infrastructure, or it can implement some fiscal policy which could be some tax cuts that could help people keep money in their wallets with the goal to put it back into the economy through consumption.

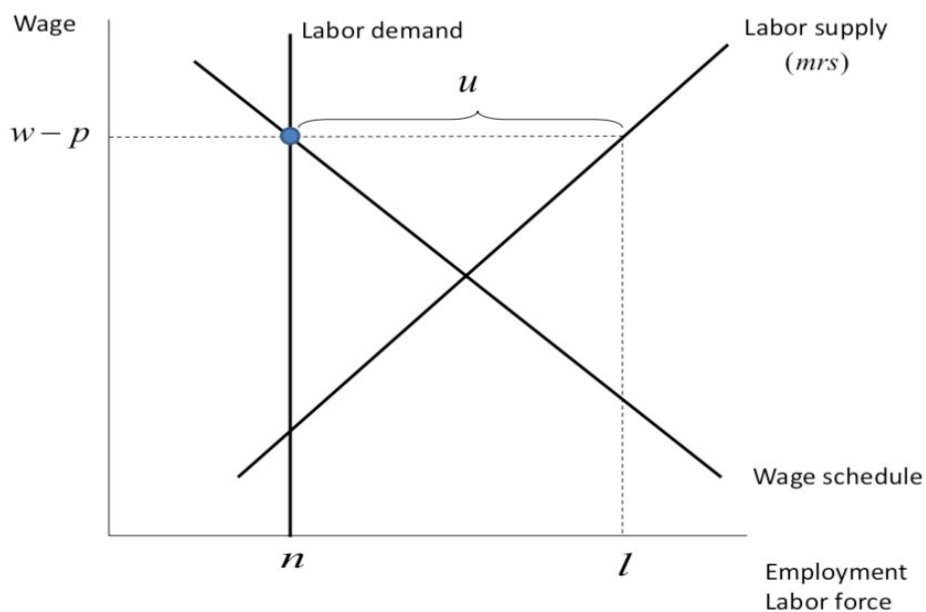


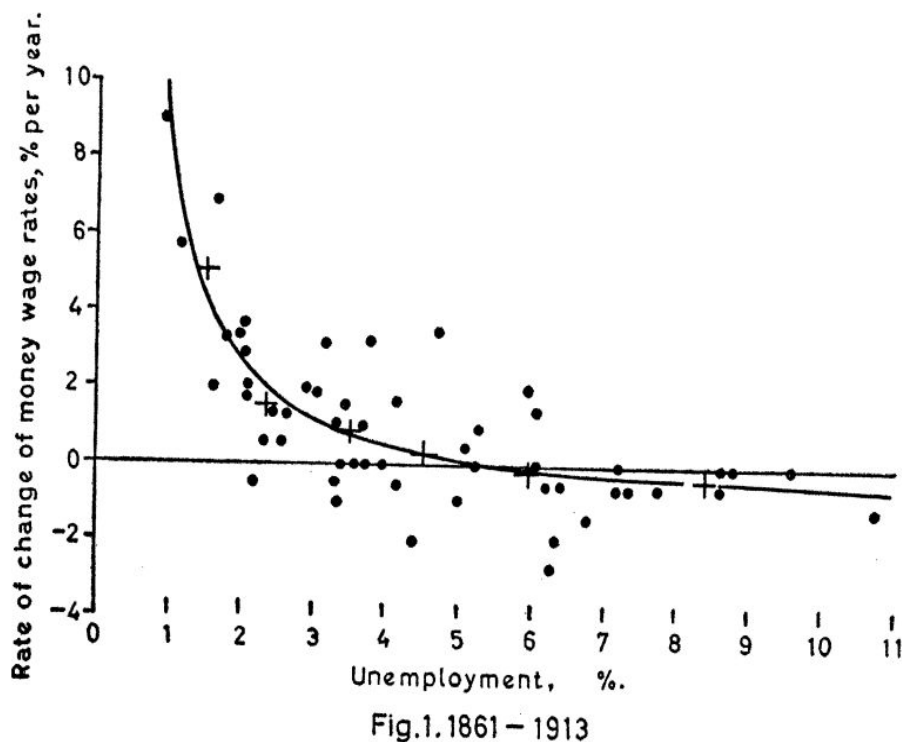
FIGURE 9. Unemployment in the Keynesian theory of employment.

(Gali 2013)

Just like with other issues in the economy, Keynes disagreed with the classical theory of unemployment. He did not accept the concept of full employment because basically, he didn't believe in the notion of voluntary unemployment. He was a strong believer of involuntary unemployment because, as said before, in the great depression people wanted to work at the factories but nobody would hire them. So, labor supply existed and was ready to be put in use. It was just not used. He defined involuntary unemployment as, "Men are involuntarily unemployed if, in the event of a small rise in the price of wage-goods relatively to the money-wage, both the aggregate supply of labor willing to work for the current money-wage and the aggregate demand for it at that wage, would be greater than the existing volume of employment" (Keynes 1936). What that means is, that if the money supply goes up, the real wage will go down from the increase in price, this will result in more employment, and that is how we will see if people are involuntarily unemployed.

Inflation in the short run was depicted by William Phillips, a Keynesian economist who depicted the correlation between unemployment and inflation. Phillips said that unemployment and inflation have a negative connection, as inflation goes up, unemployment goes down and vice versa. This came into disagreement with the classical economists who, as said before, initiated the NAIRU as an answer to the short run. In his

paper in 1958 he explained English unemployment from 1861 to 1957 and through his work he initiated the concept of the Phillips curve.



(Phillips 1958)

In the graph below we see how involuntary unemployment increases and decreases. In the y-axis we have wage and on the x-axis we have employment, we have the Keynesian labor supply with stable wages and the downward demand for labor. Now we know that n is aggregate demand and l is employment, and with this graph Keynes wanted to show the shifts in aggregate demand as a result of the shifts in wages. His ideal scenario was the shift of aggregate demand to the right so he could increase spending by government intervention and that is clearly illustrated here. (Gali 2013)

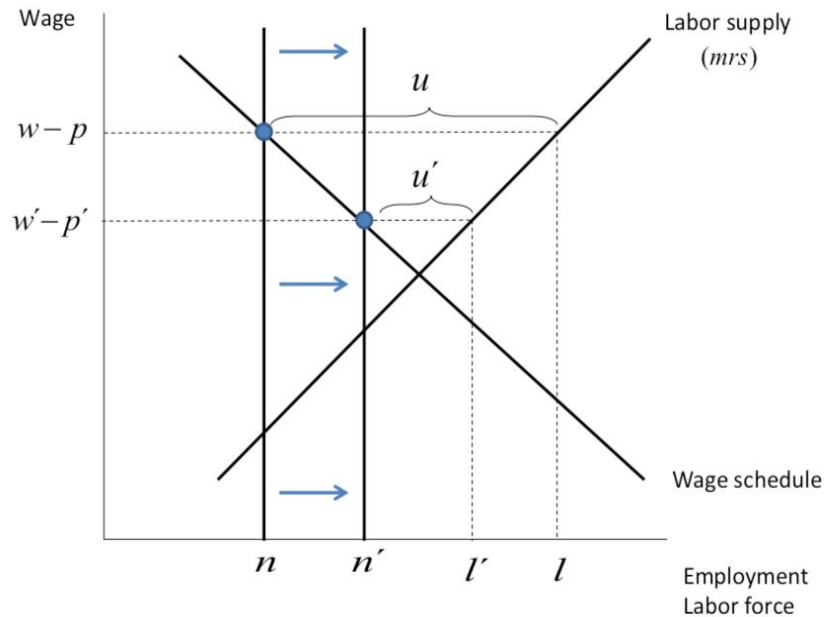


FIGURE 10. Cure for Keynesian unemployment: aggregate demand expansion.

(Gali 2013)

Although Keynes talked about full employment, he emphasized that full employment is something that cannot be achieved easily. Full employment for Keynes meant that there would have to be no involuntary unemployment, meaning that every person who wanted a job above the reservation wage, would get it. For Keynes that was not right, he supported that there needed to be an emphasis on demand not necessarily increasing the aggregate demand. That is why Keynes pushed for government intervention and public programs in unemployment, because he thought that if the government employed people

in for example, infrastructure, there would be money in the pockets of people. “To get to full employment, Keynes argued for a better targeting of demand, not necessarily for more aggregate demand. Although a rapid shortfall of aggregate demand can produce a serious downturn, even in severe slumps a targeted approach to unemployment is preferred. This is because the desirability of public policy is measured by its respective employment-creation effects, where different aggregate demand policies have a different impact on unemployment”.(Tcherneva 2008)

The EU over the years has had a different economic approach than the ones mentioned before and it has been using neoliberalism in order to grow and thrive. Despite that, some governments have turned to Keynesianism due to the fact that growth has come to a halt. (Stockhammer 2016) It is true that in the years of the recent crisis some EU countries have turned to Keynesianism, but Germany is a strong opposer of Keynesian ideology in the EU and since they are, probably, the strongest country in the EU, their influence is obvious. The problem is that the filogermanic policies of the EU have harmed other countries in the union such as Greece. If we judge from history, we can see that in the long run the EU has been Germanized and that, I think, is negative for the rest of the union. (Bibow 2018)

Chapter Two: Historical Analysis of Unemployment

2.1 Introduction

There was a time when Greece was best known for its majestic landscapes, the amazing food, and the well behaved and friendly people. The crisis of 2009 added one additional thing that Greece would be known for even until today, and that is its economic situation. After the crisis of 2009, most people who knew Greece would talk not only about its beauty, but also about its bad economic state. However, the country's economic state had not always been that bad. In this chapter, I will try to outline the steps that lead to a Greek economic "travesty" beginning with the year 1995 where the Greek economy was in much better shape than today, and where people were a lot happier than they are now. Starting here, we will note the unemployment level at that time and the wage levels that people were given for their work. We will see the level of youth unemployment and new young graduates that entered the labor market to find a job and start their careers. This analysis will continue for all the years up until today, where unemployment is 18% from 28%. We will analyze the events that lead to the highest percentage of unemployment in 2013 and what policies were followed by the governments in order to reduce unemployment and bring back stability and growth in the Greek market.

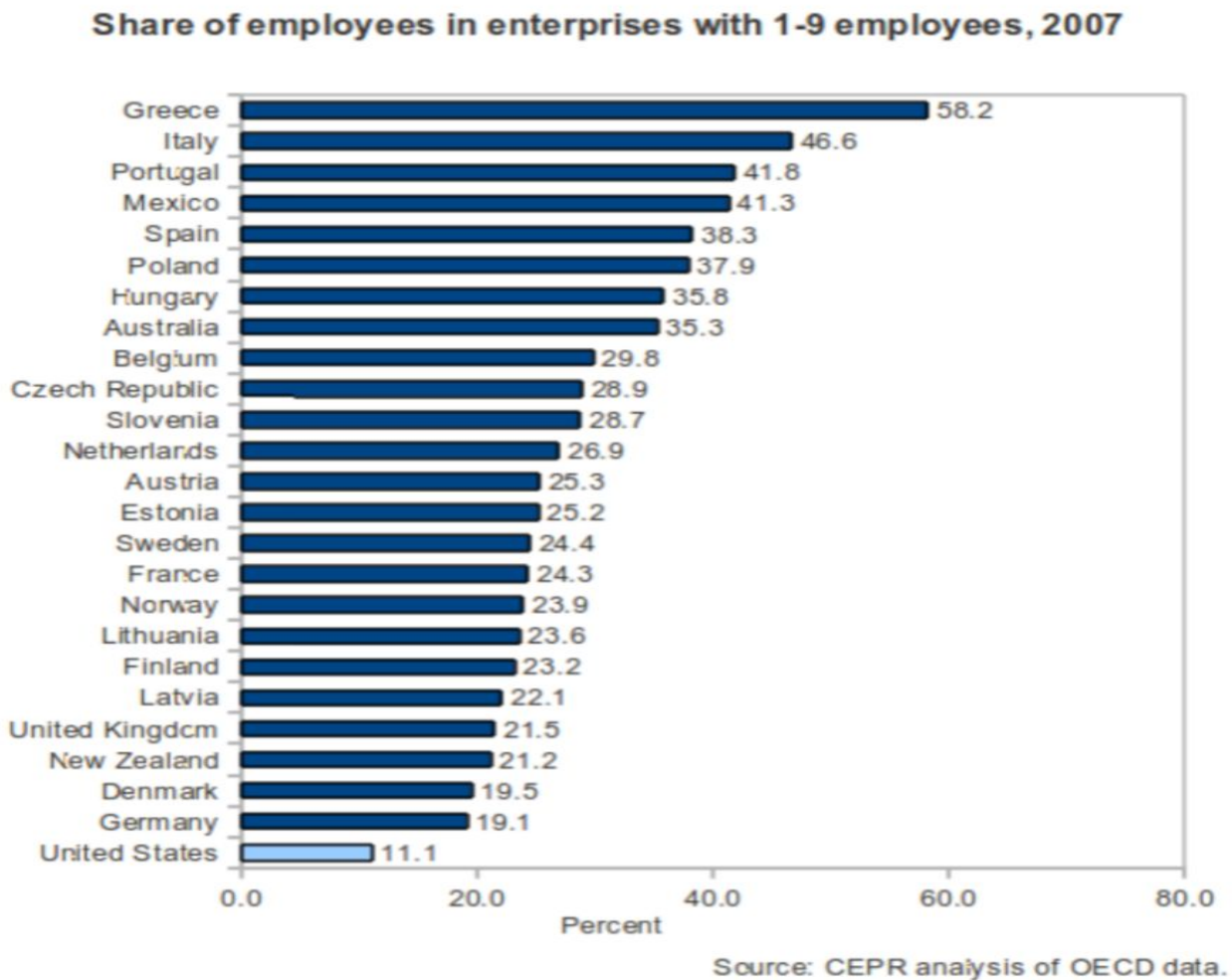
This period of time will be divided into three parts, first the pre 2001 part where Greece was not yet in the Eurozone, the common currency of Euro, but was in the

European Union. We will consider how its entrance into the common currency affected Greece and what was the struggle to raise the economy to the eurozone standard levels. Next, we will scavenge throughout the period after Greece joined the Eurozone and we will consider how Greece responded to the change of currency and how the wages and pensions were adapted to the change and how unemployment levels were affected by this change. We will also see if there was a young population that decided that leaving the country would be better for their future. Last, we will reflect on the time after 2010 where the crisis is underway, how the Greek economy responded, how the government tried to soften the blow, and what were the levels of unemployment and wage differentials for the people of Greece. We will focus more on this third period of time, because I consider it to be the most important period in Greece's economy.

2.2 Greek Labor Market Structure

In order to understand the problems of the Greek market for jobs and evidently unemployment, we need to take a look at the structure of this market and understand the components that contributed to Greek unemployment has risen so tremendously. The Greek market is different than other European markets. In that, the largest percentage of jobs is small businesses which employ very few people. If you take a look at the graph from the OECD in Europe for 2007, Greece is at the top of list with the countries that

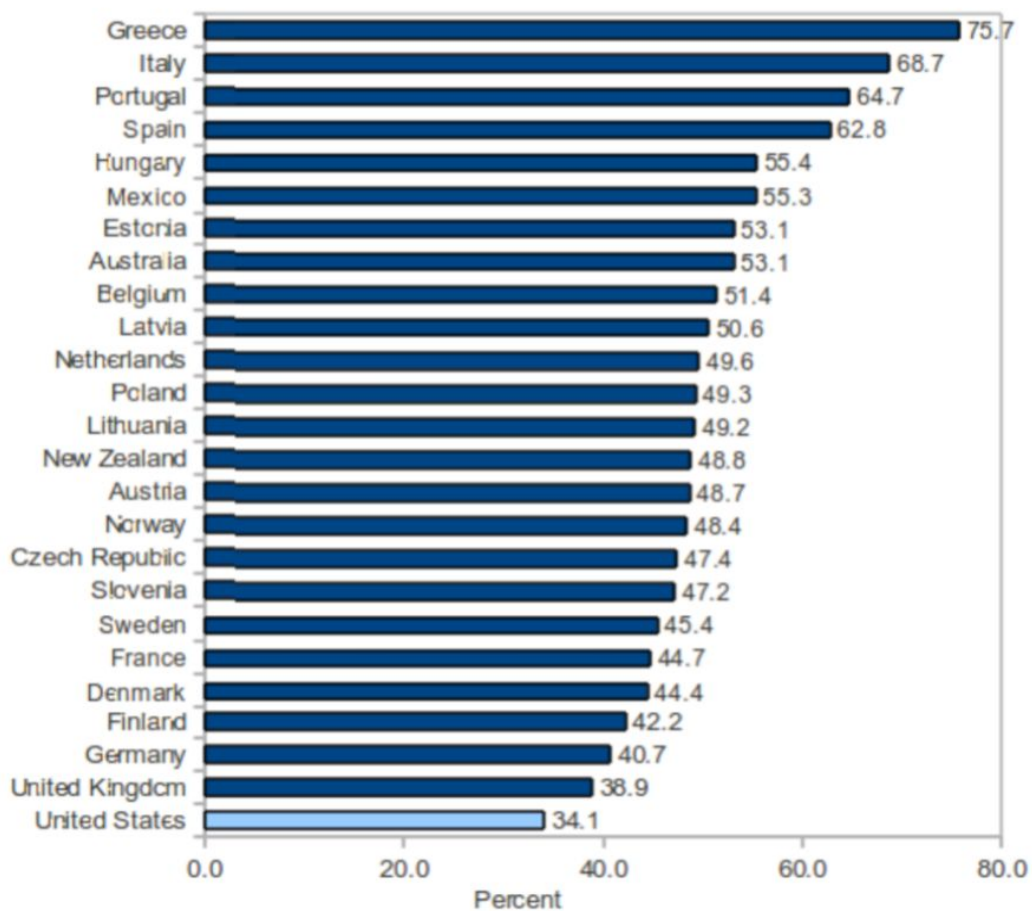
have shares of employees in enterprises with 1-9 employees. That means that 58.2 percent of the employees in Greece are employed by enterprises that are small like a cafeteria or a tavern, which is a small business and can go bankrupt very easily if the economy is not doing well. (OECD 2011)



The next graph shows the percentage of people who work in a business that support up to 50 workers. As we can see there are no significant changes in the rank of the

countries from before, and Greece is still ahead with a percentage of 75.7 percent of employees working in small and medium businesses. Italy and Portugal follow with 68.7 and 64.7 percent. This demonstrates how these countries base their economic livelihood on small and medium businesses. It was evident that when the crisis of 2009 hit, a lot of businesses would shut down, thus, since the percentage of people working there is greater than three quarters of the working population, many people would lose their jobs in the process and thus unemployment would jump to high levels. (OECD 2011)

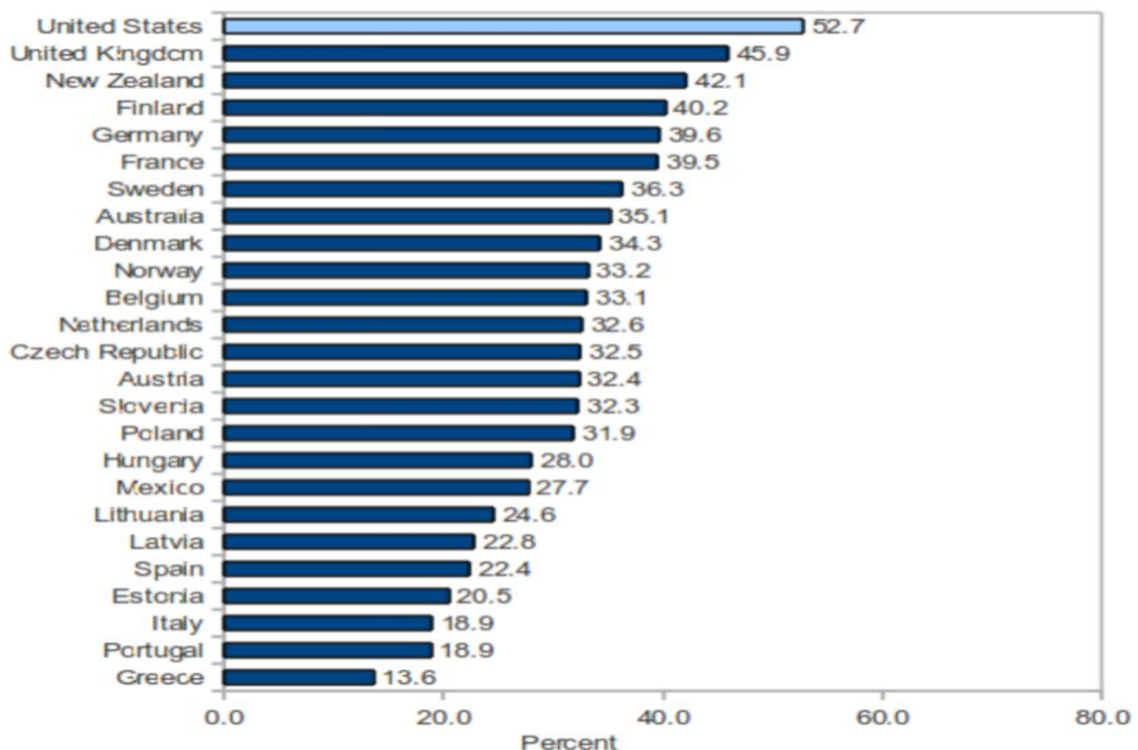
Share of employees in enterprises with 1-50 employees, 2007



Source: CEPR analysis of OECD data.

Now, we will note a table that depicts the amount of people employed by a business that employs more than 250 workers. Here we see something different than the tables before, in fact we see an almost inverted table. The United States of America are at the top with 52.7 percent of people being employed by enterprises with 250 or more employees and at the bottom we see Greece with only 13.6 percent of the people being employed by larger enterprises. This statistic tells us a lot; first of all we see that Greece does not have the amount of big businesses needed to absorb the new young graduates. Thinking about the situation that the U.S.A. found itself in after the 2008 crisis and how people returned to work or never lost their jobs because they were a part of a big enterprise, we can see that the same thing does not apply for Greece. In Greece the people who were part of well-based, solid and big enterprises did not necessarily lose their jobs; a pay cut might have been implemented, but people kept their jobs. (OECD 2011)

Share of employees in enterprises with 250 or more employees, 2007



Source: CEPR analysis of OECD data.

Let us note the following graphs that compare the amount of people who are in the labor force and the people who are in the labor force in the EU. They indicate that while many people in Greece are opening their own small businesses and not employing anyone but themselves, on the contrary the employees of other EU members are mostly being hired by industries. According to the International Classification of Status in Employment's definition of "employed persons.", there are four different categories of workers. First, there are the "employees, namely, waged and salaried workers" which are the workers who receive a salary from the business that they work in, second, there are the employers who are the ones hiring employees, third, we have the "own-account workers, self-employed people" who have their own store or small business without hiring any employees, and finally we have the "family contributing workers", who are helping out at the store but are not getting paid, for example, the son who works at the store of a parent for the summer is a family contributing worker. Now let us take a look at the first graph that shows these categories around Europe. The second graph will show the Distribution of Employment by Worker Status (15 years of age and older) in Greece and there, we will note the difference between the two diagrams and explain some key reasons why in Greece, the own account workers are the ones that will be affected by an economic crisis the most compared to other employee categories.

Here we see the four categories in the European Union and we have data from 2008, 2010 and 2014 that show us that the own-account workers only comprise ten percent of the workforce of the EU countries.

Table 2 Distribution of Employment by Professional (Worker) Status, EU-27 and EU-17 (aged 15–64)

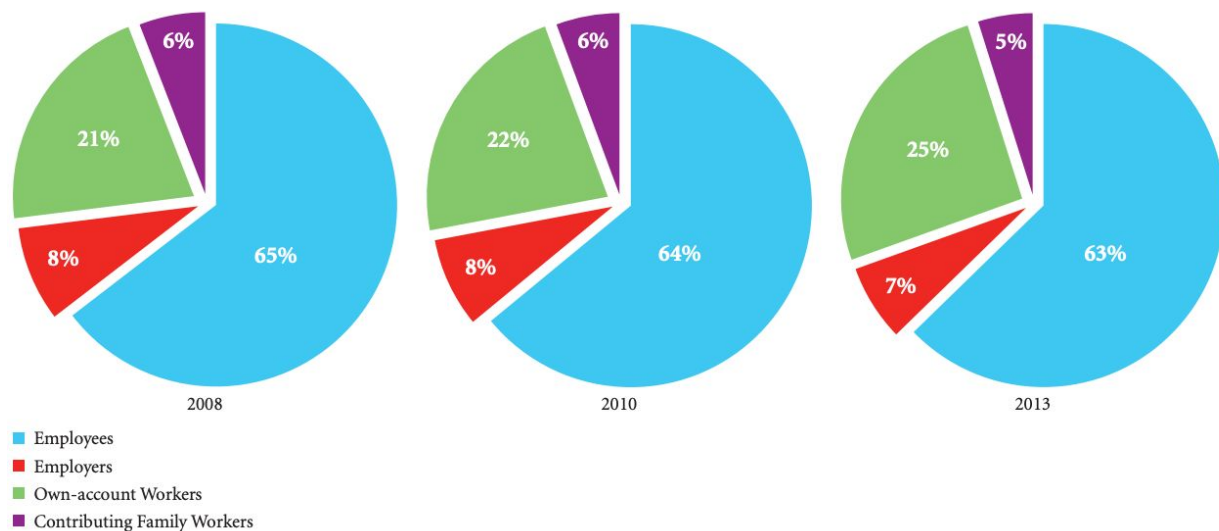
Worker Status	Persons (in thousands)			Percentage		
	2008	2010	2014	2008	2010	2014
EU-27						
Employees	186,243.6	180,552.4	182,331.7	83.50	83.09	83.55
Employers	10,064.5	9,686.9	9,269.2	4.51	4.46	4.25
Own-account workers	22,839.5	23,480.1	23,635.9	10.24	10.81	10.83
Contributing family workers	3,908.2	3,582.6	2,991.4	1.75	1.65	1.37
Total	223,056	217,302	218,228	100.00	100.00	100.00
EU-17						
Employees	122,383.5	118,912.2	118,364.8	84.01	83.89	84.21
Employers	7,636.6	7,297.5	6,893.0	5.24	5.15	4.90
Own-account workers	13,898.0	14,120.8	14,125.5	9.54	9.96	10.05
Contributing family workers	1,758.7	1,417.4	1,170.3	1.21	1.00	0.83
Total	145,677	141,748	140,554	100.00	100.00	100.00

Note: All figures correspond to year-on-year Q3 comparisons.

Source: Eurostat, LFS

Here in the next figure we see that throughout the years 2008, 2010, 2014 the percentage of people who are own-account workers in Greece reaches 65% of the total employed people which is a very high number considering the fact that in other countries this figure amounts only to 10%

Figure 2.3 Distribution of Employment by Worker Status (15 years of age and older)



Source: Levy Institute 2014

Now that we have established this very important distinction it is worth noting that one more key observation about the Greek economy is the fact that the International Classification of Status in Employment has changed in Greece over the years portrayed in the two tables above. First, they show that the amount of family employees has diminished greatly and that at the same time the wage and salaried employees have lost ground in the numbers. The problem that arises from these cuts is the fact that all the people who left these categories were absorbed by the “self-employed without staff” employees who have grown from year to year. “In other words, the “own-account work” slice of a continuously shrinking employment pie expanded from 21 percent in 2008 to 25 percent in 2014.” (Antonopoulos 2014)

The issue that surfaces from this statement as the international labor organization would agree is that the self-employed workers are unprotected against unemployment since they are not given the same benefits that employees get from their employers when they work under a business or an enterprise. Benefits such as unemployment benefits, social security, or health benefits are not available to them and due to the fact that their earnings are not guaranteed they can go from a good month to a very bad month. This lack of benefits might lead them to a permanent shut down if the damage in earnings is too great. The bigger picture is that people are led to an economy that is led by self-employed individuals who occupy more than 65% of the market. This marks the beginning of a structural shift in employment and if this continues it can lead to young workers who want to enter the workforce to have to make a choice between distressed unemployment or starting their own business and trying to survive in the market in uncertainty.

2.3 Pro Euro period

Starting with the year 1995, Greece's economy was doing very well as in all the countries in the world. The economies of Europe and especially of the United States of America under President Clinton were booming, there was a massive increase in GDP, the fall of unemployment to 5 percent, and generally the ability of people to make money. There were two main reasons that the economies of the world started booming all of the sudden. The first reason was globalization and innovations in technology changed the

economic landscape forever. New machinery was drafted by enterprises to increase their production of goods and services, and so the markets absorbed this increase and turned it into profits which went straight to the pockets of workers, owners, but also the government. There also were many trading deals that came into effect and helped the economy grow. The second reason was since there was money to be made in the economy, new companies and small businesses entered the market and so we saw the creation of jobs which put people to work and reduced unemployment even further.

The European markets enjoyed growth as well, but even there we still had high percentages of unemployment. Germany in 1997 had a 9.8 percent unemployment on its hands and France had a 10.2 percent of unemployment in 1998. Furthermore, Italy had an 11.3 percent unemployment for most of the second part of the 1990's, Portugal had a 7.5 percent unemployment, and Spain had a staggering 19.2 percent in 1995 which in 2000 became 12.3 percent. From these statistics we can argue that unemployment even before the big financial crisis of 2008 was an existing problem that would take years to solve for Europeans. In the loop with the rest of the European countries was also Greece, having 11 percent unemployment in the years between 1995 and 2001, but Greece at the time had different kinds of economic problems. It was almost time for Greece to enter the common European currency, the Euro, and that entrance had some very specific requirements that needed to be fulfilled by the Greek government at the time in order for

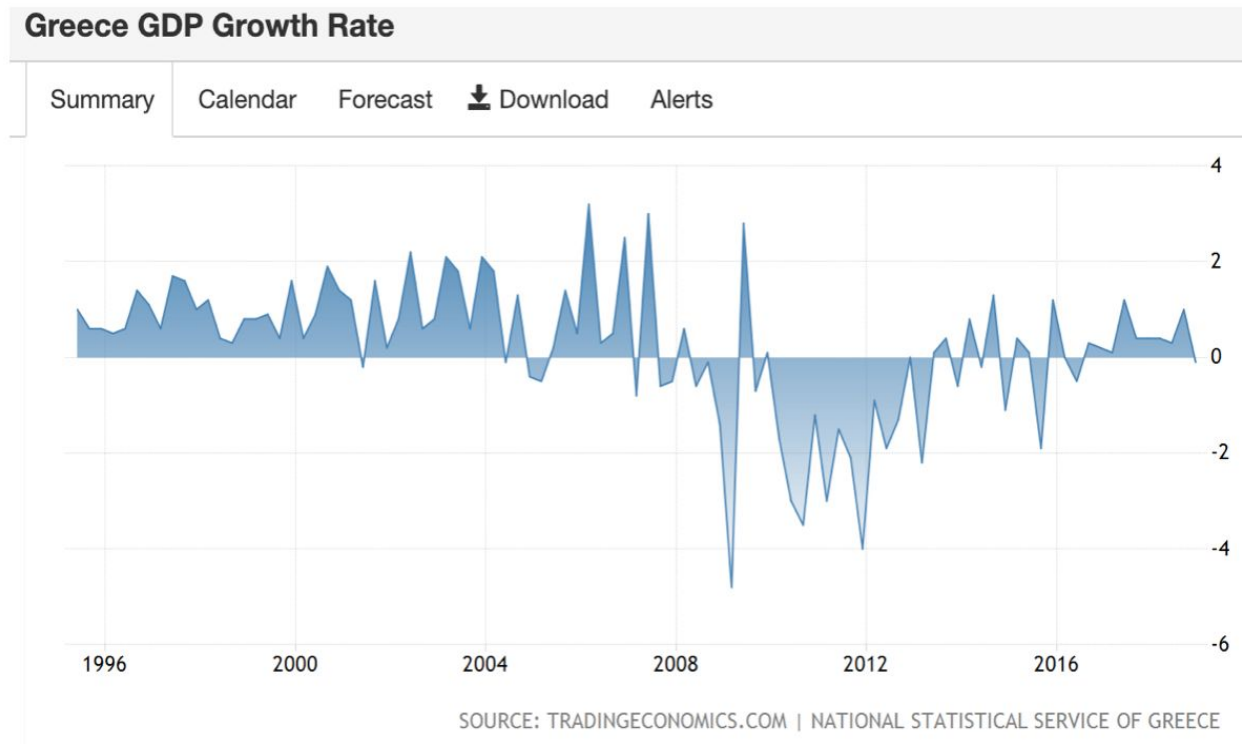
the other countries that were part of the common currency to allow Greece to enter their pack.

The second part of the 1990s saw Greece getting its finances ready to join the Eurozone as it was decided in 1992 when Greece signed the Maastricht treaty, which was the necessary step before entering the common currency deal. Some rates such as inflation, etc. declined slowly but steadily, and it was a time of slow growth for Greece. In the first graph below we see that inflation in 1995 was 11.8% and in the beginning of 2002 it was barely 3%, although above average compared with the other EU countries. This was very good news for Greece as it would be one good indication that it was ready to join the common currency. One more good indication was the GDP increase that Greece underwent during the years before 2002. There was a steady increase of GDP reaching 2% on some occasions. As we see, again, these are some important indications that Greece was ready to convert from the drachma to euro.

Greece Inflation Rate

Summary Calendar Forecast Download Alerts

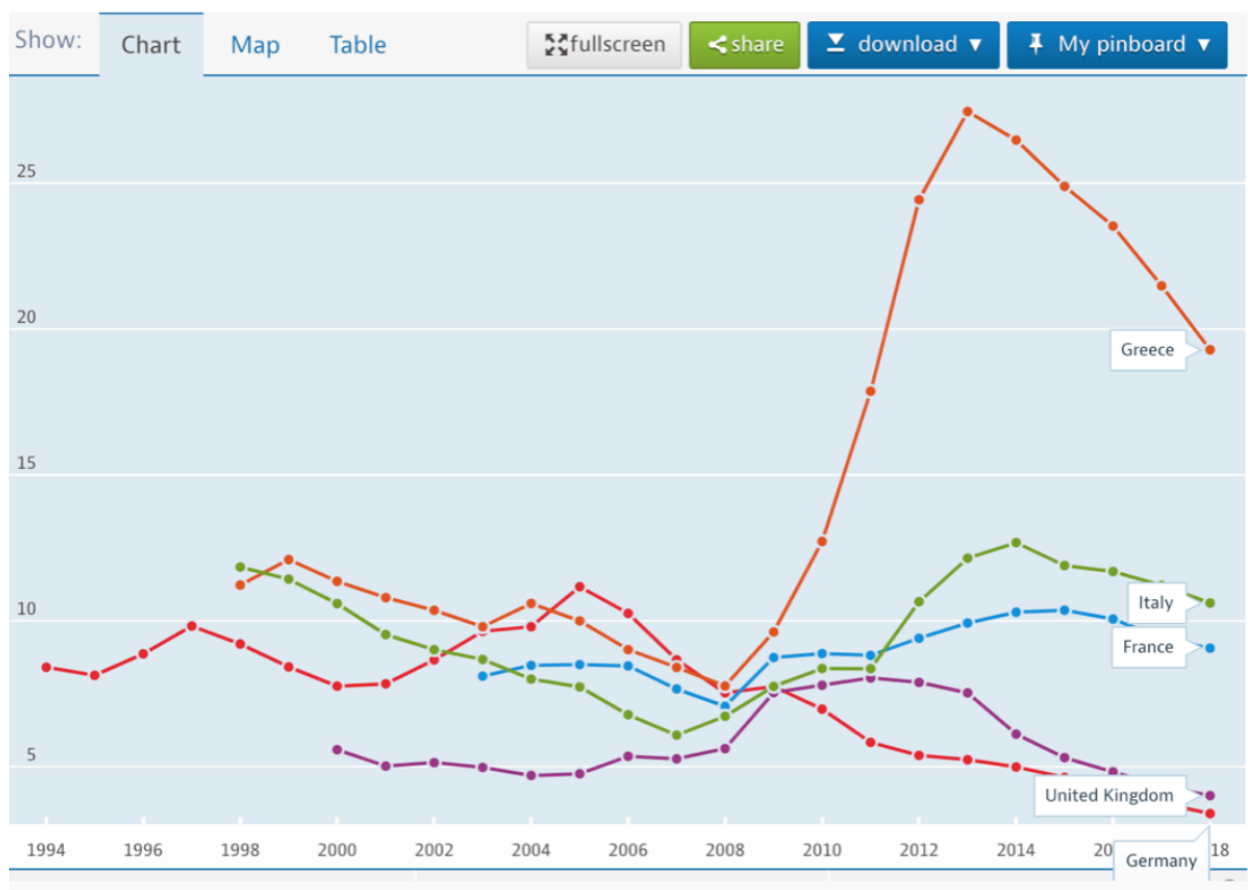




The unemployment rate in Greece during this time was not nearly as high as it is today, but it was relatively high along with the other big EU countries such as Germany, France, Italy etc. During the years 1996 to 2002 the unemployment rate of Greece averaged around 11% keeping close in line to its European counterparts. Despite that, it was relatively high compared with other countries worldwide. The United States of America was averaging around 4.5% unemployment rate and one other global superpower, China, was averaging a 4% unemployment rate. Regardless, things were looking good for the Greek economy and the much anticipated growth was on its way. The Financial Times wrote: “During the 1990s Greece started to converge again, but at a painfully slow rate.” And indeed it was. In the graph obtained by OECD below we can

see the unemployment rates of five EU countries including Greece. In orange we can see Greece, in light blue we can see France's unemployment rate, in red we can see Germany's unemployment rate, in green color we can see Italy's unemployment rate and finally in purple we can see the unemployment rate of the United Kingdom.

Unemployment rate Total, % of labour force, 1994 - 2018

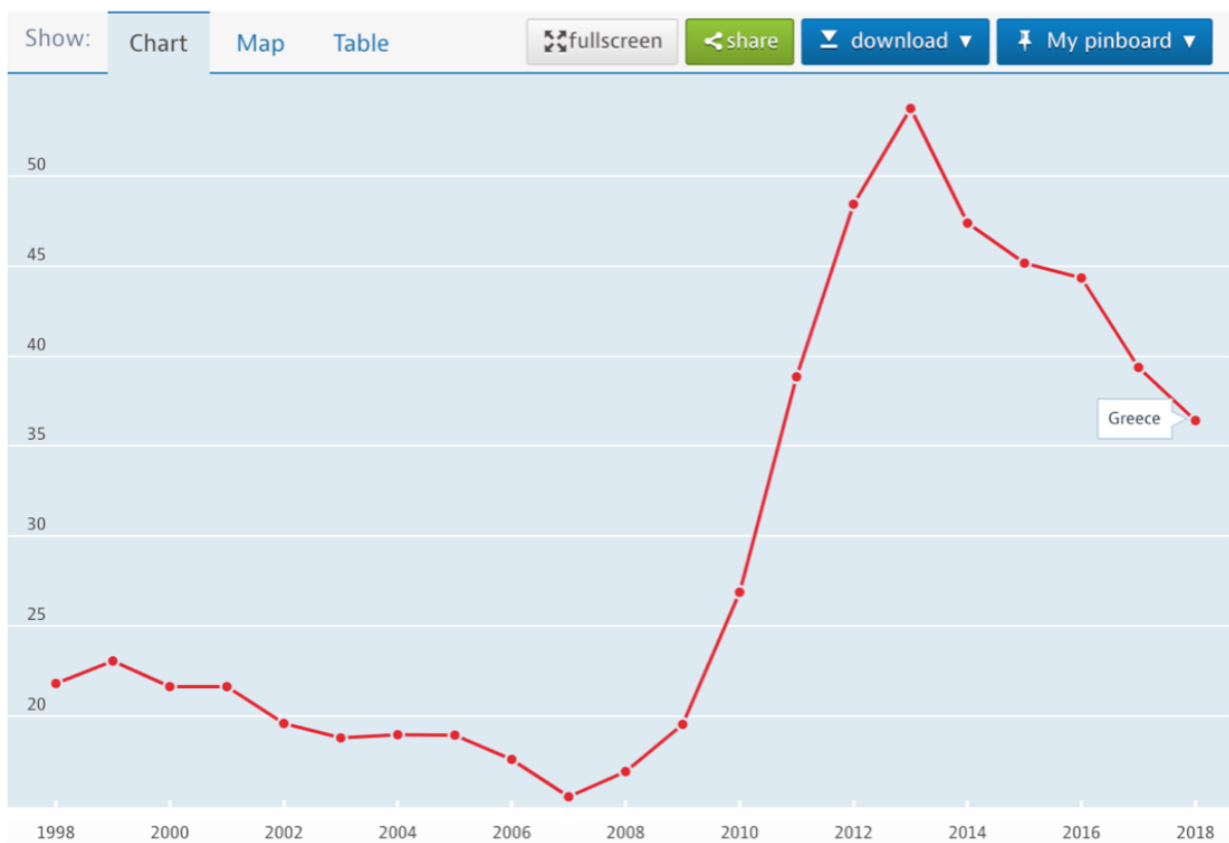


Source: Labor Market Statistics

For more insight on the unemployed people categories, we are going to look at the unemployed youth in Greece, ages 15-24 for males and females. Looking at the following

graph for the males we can see a higher than the general population percentage of youth who are unemployed because some of the workforce in this category is still supported by their parents and as a result, they haven't necessarily looked for a job just yet, but the numbers are still high. In 1998 we see the rise of this rate which at the time was 21.8%, in 2000 it was 21.6%, then it reached 19.6% in 2002.

Youth unemployment rate Men, % of youth labour force, 1998 – 2018

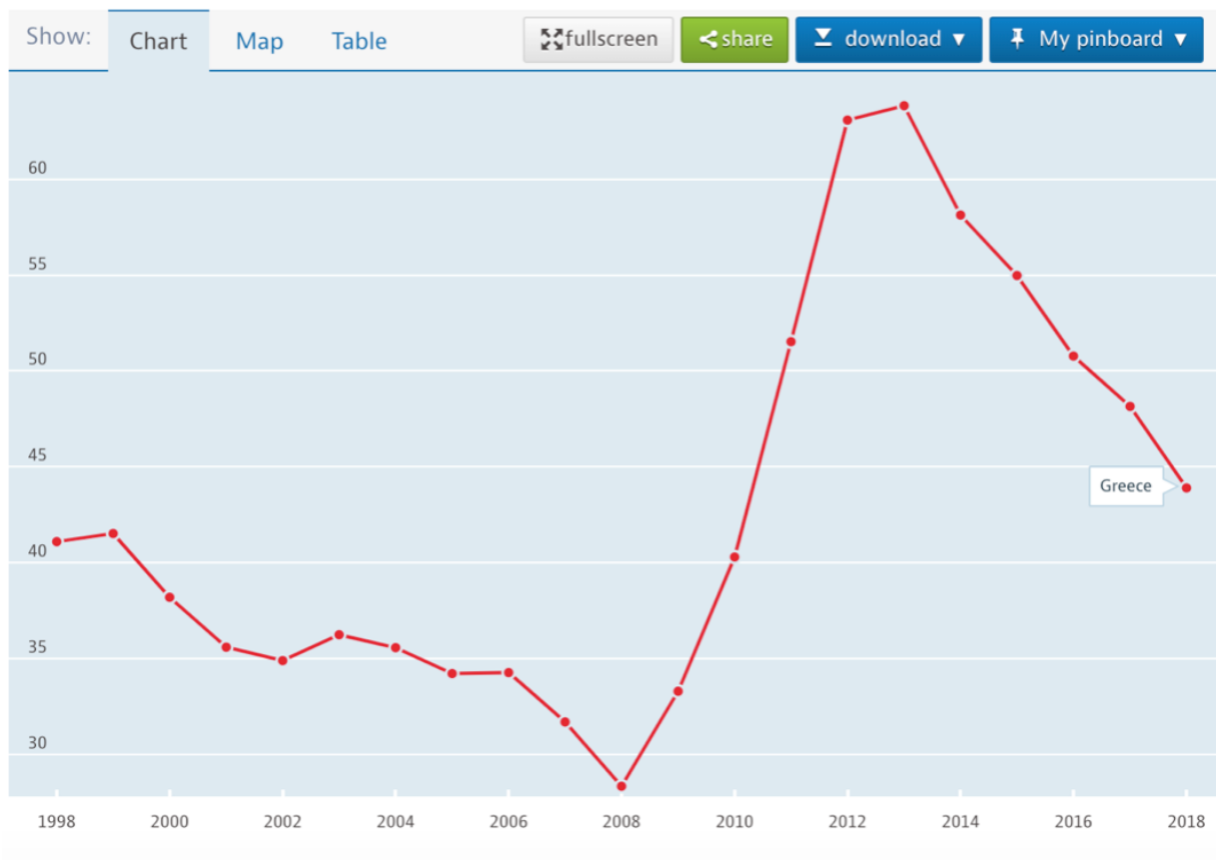


Source: Labor Market Statistics

In the young female workforce we can see that we have a different ballpark of unemployment rates. The rate of all the years in this graph is steadily above 35% which

means that 35% of all young females are unemployed, comparing males and females thus we see that we have a difference of almost 20% in unemployment. OECD data show, that in 1996 there was a 41.8% unemployment rate, higher than the average for all unemployment, then as years go by we have a spike in 1999 with 41.3% and then we can see a significant drop in the beginning of the 2000s down to 34.6%.

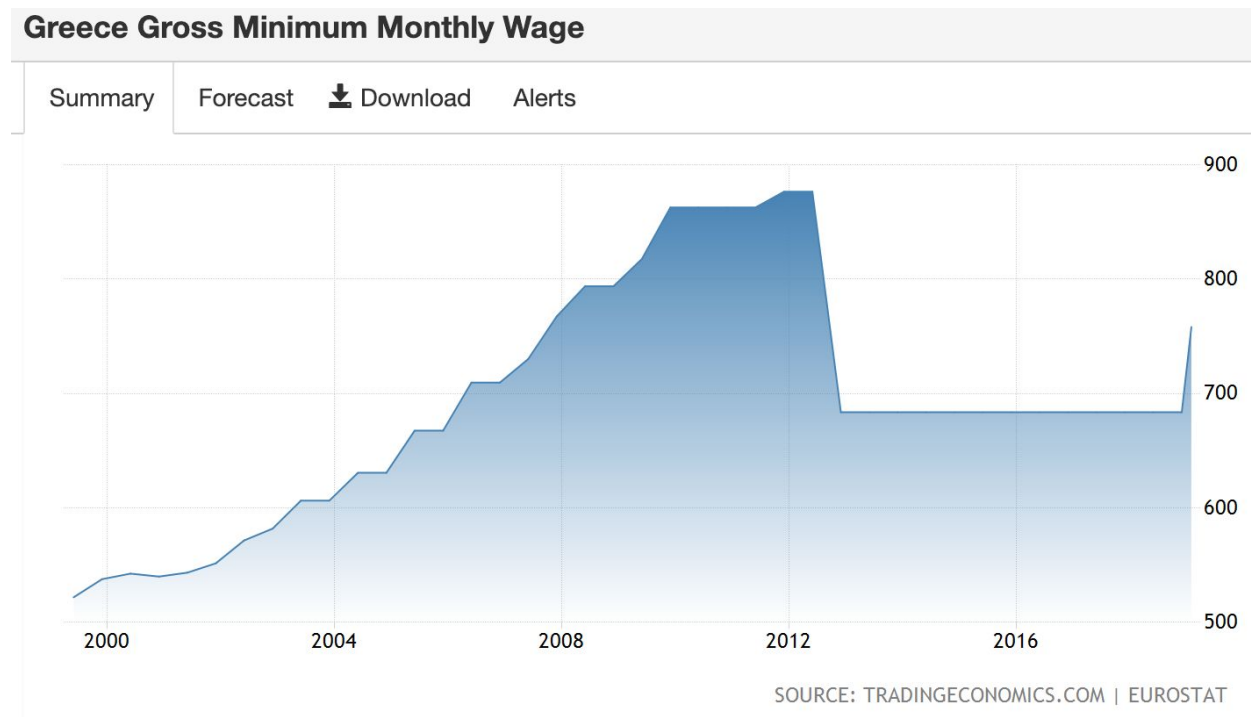
Youth unemployment rate Women, % of youth labour force, 1998 – 2018



Source: Labor Market Statistics

Before the crisis and before Greece entered the Euro, minimum wages were considered good for the people of Greece compared to the other EU countries. During the year 1999

the minimum monthly wage in Greece 520 euros, in 2000 the minimum monthly wage was 540 euros while at the same time in 2001 it was at 525 euros. Finally in 2002 the wage was 555 euros. The diagram below illustrates the minimum monthly wage in US dollars so we can have a better understanding of the numbers.



2.4 Post Eurozone Entrance and Pro 2008 Crisis Greece

When Greece finally joined the Eurozone in 2002, it had high hopes that all the positives of joining a common currency would help Greece advance and grow as a country. The people of Greece were very happy to join the common currency and the

public support was overwhelming. Recollecting the moment when the then Greek Prime Minister Kostas Simitis withdrew the first Greek Euro banknotes, many people cheered for the big change but not all of them. There were some people who were skeptical and as it is proven, they were correct to some extent. After its entrance into the common currency, Greece experienced inflation which many people did not expect. Some people were quick to assume that the higher than normal inflation had something to do with the change in currency and they started condemning the government for this situation. They supported that the miscommunication of the buyers and the sellers in Greece, which was a country with more complex conversion rates than other countries, made the transition from the drachma to the euro more turbulent than estimated. “It is, however, reasonable to say that the areas marked by more rapid inflation surrounding the adoption of the euro had a high degree of flexibility in determining prices under the new currency.” (Pelagidis, 2006) As a result, some products became more expensive to the Greeks, and although the overall inflation was not something that was threatening Greece, the individual incidents with some products raised some eyebrows.

The table below shows the inflation that Greek products underwent in the years after the currency change. We see some goods having a big increase in prices, for example goods that are controlled by the government such as taxi fares or ferry fares went up, water and hospital stays went up, but also the prices that are determined from the market car services went up, books and newspapers also went up.

	<u>March 2002</u>	<u>March 2003</u>
<u>Prices determined by the State</u>		
Water/Sewage	3,1%	4,1%
Electricity	4,4%	3,9%
Medical services	4,9%	5,7%
Hospital stays	4,5%	4,4%
Hotel expenditures	12,7%	5,3%
Airline tickets	12,2%	0,0%
Taxi fares	0,0%	8,0%
Ferry tickets	6,1%	26,9%
Tuition fees	3,6%	4,5%
<u>Prices determined by the market</u>		
Take-away food	6,7%	3,8%
Books and Newspapers	3,7%	4,0%
Served beverages	8,4%	5,0%
Haircuts	11,0%	7,9%
Car services	3,2%	7,2%
<i>Source: Alpha Bank (2003), Economic Bulletin No 86.</i>		

In the table below we have the CPI sub-indices inflation in percentage and we can see the increase per year. It shows the increase in inflation from 2000 to 2005 in specific sectors such as food-beverages, housing, health, telecommunications etc., in which, we can see increase in education and hotels and services.

Table 3
CPI Sub-indices Inflation (%)

	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
General Index	3,2	3,4	3,6	3,5	2,9
Food-Beverages	1,9	5,1	5,3	5,0	0,5
Alcohol/Tobacco	2,8	7,6	7,2	4,2	4,6
Garment-Footwear	2,1	3,3	3,6	2,0	4,1
Housing	6,1	1,8	3,3	4,4	4,8
Durable goods	1,0	2,3	1,6	2,0	1,6
Health	3,3	2,9	4,7	4,3	4,6
Transportation	6,4	1,1	0,8	3,0	3,5
Telecommunications	-10,5	-0,8	-4,6	-4,2	-4,3
Leisure and recreation	1,3	3,5	3,3	2,9	2,8
Education	3,2	3,6	3,9	4,5	4,4
Hotels, cafes & Restaurants	4,7	4,6	6,7	4,8	4,2
Other goods and services	2,2	4,9	3,6	3,2	2,2

Source: National Statistical Service of Greece (NSSG), various issues.

The switch of the currency from the drachma to the euro brought changes in the minimum wage too. There was slower growth in the minimum wages than the predicted one. The data obtained by the Bank of Greece and General Statistical Service of Greece show the minimum daily and monthly wage increase from 2000 to 2005 for Greece's blue and white collars, and for the monthly salary average in the European Union. The differences are visible. In the year 2000 the minimum average monthly salary for Greece, was 461.5 euros, while for the EU in 2000 the same salary was 848.6 euros. As we can

see, the wage of the Greeks is almost half as the wage of the rest of the European nations. In 2005, despite the fact that we see increases in wages in both the Greek minimum wages and in the European minimum wages we still see a very big gap between the EU and Greece. In 2005 the Greek wage was 579 euros and the EU wage was 1019.6 euros. “Equally troubling is that to obtain the same goods, an average Greek must work 92% more than an average German worker by some measures.” (Pelagidis 2006).

At the same time, between 2001 and 2006 unemployment was constantly going up and down between 11.5% and 9.0%. The unemployment trend was still strong because people were not able to be trained for the right skill that needed to be fulfilled, but also the fact that jobs had become more difficult to get, made unemployment increase more. There was a point between these years that unemployment reached low levels and that was the two years before the Olympic Games. Greek people overtaken by the magic of the Olympic Games and the fact that the Games came back home wanted to make the best games ever, so they set out to construct the best buildings and facilities in the world. That brought people who were unemployed back to work in constructions and stadiums, as facilities were built from scratch to get Athens and other cities ready to host the magic of the 2004 Olympic Games. One project that was very important for the Olympic Games was the extension of the Athenian metro. In 2000 two new lines were built so people could move around Athens faster and more efficiently. This project brought a lot of jobs to people who were unemployed.

From data taken from OECD (look at graph page 38) we can note the unemployment rate between 2001 and 2006 where we see a roller coaster of unemployment. In 2002 it goes up to 11.5% then in 2003 we see a downward slope in the unemployment rate because of the people that were required to work on the constructions for the Olympic Games. Then after 2004 we see a small rise again to over 11%, and then leading to 2006 we see a drop to 9.5%. Remember that we are close to the crisis of 2009 but we are not there quite yet, and we still have some years of stable economic conditions ahead of us until we get to the crisis.

At the same time youth unemployment levels in Greece are still very high for both young males and young females (see page 39,40). Looking at data obtained by OECD on the unemployment of the youth, ages 15-24, Greece's youth unemployment in 2001 was 27.6 % before joining the Eurozone and when the common currency kicked in we can see a 2% drop in the rate, which partly can be attributed, as said before, to the constructions of the Olympics. After 2003, we see a stable rate with a small drop at the end of 2005 and in the beginning of 2006 we see a drop to under 25%.

Moving forward, things looked good for Greece the years after the initial fall back from joining the Eurozone. Inflation started declining, there was a rise in the minimum wage and unemployment was at a twenty-year low for both the total population, but also the youth population as seen before. We now enter a different time period, a period where the rapid change in world economic events brought a rapid change in Greek reality. It

went from a time of prosperity and economic growth, to a time of decline and economic devastation. In 2008 the world stopped and the worst economic crisis since the 1929 great depression arrived on the world economic scene. A mixture of poor choices by the banks, a loose monetary policy by the governments and the excessive trust of the of investors and regulators in the rating agencies brought much confusion when the actual crisis hit because the assessment that they had performed was incorrect and the institutions that were previously assessed as good, were now bankrupt. (Coval et al 2009)

It all started with the housing market, from 2002 to 2007, the housing prices were going up to unprecedented levels. This phenomenon occurred mainly in the USA where prices went up a staggering 11% per year for the years spanning 2002 to 2006 (Acharya, Richardson 2009). The problem with the housing prices going up was that people wanted to get mortgages in order to obtain the houses they wanted. That led to banks giving out mortgages without checking if the people that were given these mortgages were able to pay the banks back. As you can understand that was a problem for the banks. Another reason that banks bungled was the fact that rating agencies were not very careful with rating mortgages, they rated out of interest and not out of duty to the investors. This led to the mortgages being riskier than the rating agencies portrayed them to be. As a result the possibility of an investment to be lost was greater and that is what happened during the crisis. “Finally, opaquely structured securitized mortgages were rubber- stamped as “AAA” by rating agencies due to modelling failures and, possibly, conflicts of interest, as

the rating agencies may have been more interested in generating fees than doing careful risk assessment” (Acharya, Richardson 2009).

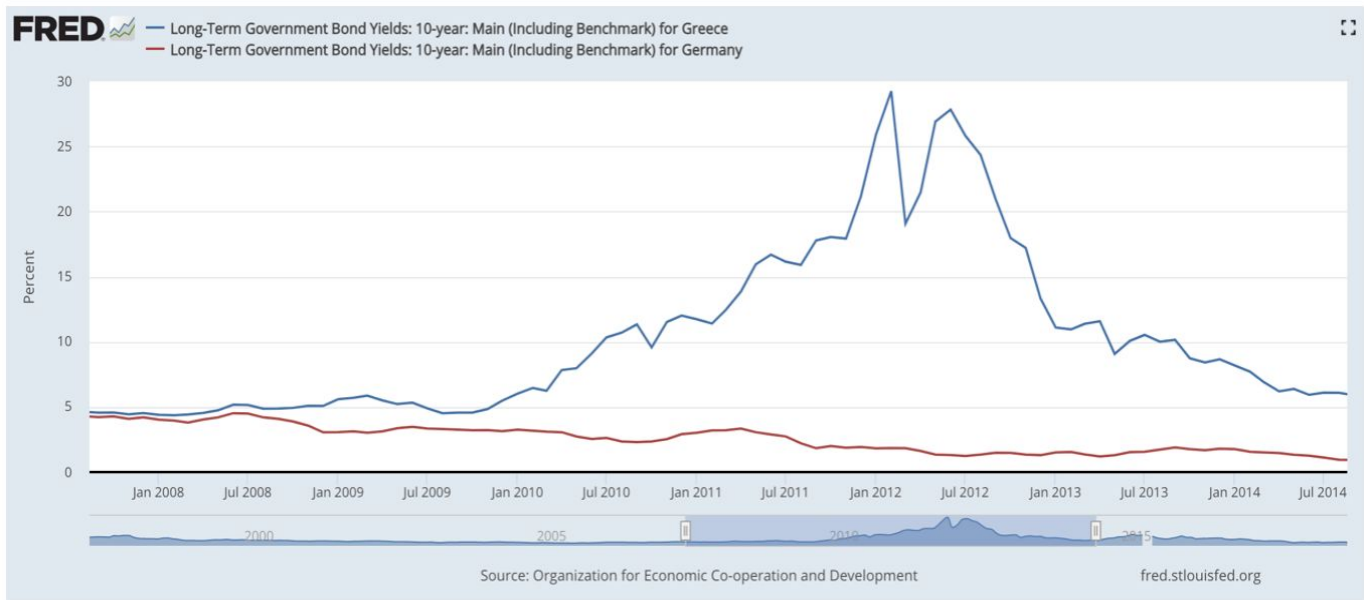
Despite these problems, the banks could have regained their strength back from their losses but one more very important mistake made the results that we see today inevitable. Banks turned mortgages into mortgage-backed securities due securitization, which is when an issuer creates assets that can be traded by putting together financial assets and then resell it to investors, so they could take them out of their balance sheets because according to the Bank for International Settlements’ Basel Committee on Banking Supervision the banks should have an 8% capital buffer against a risk-adjusted measure of their assets. By doing this the banks could still give out loans without having much capital surrounding them. The main purpose of securitization is to distribute the credit risk around to the investors so it can be minimized, instead, they chose to concentrate credit risk around the financial institutions. After 2002 the banks used a different tactic of securitization, they chose to not only use mortgages but to extend pension funds, hedge funds, etc. This lead to separation of the assets to sectors with different levels of risk. There, the investors could ask for higher interest depending on the risk that their investment had. The result was that, when the housing bubble burst in 2008 and the borrowers did not have money to pay their mortgages, the bank could not pay back the investors who lost their money due to the wrong securitization that the banks had

implemented and that led to the illiquidity of banks. (Acharya, Richardson 2009). (Rose, Spiegel 2012).

Thus, when the crisis arrived in 2009 the markets were in a state of panic and suspicion. They were very skeptical of every investment and every move they were going to take in order to secure profitability and returns which was the trend of the crisis. In this high state of global economic uncertainty, Greece comes in. The problem of Greece was just like the other EU countries' problems: there was overspending, people took loans that could not be repaid, "red loans" but at the same time there was another parameter to the problem. When Greece was in the middle of the crisis, given the financial history of the country, the markets believed that Greece was not able to pay back its debt to its lenders. That as a result, allowed investors who were buying bonds from Greece to buy them very cheaply and with high interest rates. This was devastating for Greece because it meant that the bonds lost a lot of their value during the crisis and when they matured Greece would not be able to pay them. All this, plus the fact that Greece's debt was an enormous amount of GDP close to 120%, brought the Greeks to their knees, and in 2010 Prime Minister Papandreou requested financial help from the IMF.

On the graph below in the data obtained from FRED we can see the difference between the 10-year government bonds of Greece and the 10-year government bonds of Germany, or as we call it in Greece, the "spreads." We can see the big difference between the two countries after 2009, where Germany is actually declining as the years go by and

we can see it going under 3.4 to 2.6 and then all the way down to 1.30 in January of 2013. Germany's highest point when the crisis actually started was 4.52 in June of 2008, right at the beginning of the crisis. For Greece now, the situation is totally different, it started in 2008 with 4.8 and since June 2009 it started increasing unexpectedly. In July 2010 it was 10.70, in July 2011 it was 16.15 while in January 2012 it would reach its highest point 29.24, an almost 30 point difference with Germany. It would then enjoy another high point in July of that year after a significant 10 point drop between January and July 2012 and as we go towards 2013 and 2014 it would go down to 6.10 in July of 2014.



(FRED database 2019)

We can see in the graph below of debt to GDP, Greece's debt has been increasing for a long time. It really started taking off in the 1980s and by the mid 1990s it was almost

100% of GDP, then in the beginning of the 2000s it started in rising. In 2006 was 103.6% of GDP. When the crisis came the debt rose to unsustainable levels looking at 172% of GDP in 2013. In data from ELSTAT we can see the exponential increase.

Greece Government Debt to GDP

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SOURCE: TRADINGECONOMICS.COM | NATIONAL STATISTICAL SERVICE OF GREECE

2.5 After 2008 Crisis Greece

After the crisis hit Greece, the people felt its effects pretty quickly. Cuts in wages, pensions, increased prices of products and a big increase in the unemployment were just a few of the consequences of the economic crisis. People's reality changed forever, and the

data that have been coming in over the years showing the magnitude of the damage are shocking. The biggest problem for Greeks was unemployment. It is a problem that most small countries faced during this crisis but for the reasons I talked about before, Greece's unemployment problem is one of great significance. The government of Georgios Papandreou at the time unveiled the problem of the debt of Greece to the world and in 2010 he decided to turn to the IMF for help. This led to nine years of torment for Greek society because of the severe austerity measures that were taken by the governments due to the memorandums of understanding that the Greek governments over the years signed with the EU and the IMF so that financial help could be given to Greece in order to pay its loans and recover from the crisis.

According to a Greek newspaper *Naftemporiki* (Kakouris 2013) the first memorandum which was supposed to last from 2010 to 2013 featured very harsh measures for the Greek economy. If they completed their end of the bargain they would be given a collective amount of 110 billion euros which included 80 billion euros from the EU and 30 billion euros from the IMF to pay their day to day obligations. In return Greece would have to apply to their economy a series of measures that mostly targeted the people of Greece, and I will refer to those measures as "austerity" measures. The first memorandum required Greece to make significant cuts in wages, pensions, government spending and significant tax increases regardless of whether the people who would shoulder these tax increases could pay or not. As the newspaper says, "Memorandum

One predicted austerity measures worth 9% of GDP of Greece for the first year, 2010, translating to 20 billion euros. The second year, 2011, they required measures worth 4% of GDP, 10 billion euros, and for 2012 and 2013 they required measures worth 2% of GDP, 5 billion euros.”

The problem was that the estimations of the IMF and the EU were far from correct because the measures that were taken were aimed towards the viability of the Greek debt and less for the growth of the economy. The fact that the Greek GDP took a huge hit and was declining made the estimations of the two lenders impossible to be correct, and this brought as a result the addition of more memorandums in the future. Unemployment was one more sector that Memorandum One had not estimated correctly. The predictions made by the IMF and the EU forecasted very little increases in the percentages of unemployment but the reality was way different than what they predicted. Just to show the difference between the predictions and the actual percentages all we need to consider is the predicted percentage for 2012 which was 14.6% but in reality ELSTAT, the Greek statistical service, recorded a percentage of 24.2%. In the second trimester of 2012 this translates to 806.803 people and all of them were added to the “unemployed” category. The General Confederation of Greece’s Workers or GSEE in an economic review in 2013 said that the total amount of people that lost their job during the second trimester of 2012 reached 1.350.000 people. That included all ages, although their report made a special

reference to youth unemployment which represented 23% of the total number of unemployed or 310.200 people. (Katsoridas 2013)

The GSEE table below containing data obtained by ELSTAT show youth unemployment percentages in 2008 and 2013. The first column in all three tables states the ages of the people who are unemployed and the last row of the first column gives the final number of unemployed of all ages. The second column in all 3 tables is the total of unemployed in a specific category, the third column is the number of people who have worked in the past, the fourth column is the amount of people who have just entered the job market and the last column talks about the people who are in the job market more than 12 months. The last table has the same columns and rows as the previous two but it shows the difference between 2008 and 2013. We can see that in these six years 277.737 young people have lost their jobs and 993.292 people of all ages have lost their jobs.

2.5.1 Poverty and its Effects

As I stated at the beginning of the project there are consequences arising from the problem of unemployment, and I explored the economic aspect of unemployment. Now I would like to examine the psychological effects of unemployment. Unemployment is a very serious problem for a person, and as we know, time does not stop for anyone and especially for people who have problems such as unemployment. They are required to satisfy their financial obligations no matter what their economic situation, and this

naturally brings stress and anxiety to the individual who is preoccupied thinking about all the ways they can fulfil them. To begin with, the American Public Health Association (APHA) stated that “unemployment is considered a stressful event which has the potential for affecting mortality and/or morbidity whether one is examining national trends in health and death rates (macro) or specific changes in selected individuals over time (micro).” (Linn 1985)

The association performed a research with men who became unemployed and men who were employed in an effort to measure some specific characteristics such as depression, anxiety, life satisfaction, and self-esteem in both groups. The results of this research came back as expected: men who are unemployed have higher levels of depression, lower self-esteem, higher levels of anxiety, etc. than the ones who are employed. Bodily reactions are closely related with the psychological state of the unemployed individual which is why in the research we see many of the participants experiencing bodily reactions such as loss of appetite and sleep. “Being unemployed without a primary source of income would be expected to produce anxiety and depression. Further, the increased depression, often manifested by physical symptoms of loss of appetite, sleep, and sexual interests, could account for more worry over physical symptoms as expressed by increased somatization and unfavourable self-health assessments that were observed in the unemployed.”(Linn 1985) Self-esteem is one very important factor for the individual as it is an incentive that drives most men to being more

confident and believing in their own powers and capabilities. “Loss of work would be expected to affect self-esteem. Not having work could limit the person's chances for feelings of achievement, accomplishment, and satisfaction and could increase guilt about failure to provide for one's family.” (Linn 1985)

One of the feelings that the unemployed person has is shame, because he does not have a job to support himself financially. Ultimately, if he does not stop being unemployed he will end up living in poverty and here we see a connection between unemployment and poverty. Acquiring commodities and displaying them in public shows a form of self-justification and self-esteem in many societies, and it is considered “shame” in these societies if people do not possess these commodities. Amartya Sen, uses the example of ancient Greeks and ancient Romans who did not care if they did not have linen shirts to walk in public, but fast forward today they feel “ashamed” to walk around without a linen shirt. Correspondingly, the more prosperous the society, the more intense is the feeling of shame for the individual. People do not want to be seen as “poor”, as they consider it shameful and they must avoid it at any cost. “In the commodity space, therefore, escape from poverty in the form of avoiding shame requires a varying collection of commodities - and it is this collection and the resources needed for it that happen to be relative vis-a-vis the situations of others.” (Sen 1983)

Traditionally, Greeks are considered proud people and they do not show their emotions to people. Therefore if someone in Greek society has financial problems they

usually will not show it until it has gotten very bad for them, meaning they are not able to provide the basics for their family, such as food and shelter. Many people seek help from local organizations so they can fight poverty, as the financial crisis resulted in high levels of unemployment and many people saw their household incomes being either cut or disappear. Poverty levels in Greece during the crisis raised dramatically. Many people found shelter in the Greek Orthodox Church that provided a place to stay for many people who lost their homes or did not have any food to eat. In the Greek newspaper Kathimerini (Lakasas 2015) an article from 2014 talks about the help that the church provides to the poor at the peak of the financial crisis. In 2014 the Church of Greece spent 121,464,273 euros in philanthropic service in comparison with 2010 when it spent 96,234,510 euros, an increase of 25,229,763 euros in four years. The numbers are amazing, as the newspaper reports the church offered, “280 rations per day where lunch and dinner are provided for 499,091 people. Also there are 150 grocery stores which work entirely on donations from people, that contain food, medicine, clothes etc. and from their existence 75,588 people are benefitting. The church gifts 1,303 scholarships and financial support to families but also, there are 3,502 people that are being helped in their house by people who are employed by the church.”

In the 2017 report from ELSTAT about poverty we see the graph below, that shows the amount of people who are very close to the poverty line or social exclusion. We have data from 2005 and from 2008 to 2017. In 2009 the percentage was 27.6% and when the

crisis really hit it reached 36.0% in 2014. In 2017 there was a small drop of 1.2% to 34.8% which is the equivalent of 3,701,800 people. In the same report it was stated that for the population ages 18-64 years old for Greeks the percentage is 36.2 and for foreigners is 62.9%.

Many people who lost their job and were in a very difficult financial situation were calm enough to use every resource they could in order for them and their families to survive the crisis. Despite that, some people did not have the necessary composure to fight back in those times of financial disarray. As previously mentioned, many people chose to go to numerous institutions to help them to recover or just make it through the day, however some accepted that there is no hope on the horizon for them, among them many people with families. These people chose to commit suicide and leave this world for something higher than their existence. In his scientific report written in 2018 Professor Fountoulakis who teaches in the 3rd Department of Psychiatry, School of Medicine, Aristotle University of Thessaloniki talks about the amount of people who committed suicide in Greece from 2000 until 2015. The data are taken by ELSTAT and they show exponentially growing suicide rates. His table is also looking at some economic indicators which shape Greece's economy such as the unemployment rate, the national growth rate, etc. In a second graph he goes on to show the amount of suicides committed by different age groups for both men and women for the years 2000 until 2015. (Fountoulakis, 2018)

Table 1
Suicide rates and economic variables in Greece 2000–2015.

year	N of suicides			Suicide rate per 100,000 inhabitants			Economic variables			
	total	males	females	total	males	females	National unemployment rate	National growth rate (in constant 2010 prices)	GDP (per capita at market prices)	Inflation
2000	382	298	84	3.50	5.51	1.52	11.35	3.8	13,071	3.20
2001	334	286	48	3.08	5.37	0.87	10.79	4.2	14,011	3.40
2002	323	257	66	2.97	4.78	1.20	10.35	3.4	14,994	3.60
2003	375	306	69	3.44	5.67	1.25	9.79	5.8	16,371	3.50
2004	353	285	68	3.23	5.27	1.23	10.59	5.1	17,683	2.90
2005	400	321	79	3.65	5.92	1.42	9.99	0.6	18,134	3.50
2006	402	330	72	3.65	6.07	1.29	9.00	5.7	19,769	3.20
2007	328	268	60	2.97	4.92	1.07	8.39	3.3	21,061	2.90
2008	373	308	65	3.37	5.65	1.16	7.75	-0.3	21,845	4.20
2009	391	333	58	3.52	6.10	1.03	9.61	-4.3	21,386	1.21
2010	377	336	41	3.39	6.15	0.72	12.71	-5.5	20,324	4.71
2011	477	393	84	4.29	7.21	1.48	17.86	-9.1	18,643	3.33
2012	508	417	91	4.58	7.69	1.61	24.43	-7.3	17,311	1.50
2013	533	425	108	4.84	7.92	1.92	27.46	-3.2	16,475	-0.9
2014	565	450	115	5.17	8.47	2.05	26.49	0.4	16,402	-1.3
2015	529	422	107	4.87	8.01	1.91	24.89	-0.2	16,294	-1.7

Source: Hellenic Statistical Authority and Fountoulakis 2018

In a second graph he goes on to show the amount of suicides committed by different age groups for both men and women for the years 2000 until 2015, in which we can see that the people who commit suicides are mostly from the ages of 45 to 59. This is logical because this is when people are closer to the end of their working life and they are getting ready to retire. If they lose their job at this age they are not able to find a new one and so the problems start.

Table 2

Suicide rates by gender and age group in Greece 2000–2015 (per 100,000 inhabitants of the age group). In bold are the rates reduced since previous year. †

	year	N	Rates per 10 ⁵ by age group																
			0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	85+
Males	2000	298	0.00	0.64	3.11	4.34	7.61	5.50	6.66	6.51	5.41	8.02	6.17	7.00	7.31	9.09	8.25	11.21	15.69
	2001	286	0.00	0.71	1.99	3.65	6.25	4.36	7.87	7.73	5.81	6.67	9.28	4.64	6.77	9.92	9.34	13.77	6.42
	2002	257	0.00	0.00	2.73	3.76	4.16	3.68	4.87	4.29	7.24	4.88	6.59	7.50	7.47	10.68	11.85	8.13	11.21
	2003	306	0.00	0.00	1.72	4.22	4.38	6.21	5.49	8.24	9.73	9.46	8.61	7.05	7.82	7.28	8.23	10.05	14.24
	2004	285	0.00	0.65	1.77	3.79	4.58	6.24	4.37	7.17	7.86	5.79	7.05	5.73	9.29	4.80	11.67	15.93	16.02
	2005	321	0.00	0.67	1.51	3.15	5.91	4.40	8.52	6.61	6.34	8.18	6.30	6.93	7.94	11.93	10.57	18.22	24.45
	2006	330	0.00	0.00	0.92	4.50	5.85	5.57	6.75	7.33	9.56	7.16	8.77	7.15	6.25	7.55	15.31	19.93	12.58
	2007	268	0.00	0.35	1.87	3.40	6.12	4.62	3.93	9.26	6.76	6.76	6.89	5.41	6.05	8.71	4.98	6.13	10.90
	2008	308	0.00	0.00	0.94	3.32	6.17	5.78	6.25	6.27	9.65	7.84	7.19	6.55	5.87	5.52	13.12	13.18	15.99
	2009	333	0.00	0.00	1.62	3.45	4.88	8.05	6.51	5.36	10.16	11.96	7.81	9.32	6.42	4.72	9.06	14.66	14.23
	2010	336	0.00	0.00	1.33	3.26	4.33	8.04	5.37	6.43	9.07	12.30	8.38	8.49	6.04	6.71	7.06	18.14	18.61
	2011	393	0.00	0.00	2.05	4.27	6.83	6.22	7.77	7.53	11.11	13.87	11.93	11.04	7.09	7.60	9.33	13.80	14.02
	2012	417	0.00	0.00	1.41	6.22	4.31	7.04	7.82	13.42	10.49	10.26	12.12	10.41	7.22	10.72	13.96	12.71	14.91
	2013	425	0.00	0.00	2.52	5.71	7.90	6.75	6.50	8.14	13.23	11.14	15.73	12.43	8.42	12.00	9.29	11.70	13.95
	2014	450	0.00	0.37	2.53	6.96	4.68	6.76	5.35	11.95	12.77	12.38	14.37	11.83	12.44	10.59	13.00	15.25	17.42
2015	422	0.00	0.00	1.46	5.47	6.85	6.59	6.38	7.91	12.59	11.06	14.53	11.48	12.24	8.88	13.97	12.54	16.89	
Females	2000	84	0.00	0.00	2.00	0.75	1.22	2.12	1.28	1.28	0.57	3.74	0.68	3.22	1.23	2.06	3.79	2.69	2.24
	2001	48	0.00	0.37	0.30	0.25	0.47	0.70	1.30	1.58	0.57	1.74	1.74	0.30	0.60	0.99	1.97	1.70	3.57
	2002	66	0.00	0.00	0.60	0.51	1.48	1.17	0.51	1.31	2.29	0.60	1.02	2.29	2.21	2.12	1.89	1.57	4.13
	2003	69	0.00	0.67	0.31	1.54	0.25	2.37	1.74	1.04	1.97	1.80	1.61	1.03	2.83	1.04	1.34	0.76	0.83
	2004	68	0.00	0.00	0.64	0.00	0.99	1.92	1.70	2.06	1.10	1.50	0.93	1.43	3.76	2.75	0.43	1.46	0.00
	2005	79	0.00	0.00	1.29	1.34	1.48	1.93	1.90	3.09	1.87	0.30	1.82	0.73	2.53	0.34	2.05	2.09	2.48
	2006	72	0.00	0.36	0.98	0.28	1.23	1.70	0.70	1.54	2.11	2.92	1.81	2.85	0.97	0.67	1.60	1.95	1.63
	2007	60	0.00	0.00	0.99	0.58	2.22	0.73	1.16	0.76	1.56	1.71	0.30	1.36	0.67	1.66	1.58	2.40	2.40
	2008	65	0.00	0.00	0.00	0.00	0.74	1.21	1.41	2.22	2.83	2.52	0.60	1.62	1.05	1.31	1.93	1.14	0.79
	2009	58	0.00	0.00	0.34	0.31	1.51	1.21	1.42	1.20	1.53	0.82	1.80	0.31	2.17	0.98	1.14	2.68	0.77
	2010	41	0.00	0.00	0.70	0.63	0.78	0.72	0.95	1.41	0.26	0.80	0.59	0.30	1.83	0.98	0.74	1.54	0.74
	2011	84	0.00	0.00	1.79	1.91	1.36	2.17	2.87	1.39	1.78	1.05	1.46	1.50	0.36	1.67	2.56	1.98	2.10
	2012	91	0.00	0.38	1.46	0.98	1.72	2.20	2.17	1.85	1.26	1.56	2.28	2.11	1.72	2.07	2.17	1.95	2.57
	2013	108	0.00	0.38	0.00	1.32	2.14	2.99	2.19	2.11	2.47	2.32	3.10	3.02	3.61	0.72	3.24	0.48	1.83
	2014	115	0.00	0.00	0.75	1.72	1.91	1.54	2.19	3.58	2.67	1.80	4.41	2.12	2.53	1.13	2.15	2.34	5.14
2015	107	0.00	0.00	0.76	0.35	1.31	3.49	2.46	2.17	1.90	2.32	2.97	4.21	2.48	2.29	1.08	0.92	3.79	

Source: Hellenic Statistical Authority and Fountoulakis 2018

From the data above we can conclude that during the times of crisis there was an increase in suicides for both men and women. It appears that men had 4 times higher percentages of suicides than women, this can be explained by looking at the form of Greece's society. Traditionally in Greece, men are those who are responsible to bring income to the household, and they are also considered the protectors of the family. Given the fact that in many Greek households men are the only ones who work in order to provide for their family, when they lose their jobs and are unable to help their loved ones,

under this kind of psychological pressure, they are the ones that commit suicide. In an article published in the Greek newspaper *Eleftherotypia*, which talks about the amount of people that committed suicide because of the financial crisis, featured are some of the suicide notes that people left to their families before they took their life. Characteristically, one note left by a 53 year old man states, “We are going into a winter that will last years. Better have a horrible ending rather than horror without an ending... I don’t have money to even pay my rent. How can you think with an empty stomach? I am in quicksand.” One can obviously appreciate the devastating results of unemployment to people and more specifically to Greeks during those tough times. (Linardou 2013)

After the first memorandum, Greece signed two more memorandums with about the same demands, austerity measures that had the goal of saving Greece from financial breakdown and bankruptcy. The temporary government of the technocrat Lucas Papadimos signed the second memorandum and when the leading party formed a government it was in the hands of the new Prime Minister Antonis Samaras to implement it. In 2015, following elections a new leading party rose and for the first time Greece voted a leftist government to govern the country. Just like its predecessors, the Prime Minister Alexis Tsipras signed the third memorandum of financial assistance to the Greek government. After Tsipras took over, the situation in Greece started to improve, and growth was on the way for the Greeks who had sacrificed and still sacrifice a lot through the years.

Memorandum Three was the last memorandum that the Greek government signed, and in it were austerity measures worth 11 billion euros. Greece exited the financial assistance program in July 2018, although many economists say that the country will not be entirely free from its European counterparts' economic watch as the EU and the IMF will be closely monitoring Greece's economic performance in the coming years. Today, we have very little recovery from the effects of the austerity measures but many economists are optimistic that we can reach the pre-crisis levels of growth in the years to come. Good signs are shown on the horizon for the Greeks, as in the beginning of April 2019 the Greek 10-year bond yield fell from 3.71% to 3.69% marking a 13-year low. An article by Bloomberg mentions that the Greek government is trying to repay some of the money owed to the IMF earlier than planned, and this will boost trust towards the Greek economy and most importantly it will contribute to the general feeling of growth in the country. (Nikas, Dendrinou 2019)

Chapter 3: Greece's Recovery

Now, in 2019, Greece has reached a period of growth, which can be attributed to many sectors of its economy, including trade, tourism, agriculture etc., that are all starting to run better and smoother. This is something much needed after the terrible effects of the austerity measures that traumatized the Greeks for a long time. The current government of SYRIZA and the prime minister Alexis Tsipras have had to do a lot of legwork or

campaigning to convince the people of Greece that growth is on its way and that they would soon see many good results. That is partly true but the most recent reports show that it will not be an easy task, more specifically the debt to GDP is still very high, 181.78% and that is something that potential investors who might want to acquire Greek published bonds will look at very closely. Despite that, other factors in the Greek economy seem to be recovering, for example unemployment. Recent reports show that unemployment in Greece has been reduced since 2015, more specifically we are talking about a 10% drop in general unemployment and a 12% drop in youth unemployment. Of course, it should be noted that the percentages are still very high for both general and youth unemployment, 18% and 39.2% according to ELSTAT. Nevertheless, many steps were taken towards the correct direction from the Greek government and that is visible simply by the results mentioned above. As such, my contribution to this project will be to see if the measures implemented by the Greek government are in fact working towards better results and to determine whether projections show a continuous drop of unemployment or whether the rate will stay at the levels that they are now. I will also try to find programs that promote additional measures for the reduction of the unemployment rate that the Greek government could implement for better results.

First, I would like to showcase the drop in the unemployment rate that has occurred the last five years in Greece. In the graph from OECD (look at page 38) showing data to the end of 2018, we can see the massive drop of 10 points that we talked about previously

In 2014 the unemployment rate was 27.3% and at the end of 2018 it decreased to 18.0%, something unimaginable for the Greek government. The same seems to apply to the youth unemployment rate for male and female. It is known that unemployment for the youth has been a big problem not just for Greece but most countries of the European Union. Greece, from what it seems, has done a good job with the reduction of youth unemployment, reducing the percentage from 56.7% down to 39.2% in a short time. The data from OECD shows the efforts of the Greek authorities. (see page 39,40)

But you will ask, how could we have such a substantial drop in such a small time frame ? What measures were taken by the Greek government and how did they contribute in the fight against unemployment? What was the role of the EU in this effort and what more can happen in the future? In the years prior to 2014 when unemployment started falling, Greece was not able to focus exclusively on programs which were directly aimed for the fight against unemployment. The most important objective of the governments handed out by Greece's lenders was to implement measures so the debt could be viable again. Those measures targeted wages, pensions and the public costs, and although there was a reduction in all three, at the same time they increased taxation. In 2015 as the second memorandum was coming to its end, the government renegotiated with the IMF and the EU and thus the third memorandum was lighter than the previous two. This left a small opening for the government to focus on the problem of unemployment in more detail.

In order for the government to reduce unemployment and to be able to foster economic growth there needs to be a combination of the following things: there needs to be jobs and money to finance them. Both of these are given by two organizations. Jobs are given by OAED which is the Manpower Employment Organization. This organization is responsible for recording the people who are unemployed, promoting employment, and training and advising people who want to get back into the workforce. The money to finance this is either given by the government or the EU growth programs. OAED is the mediator between the Greek government and the EU when it comes to funding for the reduction of unemployment. As stated in the organization's website, some of its responsibilities are:

- 1) Promoting employment with programs for reducing:
 - a) The cost of employment eg. wages.
 - b) The non-wage cost of employment through social contributions, easing the transition to employment, emphasizing the groups of people that are easily affected by unemployment.
- 2) Consulting services for people.
- 3) Promoting the value of adaptability of workers and businesses while holding the continuation of employment as its primary target.
- 4) Establishing schools of practical skills so the unemployed can be trained in specific skills with the ultimate goal to be employment. (OAED website)

Despite the fact that OAED, a Greek-run organization is responsible for all this in the Greek society, most of the funding comes from the European Union and the European Social Fund. When the crisis hit in 2008, the EU in order to help its member states, started offering programs of financing for the reduction of unemployment and the promotion of entrepreneurship. These programs helped many countries that were hit from the crisis like Greece to recover. Countries like Portugal, Spain and Ireland all took advantage of the EU growth programs and managed to stand on their feet. Greece just recently started to take full advantage of those programs in 2015. The biggest program that funds Greece is the NSRF, National Strategic Reference Framework or ESPA in the Greek language. ESPA is responsible for a very big part of Greece's growth through the last four years. The program does not only fund individual businesses which apply for funding, but it also gives money to the Greek government in order to fight unemployment through some domestic programs. There are five major funding projects for all 28 countries of the Union,

- 1) European Regional Development Fund (ERDF) – regional and urban development
- 2) European Social Fund (ESF) – social inclusion and good governance
- 3) Cohesion Fund (CF) – economic convergence by less-developed regions
- 4) European Agricultural Fund for Rural Development (EAFRD)
- 5) European Maritime and Fisheries Fund (EMFF)

(EU website)

These five programs are the main source of financing by the EU as listed in the EU website under funding grants. As you can see the programs cover a vast majority of sectors for a country's growth, from social governance to maritime funding. The funding program that the Greek government is using to combat unemployment is ESF. ESF contains the NSRF program that was mentioned above, and it was offered twice in the last 11 years. It was initially offered from 2007 to 2013 with great success and it is being offered again from 2014-2020 with the code name "Europe 2020", the goals of this program for unemployment are to have 75% of people aged 20–64 to be at work in all countries. The NSRF fund helps existing businesses through an application process beginning with applications to the OAED. The OAED then submits the request to the NSRF, who evaluates every application, and then grants the money to the businesses that qualify. Programs like “Toolbox of Competition for Small and Medium Enterprises” which is for investing plans ranging from 20,000 euros to 200,000 euros, or for finding new Small Medium Enterprises, the program “Founding and Renewing Small Businesses in the Central Macedonia Area” is a program specifically for the SME's of Central Macedonia in Greece and it offers from 100.000 euros to 600.000 euros. (Sponsoring programs by the EU)

As you can see the funding is plentiful and very generous, and many businesses in Greece have been assisted by the NSRF while many more are following receiving funding year after year. As said above, Greece's market contains mostly SMEs, in

Financing SMEs and Entrepreneurs 2018: An OECD Scoreboard, is stated that in 2016, 99.9% of all enterprises are SMEs. This by itself shows how important these programs are for entrepreneurs. (OECD 2018)

Table 15.2. Distribution of firms in Greece, 2016

% share	By firm size					
	Number of enterprises		Number of employees		Value added	
	Greece	EU-28	Greece	EU-28	Greece	EU-28
Micro	96.8	92.8	59.1	29.5	35.9	21.2
Small	2.8	6	16.9	20.2	20.3	18
Medium	0.4	1	11.3	17	18.9	18.2
SMEs	99.9	99.8	87.3	66.8	75.1	57.4
Large	0.1	0.2	12.7	33.2	24.9	42.6
Total	100	100	100	100	100	100

Source: European Commission's SBA Fact Sheet 2016.

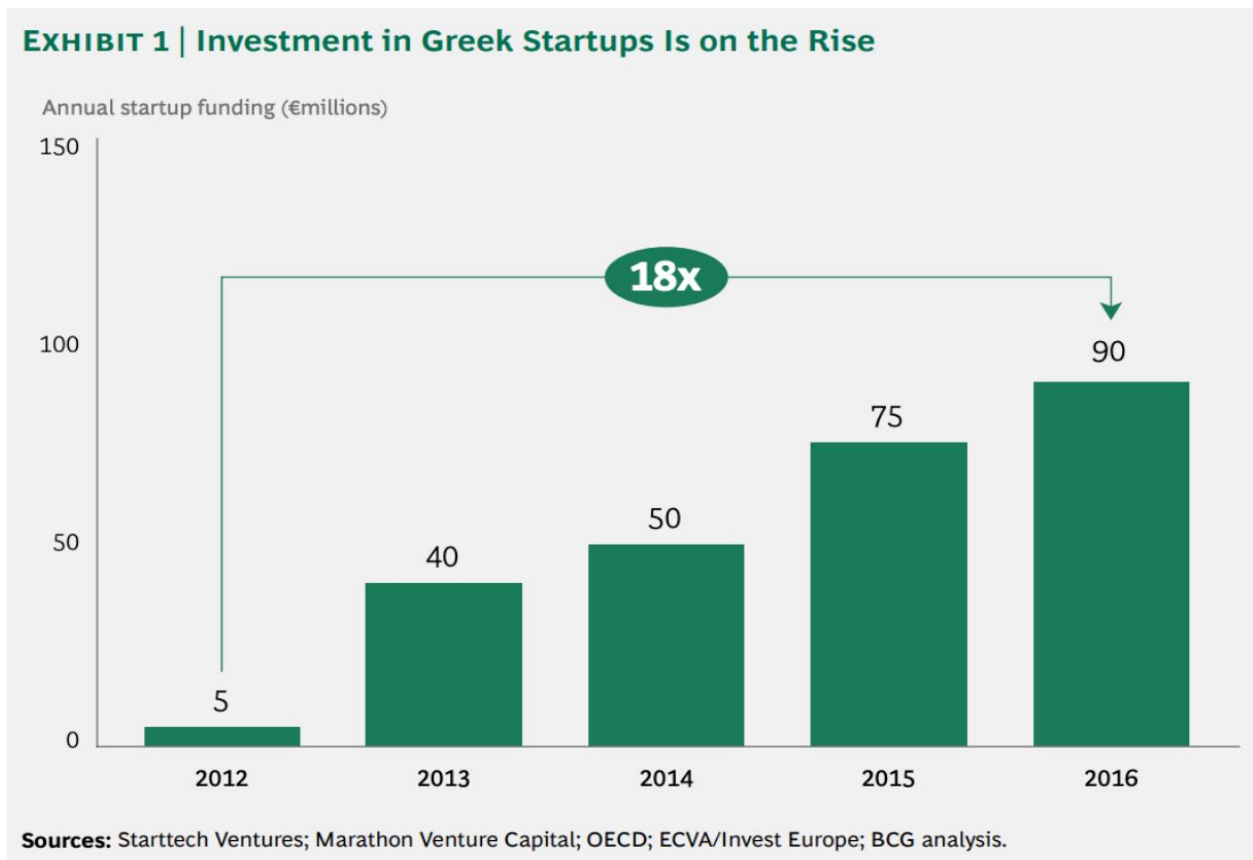
3.1 Greece's Startup Opportunities and "Brain Drain"

As mentioned before there are many programs that help people to start a business, the so called "startups" Startups have been a trend for the last 10 years, ever since companies like Facebook, Apple, etc. started growing and getting attention. The idea of a startup became more and more compelling to young people who wanted to have their idea shown to the world and if people liked it, they could be the next Mark Zuckerberg. The NSRF in combination with EquiFund, an initiative created by the Hellenic Republic in cooperation with the European Investment Fund (EIF) and co-financed by the EU and national funds together with funding from the EIF, are two programs which do just that. By financing

young individuals who have a vision, they are not only able to further develop their ideas but also to help the country they come from by taking themselves off the unemployment list. Although many start-up companies have been established in Greece the accurate number is not known. Reuters, however, in an article in 2018 reported that there are more than 1,000 startups in Greece according to some online databases “AngelList, an online database, puts the current number at 600, while auditing firm Grant Thornton found 1,127 in a 2017 report. Greek venture capital firm Marathon VC, established only last year, counts about 1,000 tech startups in its database.” (Tagaris, Papadimas 2018)

In a research paper that they published in April of 2018, Boston Consulting Group showed there is a lot of potential in the Greek startups, and mentioned that Greece has already used 260 million euros in startup money given by the NSFR “Access to adequate and ongoing funding is critical to a sustainable startup ecosystem. One of Greece’s largest sources of funding is expected to be EquiFund. The fund is expected to provide a total of €1 billion. The European Investment Fund and the National Strategic Reference Framework (NSRF) have already committed €260 million.” (Antoniades, Giakoumelos, et al. 2018) This shows the amount of confidence and trust that is shown to this initiative by the young entrepreneurs. The same report gives out data on startups from 2012 to 2016 again, there is no stable recorded data for startups but we can grasp from reports such as this an idea of what the numbers are. This report shows an exponential increase in the amount of startups. In just four years since 2012 the number of startups has been

eighteen times bigger in 2016. This shows that young entrepreneurs are seizing the opportunity to make reality of their own ideas.



Despite the positive effect that startups have had on Greece's economy we cannot deter from talking about the biggest problem Greece is facing in its effort to increase growth. I am referring to "Brain Drain", Merriam Webster's dictionary defines brain drain as: the departure of educated or professional people from one country, economic

sector or field, for another, usually for better pay or living conditions. This is exactly what is happening in Greece. As the economic crisis hit Greece, youth was very pessimistic about the future, and this made many Greek graduates leave Greece for other countries that could offer them employment and a good quality of life. Brain drain has been a serious problem for Greece for some years now; doctors, engineers, economists and other professional categories account for the majority of the young people who leave Greece for a better future. There are three main reasons for Greece's brain drain:

1) The characteristics of the labor market, as they find it after their graduation from universities. In the middle of the economic crisis many of the graduates are discouraged by the way that the market is set, the lack of open jobs, career development and acquiring more specialized knowledge are some of the key factors that make youth search for a job outside of Greece.

2) A second reason is that since the labor market has been deteriorating more and more from the crisis it cannot absorb the number of higher institution graduates that increases every year. As a result high unemployment and low salaries are pushing young graduates to leave the country.

3) The third reason is connected to the lack of job creation by businesses which are decreasing in the country. Many people are either investing their money abroad, creating businesses there, or the businesses that are located in Greece are relocating to other countries, such as Bulgaria or Albania, where taxation is a lot lower than Greece. At the

same time, there is little foreign investment coming into Greece which is something that indicates that the rest of the world does not believe that Greece is a good place for making investment. (Kyridis et al 2014)

Research that was conducted by the Dept. of Economic Sciences, University of Macedonia in Greece, showed the percentage of people migrating from Greece to other countries with degrees from medical and Polytechnic schools. The survey goes back nearly 60 years in order to show the magnitude and the importance of the issue. (Labrianidis, Pratsinakis 2014)

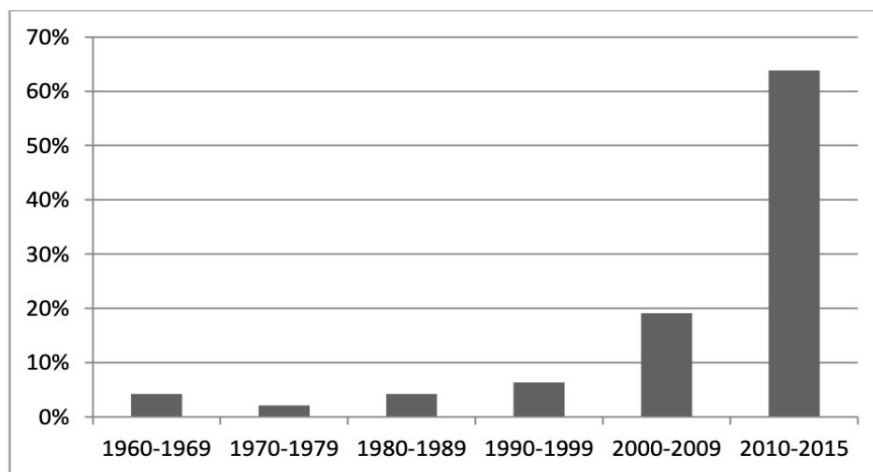


Figure 3. The distribution per decade of the emigrants with postgraduate degrees or degrees from Medicine and Polytechnic schools

Source: HO survey

While in Greece there are people who are able to communicate their ideas, and as a result to get funding for them, there are others who are not able to do so, either because of a lack of education or because of a lack of ownership of a business, thus we are talking about the long-term unemployed. Long-term unemployed are considered the people who

have been unemployed for more than a year. In Greece this number is very big and since the crisis it has increased exponentially. Due to the financial situation of the country but also the amount of people who are long-term unemployed the Greek government has not been able to fully help them, although steps have been taken in the right direction. OAED and the Greek government through planning have created a program called Community Service and it is meant for the long-term unemployed to be employed in the public sector, with eight month contracts. There is also a program that funds private businesses if they hire long-term unemployed people. In this way the government aims to reduce unemployment. (Ministry of Labour, Social Insurance and Social Solidarity, 2018)

Usually these jobs are spread out among the different municipalities of Greece. For 2019 there is a program to create 9.000 jobs for the long-term unemployed. The goal of this program is to have the long-term unemployed work again so they can refresh their skills and also psychologically make them feel useful again. Another program run by OAED is scheduling classes for the long-term unemployed that will help them develop a different skill and thus will prepare them to qualify for more than one job. In an interview in the Greek News Agenda, the President of OAED Maria Karamessini, discussed these programs and their importance for the reduction of unemployment, but also the connection of this program with the private sector. Karamesini said, “Community service programs are planned at the Ministry of Labor, and Deputy Minister Ms. Antonopoulos has already analyzed the major changes that have taken place. A notable feature is that

these programs take into account the participants' future working life, so they include the possibility of training. Moreover, the duration of employment has been increased from five to eight months; this means that participants are afterwards entitled to unemployment benefits, which is very important. These programs also target complex groups, such as older people who are not easily hired and workers who have long-term family burdens (such as single-parent households, parents with children who are not working, etc).” For the connection with the private sector she said “ Now, participants in private sector job schemes are required to have remained in unemployment registers for a long time. Also, all employers can access OAED’s database and search for specific qualifications -without viewing personal data, and choose from the CVs that match their requirements, up to ten candidates.” As we can see the new form of OAED is something that has been helping the government put more people to work thus explaining the reduction of unemployment.(Alipradi, Klavdianos 2017)

One more piece of evidence that we need to examine in order to see the positive number of people employed in the last four years, is shift in employment in the private sector. Data from ERGANI, which is the informational system for the Ministry of Labor of Greece, and is closely tied with OAED, reported an increase in employment through the years 2014-2019 of 624.117 people after subtracting the people who were hired and the people whose contracts of predetermined time either expired or they voluntarily left their job. The tables below show data from January to December for different years, the

first row shows the years, the second row shows the amount of people hired, the third row shows departures, the fourth row shows terminations of contracts of predetermined time, the fifth row shows voluntary departures or retirement and the last row shows the balance between total hiring and total departures. The first two rows of data show data for the month of December for the different years, while the third row is the difference between 1 and 2. The fourth and fifth rows are the total numbers from January to December and the sixth and last row is the difference between 3 and 4. The star in departures explained A and B.

For the year 2015 there were 99.700 new hirings in the private sector and 2014 there were 99.122 new hirings. (Ergani 2015) For 2016 there were 136.263 new hirings, for 2017 there were 143.545 new hirings. (Ergani 2017) For 2018 there were 141.003 new hirings in the private sector but there was a 2.542 jobs deficit from 2017 to 2018. (Ergani 2018) Most recent data for the private sector, for two months of 2019, January and February. The numbers are optimistic, as we can see that we already have 5.507 more job openings than January and February of 2018. (Ergani 2019)

3.2 Greek Unemployment Projection

Now, I will move on to my projection. I will be projecting through a regression in STATA that unemployment in the future will reduce, if the trend stays the same in the next years. In economics, the future is uncertain. Economists love to predict the future

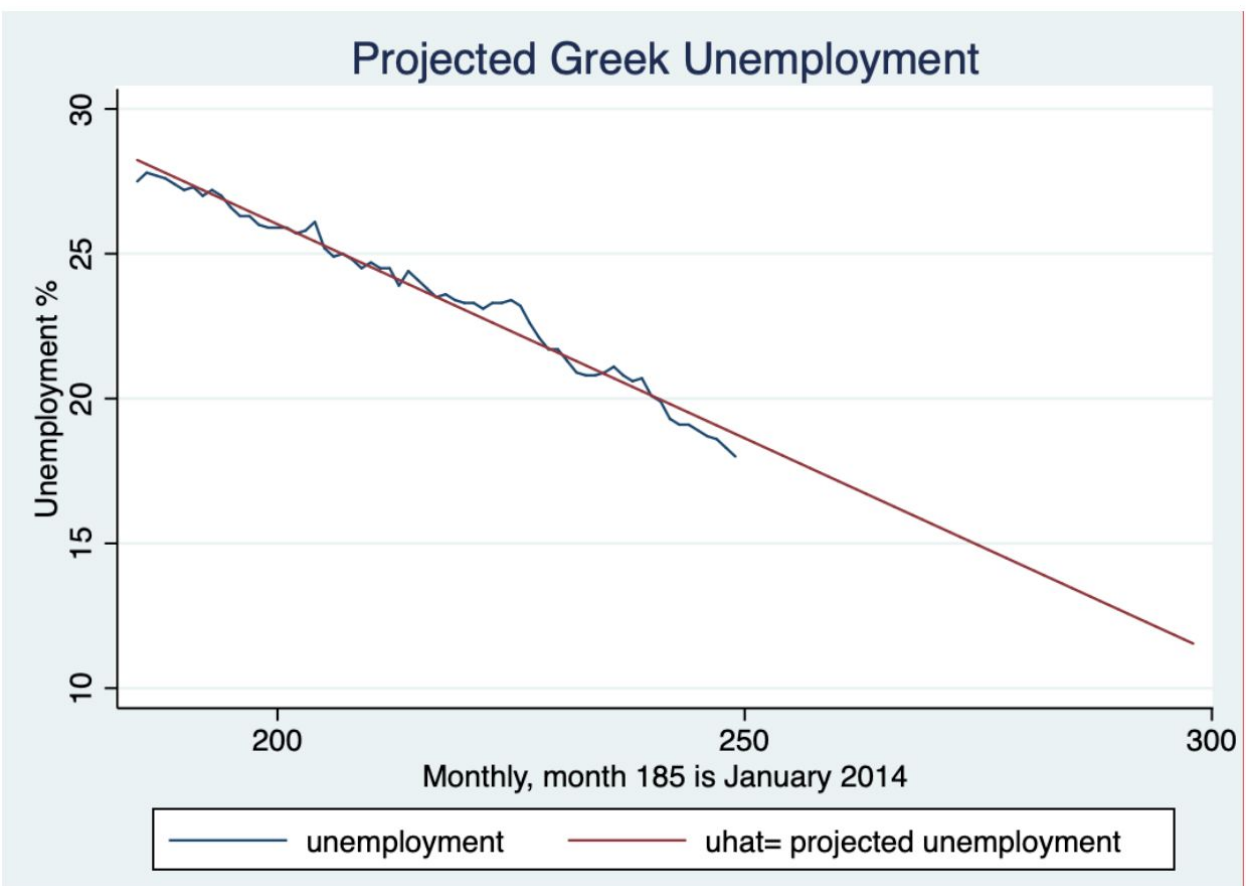
but most times they are wrong. Many factors such as competition, education, automation, and demographics can change and people change with them, just like Nassim Nicholas Taleb said, “The track record of economists in predicting events is monstrously bad. It is beyond simplification; it is like medieval medicine.” Despite that it is always fascinating to try to predict the future and that is why I used STATA and I ran my own regression with data that I took from FRED for the Greek unemployment rate and I did a linear extrapolation of the data until 2022. In the regression pictured below we can see that R^2 was 0.9809 which means that the results are very accurate. We can also see that the coefficient is negative which means that the trend is a reduction of unemployment.

Source	SS	df	MS	Number of obs = 65		
Model	499.406821	1	499.406821	F(1, 63) =	3233.33	
Residual	9.73071825	63	.154455845	Prob > F =	0.0000	
Total	509.13754	64	7.95527406	R-squared =	0.9809	
				Adj R-squared =	0.9806	
				Root MSE =	.39301	

u	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
t	-.1477404	.0025982	-56.86	0.000	-.1529325	-.1425483
_cons	55.56582	.5659148	98.19	0.000	54.43493	56.69671

I have placed in the variable \hat{u} (uhat) which is the projected unemployment, the red line, and then the actual unemployment is the blue line that is moving along the red line,

with some very little shifts. The data range from January 2014 which is the 185th month and unemployment being in 27.9% and the actual data go until month 249 which is December 2018, then the projection begins for the next 4 years until month 298 which is December 2022. The projection shows an incredible drop in unemployment. In December of 2019 the unemployment rate will be 17.0% and in December of 2020 the unemployment rate will be 15.2%. In December of 2021 the unemployment rate will be 13.4% and finally in December of 2022 the unemployment rate will be 11.6%.



3.3 A Jobs Guaranteed Program for Greece

After looking at this projection provided, with STATA calculations, that shows a downward slope indicating the reduction of unemployment, (provided the trend stays the way it is), I would like to look at an unemployment program that I have closely examined and believe could really make a difference for Greece. As I said before, currently unemployment is down 10% from 2013 at 18.0% but it is still very high. This program is closely related to the current government's unemployment program but it offers a more in depth solution and more specified practices and instructions for the employment of many people. It is similar to the Voluntary Jobs program of the government but it expands its potential. This program was proposed by Rania Antonopoulos and my Senior Project advisor Dimitri Papadimitriou and their team of researchers from the Levy Institute of Economics of Bard College, the Observatory of Economic and Social Developments, Labour Institute and the Greek General Confederation of Labour in the summer of 2014. The program was a down to earth program that would significantly help with the problem of unemployment and I think even today, where unemployment has fallen since its 2013 and 2014 levels, this program could still help reduce unemployment today even more.

To begin with, the program is, as Professor Pavlina Tcherneva of Levy Institute of Economics, defined: "It is a permanent, federally funded, and locally administered program that supplies voluntary employment opportunities on demand for all who are ready and willing to work at a living wage. While it is first and foremost a jobs program,

it has the potential to be transformative by advancing the public purpose and improving working conditions, people's everyday lives, and the economy as a whole.” (Tcherneva 2018) Despite the fact that professor Tcherneva is investigating the JG program's effects more specifically in the US economy with good results, we can see that it is a program that can grow within the biggest of economies, ie. the US, but even within the small economies such as Greece's economy. The program is based on the theory of famous economist Hyman Minsky, who in 1986 introduced the employer of last resort (ELR) policy and its target was to increase demand for labor, establish new jobs for the long-term unemployed. He tried to give answers to the problems of unemployment created by the Great Depression of 1929 in the US. The program has specific guidelines on all aspects of its existence and operation.

About the people who are eligible:

Eligibility for this program will be prioritized. The people who will be the first to be introduced to it will be the long term unemployed, next those with low household income, and the rest depending on the years they have been unemployed.

About the duration of the program:

It will be 12 months per year, with full compliance to all legal labor rights, including sick leave and normal vacation days.

Concerning the wage paid by these jobs:

The program is estimated with two different options, the first being the minimum wage of 2014 which was 586 euros and the second option with a higher wage of 751 euros which was prior to 2012. Now, with those two wages in place the calculation of data will show the results that they are looking for.

Regarding the funding of the program:

The wages will consist of (inclusive of employer and employee social contributions) indirect costs of intermediate inputs (domestic and imported) and administration costs. The distribution will be paid as such: 60 percent of wages to be paid directly to participating beneficiaries and 40 percent for all indirect costs.

Lastly, what are the jobs offered in this program:

- a. “Physical and informational public structure: computerization of public records and creation of electronic platforms for transparency and accountability at the service of citizens; flood control works, small improvement of side roads and municipal buildings, upgrading of small parks, etc.;
- b. Environmental interventions leading to community management of natural resources and preservation of the commons, examples of which include clearing of land for rural and urban community farming and gardens, coastline cleanup, reforestation and fire

prevention, innovative collection of organic waste matter for composting, art-related projects that use recycled materials, etc.;

c. Social service provisioning such as providing assistance to community-based social health clinics (κοινωνικά ιατρεία) and social food distribution outlets (κοινωνικά παντοπωλεία), outreach to caregivers of the protracted or permanently ill, support services to JG (Jobs Guarantee) workers whose needs for caring for very young children and the elderly at home are not already met at the time of the job offer, etc.;

d. Educational and cultural enrichment programs, general adult literacy, free-of charge theatrical performances, music, and other artistic expression and engagement for children and their parents, formation of poetry and literature reading groups for adolescents of school age, special programs in libraries and at archeological sites, etc.” (Antonopoulou 2014 p. 39)

Moreover, the program introduces four scenarios in which the program can function, again, reminding us that the data were taken by the voluntary working program of 2012 and that is where the calculations are based on. Despite the fact that the unemployment rate is not as high and the number of unemployed is not as high as it was when this program was created, I believe it can still help to reduce Greek unemployment even further. The first scenario talks about 200.000 jobs that can be offered, the second scenario talks about 300.000 thousand jobs that can be created, the third talks about 440.000 jobs and the last one talks about 550.000 jobs that can be created. The difference

in the numbers is due to every scenario being bigger than the last one because of its accessibility to people. The 550.000 jobs are going to accommodate potential participation from the widest income categories possible, for example previously middle and upper-middle-income households in which no people are employed. The researchers used two different quantitative methods to get the projections and give us results for their hypothesis. For the macro level method we use input-output (I-O) tables and multiplier analysis and for the micro method they used techniques that produce the desired micro results. The input-output (I-O) model shows the macro-level multiplier effects through the connections of output growth across the different industries.

Concerning the projected results for the 200,000 jobs scenario, the cost of case A, is 3 billion euros and the cost of case B, is 3.8 billion euros. The total wages include payroll contributions of 16.5 percent by employees and 27.46 percent by employers, while at the same time there are 200.000 direct jobs and 62.268 for case A and 79.790 for case B indirect jobs. Indirect jobs are the jobs created as a result of the increases in the domestic intermediate consumption and households' final consumption

Table 5.1 Scenario 1: 200,000 Jobs Target

200,000 Jobs Target	Case A: €586	Case B: €751
All-inclusive cost¹ (€ million)	2,988	3,829
1. Total JG wages	1,793	2,297
2. Intermediate consumption, JG	1,135	1,455
3. Administrative cost, JG	60	77
Program cost (€ million)	2,310	2,960
Total number of new jobs	262,268	279,790
1. Direct JG jobs ²	200,000	200,000
2. Indirect jobs ²	62,268	79,790
Increase in output³ (GVA)	4,731	6,062
Increase in gross domestic product³ (GDP)	5,364	6,873
Increase in government revenue⁴ (€ million)	1,769	2,267
1. Payroll (social security) contributions ⁵	1,240	1,589
2. Indirect taxes (VAT) ⁶	270	346
3. Direct taxes ⁷	259	332
Net cost (€ million)	1,219	1,562
<i>Total cost</i>	<i>2,988</i>	<i>3,829</i>
<i>Minus increase in government revenue</i>	<i>-1,769</i>	<i>-2,267</i>

Source: Levy Institute 2014

due to the program. We also see the increase in output and GDP, the increase in government revenue and the net cost.

In this table we see the projected JG cost structure for the 200.000 jobs scenario which includes a report of all the costs of the program such as total wage cost, the intermediate demand, the administrative costs, etc.

Table 5.2 JG Cost Structure: 200,000 Jobs (unit: € million)

200,000 JG Jobs	Case A: € 586	Case B: € 751
All-inclusive costs of JG program	2,988	3,829
<i>Wage component</i>		
JG total wage cost	1,793	2,297
Employers' contributions	386	495
<i>Gross wage</i>	<i>1,406</i>	<i>1,802</i>
Employees contributions	232	297
Net wage	1,174	1,505
<i>Nonwage component</i>		
Intermediate demand	1,135	1,455
Domestic	895	1,147
Imported	241	308
Administrative costs	60	77
Program cost of JG program	2,310	2,960

Source: Levy Institute 2014

The second scenario talks about 300,000 public benefit jobs, for a 12-month duration per year, under the two wage options: case A at the minimum wage level of 2014 of €586 per month/per JG worker, and in case B at €751. In this table we can see the total number of jobs that are created directly and indirectly but also the net cost, the increase

Table 5.3 Scenario 2: 300,000 Jobs Target

300,000 Jobs Target	Case A: € 586	Case B: € 751
All-inclusive cost¹ (€ million)	4,482	5,743
1. Total JG wages	2,689	3,446
2. Intermediate consumption, JG	1,703	2,182
3. Administrative cost, JG	90	115
Program cost (€ million)	3,464	4,440
Total number of new jobs	393,402	419,684
1. Direct JG jobs ²	300,000	300,000
2. Indirect jobs ²	93,402	119,684
Increase in output³ (GVA)	7,096	9,093
Increase in gross domestic product³ (GDP)	8,046	10,310
Increase in government revenue⁴ (€ million)	2,653	3,400
1. Payroll (social security) contributions ⁵	1,860	2,384
2. Indirect taxes (VAT) ⁶	404	518
3. Direct taxes ⁷	389	498
Net cost (€ million)	1,828	2,343
<i>Total cost</i>	<i>4,482</i>	<i>5,743</i>
<i>Minus increase in government revenue</i>	<i>-2,653</i>	<i>-3,400</i>

Source: Levy Institute 2014

in government revenue, etc. An important number to note is the indirect jobs which are growing exponentially.

In this table the JG cost in millions of euros for the 300.000 jobs scenario which includes a report of all the costs of the program such as total wage, cost the intermediate demand, the administrative costs. etc

Table 5.4 JG Cost Structure: 300,000 Jobs (unit: € million)

300,000 JG Jobs	Case A: € 586	Case B: € 751
All-inclusive costs of JG program	4,482	5,743
<i>Wage component</i>		
JG total wage cost	2,689	3,446
Employers' contributions	579	742
<i>Gross wage</i>	<i>2,110</i>	<i>2,704</i>
Employees' contributions	348	446
Net wage	1,762	2,258
<i>Nonwage component</i>		
Intermediate demand	1,703	2,182
Domestic	1,342	1,720
Imported	361	462
Administrative costs	90	115
Program costs of JG program	3,464	4,440

Source: Levy Institute 2014

Scenario 3 shows the new 440.000 jobs with the inclusive cost, the total number of jobs (direct and indirect) which generate additional demand for output, then an increase in government spending and net cost.

Table 5.5 Scenario 3: 440,000 Jobs Target

440,000 Jobs Target	Case A: € 586	Case B: € 751
All-inclusive cost¹ (€ million)	6,573	8,424
1. Total JG wages	3,944	5,054
2. Intermediate consumption, JG	2,498	3,201
3. Administrative cost, JG	131	168
Program cost (€ million)	5,081	6,512
Total number of new jobs	576,989	615,537
1. Direct JG jobs ²	440,000	440,000
2. Indirect jobs ²	136,989	175,537
Increase in output³ (GVA)	10,408	13,336
Increase in gross domestic product³ (GDP)	11,800	15,121
Increase in government revenue⁴ (€ million)	3,892	4,987
1. Payroll (social security) contributions ⁵	2,728	3,496
2. Indirect taxes (VAT) ⁶	593	760
3. Direct taxes ⁷	570	730
Net cost (€ million)	2,681	3,437
<i>Total cost</i>	<i>6,573</i>	<i>8,424</i>
<i>Minus increase in government revenue</i>	<i>-3,892</i>	<i>-4,987</i>

Source: Levy Institute 2014

This table shows the cost structure for the 440,000 jobs. The paper talks about the total wage structure, how much money employees and employers will have contribute through taxes and the intermediate demand which is a target of the program as a whole. We can also see administrative costs.

Table 5.6 JG Cost Structure: 440,000 Jobs (unit: € million)

440,000 JG Jobs	Case A: €586	Case B: €751
All-inclusive costs of JG program	6,573	8,424
<i>Wage component</i>		
JG total wage cost	3,944	5,054
Employers' contributions	850	1,089
<i>Gross wage</i>	<i>3,094</i>	<i>3,965</i>
Employees' contributions	511	654
Net wage	2,584	3,311
<i>Nonwage component</i>		
Intermediate demand	2,498	3,201
Domestic	1,969	2,523
Imported	529	678
Administrative costs	131	168
Program costs of JG program	5,081	6,512

Source: Levy Institute 2014

For the last scenario, the largest amount of jobs created, 550,000. Emphasis is given to the indirect jobs which are very important for the economy. Then we see the increase in output and GDP, and the increase in government, revenue and of course the net cost of the program taking out government revenue due to its use in the payment.

Table 5.7 Scenario 4: 550,000 Jobs Target

550,000 Jobs Target	Case A: €586	Case B: €751
All-inclusive cost¹ (€ million)	8,216	10,529
1. Total JG wages	4,930	6,318
2. Intermediate consumption, JG	3,122	4,001
3. Administrative cost, JG	164	211
Program cost (€ million)	6,352	8,140
Total number of new jobs	721,236	769,421
1. Direct JG jobs ²	550,000	550,000
2. Indirect jobs ²	171,236	219,421
Increase in output³ (GVA)	13,010	16,671
Increase in gross domestic product³ (GDP)	14,750	18,901
Increase in government revenue⁴ (€ million)	4,864	6,233
1. Payroll (social security) contributions ⁵	3,410	4,370
2. Indirect taxes (VAT) ⁶	742	950
3. Direct taxes ⁷	713	913
Net cost (€ million)	3,352	4,296
<i>Total cost</i>	<i>8,216</i>	<i>10,529</i>
<i>Minus increase in government revenue</i>	<i>-4,864</i>	<i>-6,233</i>

Source: Levy Institute 2014

The cost analysis of the last scenario costs the most money but we need to remember that the availability of this program has been broadened to more people than any other scenario. We can see the structure of the wages through the two cases A and B, and then the intermediate demand, as well as the administrative costs.

Table 5.8 JG Cost Structure: 550,000 Jobs (unit: € million)

550,000 JG Jobs	Case A: €586	Case B: €751
All-inclusive costs of JG program	8,216	10,529
<i>Wage component</i>		
JG total wage cost	4,930	6,318
Employers' contributions	1,062	1,361
<i>Gross wage</i>	3,868	4,957
Employees' contributions	638	818
Net wage	3,229	4,139
<i>Nonwage component</i>		
Intermediate demand	3,122	4,001
Domestic	2,461	3,154
Imported	661	848
Administrative costs	164	211
Program costs of JG program	6,352	8,140

Source: Levy Institute 2014

Lastly, the effect of the program on unemployment and what the reduction of unemployment would be with each and every scenario for both A and B cases is evident. The percentages of unemployment are relative to the regular percentage of unemployment at the time. For example if unemployment was 27.9% in 2014, the 769,421 jobs created by case B of the fourth scenario are the 64% of this 27.9% unemployment rate. (Antonopoulou 2014)

Table 5.14 Reduction of Unemployment Impact of the JG

	Job Target	Total Job Creation	Unemployment Reduction (%)
Case A: €586 Case B: €751	200,000	262,268 279,790	22 23
Case A: €586 Case B: €751	300,000	393,402 419,684	33 35
Case A: €586 Case B: €751	440,000	576,989 615,537	48 51
Case A: €586 Case B: €751	550,000	721,236 769,421	60 64

Source: Levy Institute 2014

Summarizing, I believe that this Jobs Guaranteed program could be implemented into the current Greek economic reality and adopted by the current government. It is a program that has a clear solution for unemployment and poverty. It is a program that is especially good for employment and the Greek economy that needs to get back on track to growth. The four scenarios and their explanations clearly showcase step by step all the aspects of the program. It is a program that has been partly used in Greece but not to its full capacity. We previously noted that if the current trend continues there will be an even further reduction to unemployment and I support that this program could be a major part of this reduction.

Concluding Remarks

Unemployment has been a heated issue throughout the years when recessions occur but also in times of economic prosperity. The theories behind unemployment obligate us to further question the practices used to affect this phenomenon, and it is an issue that has been much discussed around the world and many people have had political and economical debates over it. However, despite all the debates and the many different practices that are used to reduce it, there are always new parameters that change the outcome. In this project, I went through a journey in time starting in 1995 and going all the way through 2019, showcasing the Greek unemployment rates that were recorded over time, while at the same time examining the events that affected unemployment. Events like the entrance to the common currency (the euro), the 2004 Olympic Games in Athens, the 2008 crisis, and the three memorandums that were imposed on Greece.

From my analysis, Greece's efforts to reduce unemployment since 2015 have been memorable, decreasing from 28% to 18% in four years was not an easy task. Many Greeks felt the effects of unemployment and they deserve to see better days. I also discussed the psychological effects of unemployment that Greeks underwent. Depression, self denial and even suicide were some of the consequences of this crisis and the data are truly shocking.

Subsequently, I analyzed the unemployment data over time and I projected what I believe will be the future unemployment levels in Greece. This projected drop is something much needed in Greece in order to keep its youth from leaving the country to build the foundations of their dreams elsewhere. I am in favor of this Jobs Guaranteed program because I truly think can help reduce unemployment down to more acceptable for the EU levels. This Senior Project answers the question proposed in the abstract. Greece's nightmare will be over, just not as fast as people would want it to be. It will take a long economic and societal healing period for its wounds to close.

But I prefer to finish with a question. Despite the fact that there are many theories out there that have tried to explain unemployment and have attempted to propose ways to battle it, can those policies solely have a positive effect on unemployment, or in the case of Greece, could other factors, eg. politicians, affect the outcome of some of those policies. So, what is the role of politics in the reduction of unemployment and how can decisions made by politicians affect its trends? Just like ex Greek Finance Minister Yanis Varoufakis said, "Most politicians cannot be theorists. First, because they are rarely thinkers; second, because the frenetic lifestyle they impose on themselves leaves no time for big ideas. But most of all because to be a theorist you have to admit the possibility of being wrong – the provisionality of knowledge – and you know you cannot spin your way out of a theoretical problem." (Varoufakis, 2015)

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