Lehman Brothers ‘crash’: Consequences on Iceland’s economy and social welfare

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Abstract

In this paper will be made a review of the literature giving information about the immobile bubble 'crush', taking as starting point the fall of the great american company Lehman Brothers, and the main causes will be discussed in order to have an overview of this global crisis. Iceland was one of the European countries whose economy was most affected but also one of the fastest in recovering of it. With the analysis of some of the meters of the economy and social welfare, such as the GDP, inflation, unemployment, average wage, public debt and public deficit; the data before the crisis will be compared with the data after the crisis to see which economic measures took the government of this country to mitigate the damage of the 'crash' and see if the government responses were effective or not in order to get conclusions.

Key words: Lehman Brothers, Iceland, Crisis, Economy

JEL Classification: N24, N12, F23, G2, E00

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1.INTRODUCTION

Before going into details about the great recession that took place in 2008 because of the explosion of the great immobile bubble, created over the years, and explain its disastrous consequences, it would be interesting to put ourselves in context.
In this paper will be made a review of the literature giving information about the immobile bubble 'crush', taking as starting point the fall of the great american company called Lehman Brothers and the main causes will be discussed in order to have an overview of this global crisis.

After this, and focusing on the consequences in Iceland, will be analyzed the numerical data of some of the meters of the economy and social welfare, such as the GDP, inflation, unemployment, average wage, public debt and public deficit in Iceland. Moreover, the data before the crisis will be compared with the data after the crisis to see which economic measures took the government of this country to mitigate the damage of the 'crash' and see if the government responses were effective or not in order to get conclusions.

Nowadays, fifty is the number of countries that make up the European continent. One of those countries is Iceland, located in northern Europe with capital in Reykjavik. It has 103.000 Km² of surface but it’s density population is really low, specifically three people every Km².

In many publications the consequences of the first economic and financial crisis of the 21st century have been analyzed from a numerical or a more social point of view. In this writing both are going to be treated at the same time, together with the historical data.
Although the consequences of this great economic and financial crisis reached all countries of the world, this paper is going to be focused on the causes and consequences in Iceland since compared to the value of its economy, this country suffered the biggest crisis ever

seen in the world. Now, Iceland is emerging from the economic crisis with amazing speed, taking into account all that they lost and the public debt that they accumulated. It is one of the countries with less unemployed people in the world. On 2017 it had a GDP per capita of 61.700€ and as a consequence of this, its population has a really high average wage, having a good quality of life.

But despite of all this many economists fear again for the economic situation of the country, since the rise in house prices has been during the last four years more than 10%, what already exceeds the price levels before the great collapse that suffered ten years ago. In terms of tourism, which helped the country to get out of its bad situation ten years ago, it is suffering a significant decline.

2.LEHMAN BROTHERS HOLDINGS, INC.: COMPANY HISTORY

In its beginnings, the company started as a small store in Alabama, founded by Henry Lehman in 1844, then his brothers Mayer Lehman and Emanuel Lehman joined the company too, that is why they were called Lehman Brothers.

When they opened, their main customers were the cotton farmers but they soon discovered that they could make much more money in another way. "Since the farmers often paid their bills in cotton, the brothers soon found that their business relied as much on selling cotton as dry goods. Deciding to focus on trading cotton, in 1858 the brothers established a New York office and were instrumental in setting up the New York Cotton Exchange. The brothers also began trading other commodities, as well as helping companies raise capital in the bond and equity markets. In 1887, Lehman Brothers became a member of the New York Stock Exchange, establishing the company in securities trading and providing a foundation for the underwriting business" (Wiggins, Piontek and Metrick, 2014, p.3).

As long as they were growing, they diversified their assets, investing in new businesses such as tobacco, the railway or coffee. And in this way Lehman Brothers grew even more. Later they also participated in television and radio business. "Lehman Brothers was an early backer of Radio Corporation of America (RCA) and National Broadcasting Corporation (NBC) and Robert Lehman also entered the television industry at an early stage" (Ingham, 1983, p.786). After a couple of generations Lehman working in the company, it became an investment bank.

Despite the fact that when Robert Lehman died, the company had some difficulties, in 1973 it became a really important international company, recovered by expanding and opening new offices. This lasted until 1984, when Lehman Brothers merged with Shearson after being sold to American Express. At that time was called Shearson Lehman Brothers.
After 1994, when Lehman Brothers became an independent company again, Dick Fuld started as a director and he did some changes in the business. In 1999, a change in the american laws in the financial industry allowed deregulation in the sector. A law of regulatory nature called Glass- Steagall act. o more common the law of the banks was applied in United States after the crisis of 1929 in order to regulate the speculation of the banks, separating banking into two types of entities, investment banking and commercial banking.

This law was repealed in 1999, which allowed banks to take more risks and trade with the money. They started to work with innovative high risk products like derivatives and real estate, making them earn a lot of money which instead of giving income to the customers, just gave benefits to the company. As Rosalind Z., Wiggins et al. indicate in their article, during the first six years of the century, because of the last changes in the law, the company grew up faster than its rivals, specifically they had an increase of 130% in their income. Then they beat themselves, when Fuld was in charge, the company was in $2.7 billion in 1994 and twelve years later, in 2006, was more than $19 billion that means that appreciated by 600%. During that same period of time, this was also reflected in the price of its shares in the stock market which rose up by some 340%.

Having all this positive data, it is hard to believe that things went wrong as it did it, thus causing the bankruptcy that added to the bankruptcy of some more companies led to a great recession. Or maybe is all the opposite and it is just because of these facts that we can see that things were not going as well as they seemed and maybe they were not doing something right.

3.THE FALL OF LEHMAN BROTHERS

"On September 15, Lehman Brothers Holdings, Inc. sought Chapter 11 protection, initiating the largest bankruptcy proceeding in United States (U.S.) history. It declared $639 billion in assets and $613 billion in debts" (Wiggins, Piontek and Metrick, 2014, p.2).
At the time, the Lehmans' family company was considered one of the "too big too fail" companies. That means that the company was big enough to suppose to be rescued in case of bankruptcy, otherwise the consequences would be catastrophic not only for all the investors, for the entire economy. But this time the United States government did not try to save Lehman Brothers Holdings, Inc. (Wiggins, Piontek and Metrick, 2014, p. 2).

Throughout the history of the United States one of the worst crises that has had to overcome was the crack of 29 and the next forty years after that recession were free of crises, years of prosperity and economic growth, everything was controlled by the government and the laws had regulated the economy of the country prohibiting the speculation.

The system was basically formed by local banks, only some of the small private banks were operating with stock and bonus.
This situation lasted until 1980 when the investment businesses started to operate with large quantities of stock and then they became public banks, everybody on Wall Street started to earn exorbitant amounts of money. One year later, in 1981, was when, with Regan administration, the real deregulation started and it continued also during the Clinton mandate until the financial sector get consolidated in few firms. This endangered the country's economy, all power was in the hands of a few.

The alliances and mergers created between financial companies and banks, what united almost the entire economic and financial system of the United States, made it more vulnerable to a possible failure that could cause them to fall one after the other. At the beginning of the 90's, a financial product called derivative was created by the financial entities in order to earn more money. Along with the derivatives appeared the possibility of betting in favor but also against anything. By the end of the 90s, derivatives were a huge unregulated market, a huge bubble was being created by the internet stocks, that produced one more crisis in the US history, because of which the investment companies had losses worth trillion of dollars.

After 2000, with a new law which prohibited the regulation of the derivatives, everything exploded. And one year later, the US industry was basically controlled by five banks, among which was Lehman Brothers, two financial conglomerates, three security insurance companies and three rating agencies; creating a strong block which connected billion dollars and a new system of loans.
As described in detail in the documentary 'Inside Job', before the deregulation the lenders lent the money and they expected to have it back in long-term, that is why the lenders did not lend the money to everybody, they had to make sure that the money was returned to them, they had the risk of unpaid debt . But in the new way to lend money, when the client paid the mortgages, the money went to the investors, the risk was divided in many pieces and could be all over the world. The lenders could sell the mortgage to investment banks, who added to this mortgages other financial products in order to created something new and can sell it. This is what is usually called derivatives or CDO. In the last step, this derivatives were sold to investors.

At the same time, the investment banks, paid to the rating agencies and got the best qualification possible for their products, AAA, what gave investors confidence and encouraged them to invest more. The lenders did not take any risk, so they did not mind if the debtors could or not pay.

The prices of the houses increased considerably since it was very easy to get a mortgage cause the banks did not have any risk so they were lending without ask. People were buying more and more houses and selling them for a much better price, by the time, the importance of the leverage in the financial companies was growing fast. That is how was created the housing bubble.

At the same time, AIG, an important insurance company over the world was trading with another products derivatives. For them the businesses was in sell to the people that previously had CDO, credit default insurance. If in the end the CDO went bad, this new product could ensure that the investor had back the lost money. And besides that the company was also selling credit defaults against the CDO.

Soon, people started to owe a lot of money to the banks since they could not pay the mortgages and at some point even the companies, like Lehman Brothers, which were creating and selling the CDO, were betting on its failure.
The fact that they bet against their own products makes think about the responsibility of Lehman Brothers and others and their implication on this disastrous recession.

As previously stated, the changes in the law, promoting the deregulation, were an essential cause of the crisis in Iceland but that was not the only factor that caused banks to grow above their means. The low interests rates also boosted investors with the support of the rating agencies .

“During the early years of the 21st century, the situation on the global financial markets was highly unusual. The supply of credit was virtually inexhaustible and interest rates lower than they had been in a hundred years. Financial markets were hungry for bonds, including those issued by Iceland’s banks, which were a welcome addition to many of the structured securities that became so popular. The banks were thoroughly scrutinised by international rating agencies and their favourable credit ratings greatly facilitated the banks’ foray into the

bond market. The banks became a vital link in the national economy, their expansion and that of other Icelandic companies garnered widespread support, they offered handsome salaries, and they paid the Treasury sizeable tax revenues, directly and indirectly.
Until that time, the banks had increasingly been active in the global bond market, with ever larger debt issues" (Fridriksson, 2009, p. 3).

"One of the side effects of the dramatic developments in the global financial markets starting in mid-2007 was the sharp rise in risk aversion among investors and the rapidly shrinking supply of credit. CDS spreads began rising, including those of Icelandic banks. Global market conditions continued to deteriorate throughout 2007: share prices plummeted, access to credit became much more limited, and interbank business transactions more complicated at best" (Fridriksson, 2009, p.3).

4.CONSEQUENCES FOR ICELAND

As already noted above, in United States a new way of doing politics that promoted the deregulation of economic and financial operations by investors, banks and other types of financial entities, made possible the creation of a huge housing bubble driven by speculation.
For Iceland was not so different, after privatizing the banking sector in 2000 the icelandic banks began an important expansion around europe, trading with assets and liabilities, what would bring consequences of extraordinary magnitudes. The Icelandic government privatized the three largest banks and allowed multinational to exploit the country's natural energy sources without any control.

Since then and for the next years, three of the banks in the country borrowed 120.000 million of dollars, without had never done any business outside Iceland. Then the amount due was ten times the size of the value of Iceland's economy.
Many people started to borrow from Icelandic banks thousands of dollars, even millions to use for themselves with no control. At the same time the banks created new money market funds and they tried to convince to the citizens that the best option was withdraw deposits

and invest it in those funds. But for the agencies which worked as auditors of this companies, apparently, there was any problem with the new funds and the interests rates on bank loans. They affirmed that everything was clear and the risk of new products and investments, even with an increasing indebtedness rate, was minimum.

“After Iceland’s banks were fully privatised early this century, they began expanding at a rapid pace, with the primary focus of that growth outside Iceland. They acquired financial companies in other countries, opened branches, and expanded their international business from their headquarters in Reykjavík” (Fridriksson, 2009, p. 1).
They grew and became indebted above their means, taking into account that Iceland is a really small country with a population of just over 300.000 inhabitants in that moment.

“With the easy flow of borrowed foreign capital at low interest rates, the economy had ample resources for rapid growth, which soon turned into an excessive speculation bubble” (Ólafsson, 2013, p. 107).

The three main banks in the country went bankrupt after accumulating huge amounts of short- term debt, they were growing at a phenomenal speed getting more and more debt and selling it to other european countries. Probably the main cause of the failure was the inflation, for Jon Danielsson, the inflation in Iceland used to be higher than in other European countries and as a cause of it also the interests rates, which made much more interesting to buy debt. “The original reasons for Iceland’s failure are series of policy mistakes dating back to the beginning of the decade. The first main cause of the crisis was the use of inflation targeting. Throughout the period of inflation targeting, inflation was generally above its target rate. In response, the central bank kept rates high, exceeding 15% at times.
In a small economy like Iceland, high interest rates encourage domestic firms and households to borrow in foreign currency; it also attracts carry traders speculating against ‘uncovered interest parity’. The result was a large foreign currency inflow. This lead to a sharp exchange rate appreciation that gave Icelanders an illusion of wealth and doubly rewarding the carry traders. The currency inflows also encouraged economic growth and inflation; outcomes that induced the Central Bank to raise interest rates further. The end result was a bubble caused by the interaction of high domestic interest rates, currency appreciation, and capital inflows. While the stylized facts about currency inflows suggest that

they should lead to lower domestic prices, in Iceland the impact was opposite" (Danielsson, 2008, p.9).

With this economic situation in a special context as was the Lehman Brothers crash and its subsequent crisis in United States, the financial markets around the world became unstable, getting into a global crisis. The economies of the whole world were falling one by one as if it were a domino and also the Icelandic.

"Adding to this the peculiar governance structure of the Central Bank of Iceland. Uniquely, it does not have one but three governors. One or more of those has generally been a former politician. Consequently, the governance of the Central Bank of Iceland has always been perceived to be closely tied to the central government, raising doubts about its independence. Currently, the chairman of the board of governors is a former long-standing Prime Minister. Central bank governors should of course be absolutely impartial, and having a politician as a governor creates a perception of politicization of central bank decisions" (Danielsson, 2008, p. 10).

In relation to the impact that the politics may have had on Iceland's economic situation, Ólafsson points as the main cause the neoliberal current of thought that began to develop in the country during the 1980's, which limited the intervention of the state in economic and legal matters.

The consequences were catastrophic for Iceland, a country that was at the top with its economy and quality of life of its inhabitants, after the crisis in the banking sector the government did not have enough funds to support, the value of their debts were too big.
"Before the crisis, the Icelandic banks had foreign assets worth around 10 times the Icelandic GDP, with debts to match. In this crisis, the strength of a bank's balance sheet is of little consequence. What matters is the explicit or implicit guarantee provided by the state to the banks to back up their assets and provide liquidity. Therefore, the size of the state relative to the size of the banks becomes the crucial factor. If the banks become too big to save, their failure becomes a self-fulfilling prophecy. The relative size of the Icelandic banking system means that the government was in no position to guarantee the banks, unlike in other European countries. This effect was further escalated and the collapse brought forward by the failure of the Central Bank to extend its foreign currency reserves.

The final collapse was brought on by the bankruptcy of almost the entire Icelandic banking system" (Danielsson, 2008, p. 11).

4.1.Gross Domestic Product (GDP) and inflation after the crisis

The GDP or Gross Domestic Product is one of the main indicators of the economy of a country or region, since it measures the wealth of a country. It calculates the activity carried out during a certain period of time, normally one year, within the country. That means that knowing this indicator can give you a rough idea about the value of that economy or the value that the economy created during that period.

To measure this indicator some parameters have to be known, such as consumption (C), which is the personal consumption of goods and services; investment (I), that picks up the private investment; public or government spending (G); and imports (M) and exports (X) or what is the same, net exports, this last category includes the consumption of goods and services produced outside the country and goods and services produced within the country but consumed outside it.

With the disponibility of all this information it is possible to calculate the Gross Domestic Product. The most common way to calculate it is using the following formula:

$$GDP = C + I + G + (X - M)$$

The Gross Domestic Product that most often interests both economists and politicians in a nation is the GDP per capita or what is the same, the sum of all the goods and services produced by each person in the country, since it gives a more approximate view of the situation in which the economy is.

In the following data table, are shown the annual Gross Domestic Product at market prices in million of euros (GDP), the GDP growth rate at constant prices in percentage (GDP annual Var. (%)), the GDP per capita in euros (GDP per capita) and the growth rate of the GDP per capita in percentage (GDP per capita annual Var. (%)) during a period of time between 1995 and 2017.

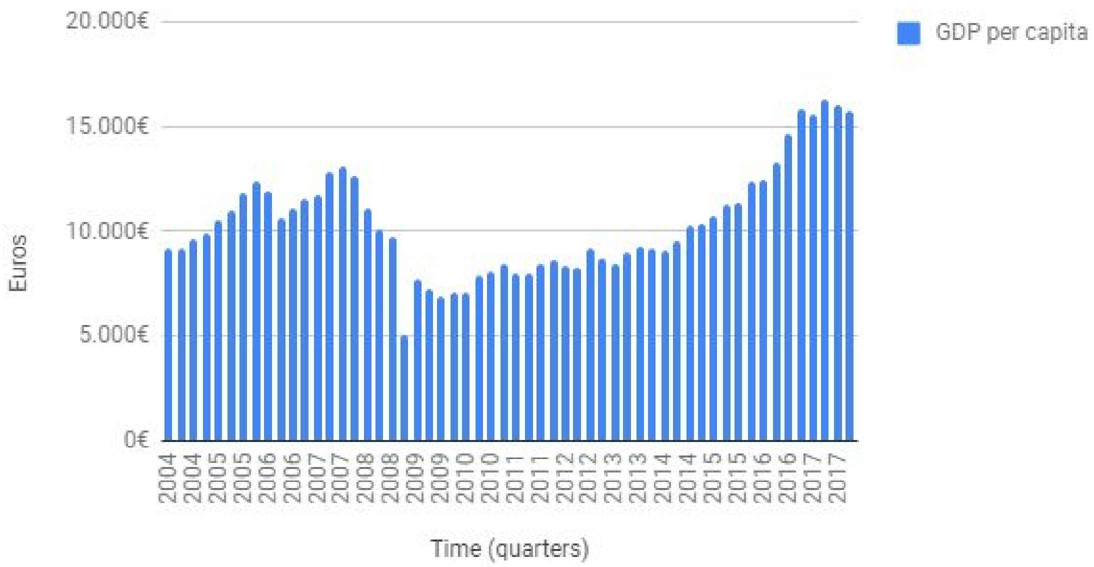
It is interesting to analyze the data of this period since it includes some years in which the growth of the Icelandic was huge, before the crisis, and some years in which, during the housing bubble crash, the country suffered a great recession. Then, the period after the crisis until now is going to show how the country's economy prospers by recovering from it.

Table 1.*GDP, GDP per capita and GDP growth rates in Iceland between 1995 and 2017*

Year	GDP	GDP annual Var. (%)	GDP per capita	GDP per capita annual Var. (%)
1995	5.361M.€	0,10%	20.000€	0,50%
1996	5.758M.€	4,80%	21.400€	7,00%
1997	6.654M.€	7,00%	24.600€	15,00%
1998	7.527M.€	7,00%	27.500€	11,80%
1999	8.358M.€	3,90%	30.100€	9,50%
2000	9.670M.€	4,60%	34.400€	14,30%
2001	9.068M.€	3,90%	31.800€	-7,60%
2002	9.793M.€	0,60%	34.100€	7,20%
2003	10.018M.€	2,40%	34.600€	1,50%
2004	11.054M.€	8,10%	37.800€	9,30%
2005	13.438M.€	6,40%	45.400€	20,10%
2006	13.634M.€	5,00%	44.800€	-1,30%
2007	15.584M.€	9,40%	50.000€	11,60%
2008	10.798M.€	1,70%	33.800€	-32,40%
2009	9.269M.€	-6,50%	29.000€	-14,20%
2010	10.051M.€	-3,60%	31.600€	9,00%
2011	10.583M.€	2,00%	33.200€	5,10%
2012	11.122M.€	1,30%	34.700€	4,50%
2013	11.699M.€	4,30%	36.100€	4,00%
2014	13.048M.€	2,20%	39.900€	10,50%
2015	15.277M.€	4,30%	46.200€	15,80%
2016	18.362M.€	7,50%	54.700€	18,40%
2017	21.193M.€	3,60%	61.700€	12,80%

Source: Table adapted from datosmacro.expansion.com, 2018.

Graphic 1.*GDP per capita in euros 2004-2017 per quarters*



Source: Own elaboration. Data source: datosmacro.expansion.com, 2018.

It is possible to appreciate, both in the table and in the graph that the Icelandic economy did not stop to grow between 1995 and 2007, at the beginning the growth was progressive, but in some point between 2004 and 2007 started to rise incredibly faster, especially in 2005 when the GDP per capita increased 20,10% compared to the previous year.

The maximum level reached in Iceland before the crisis was between July and September 2007, the GDP this year was 15.584 million of euros, the GDP per capita, 50.000€. The economic level of the country arrived a really good levels and the welfare was considered excellent. The GDP absolute value in Iceland increased 1.950 million euros from 2006 to 2007, that is a growth of 9,4% respect the value in 2006. But the most striking thing is the change that occurs with the GDP per capita, which goes from being 31.800€ in 2001 to 50.000€ in 2007. That is the time in which the banking sector was using its freedom caused by the deregulation to grow faster than ever before. The housing bubble was growing and in 2007 was almost to explode.

As the table and the graphic with the dates in quarters show, there is a serious drop in the Gross Domestic Product between the third quarter in 2007 and the end of 2008.

Go to annexes to see the table number 2, data table of GDP and GDP per capita with the growth rates per quarters.

In 2004 was proclaimed one of the most indebted country as a percentage of its GDP. Already in 2008, the comparison in Iceland between GDP and external debt was devastating, the debt was eight times the size of the country's economy, something that has never happened in history. As Ólaffson and Danielsson point out, on 7 October there was a collapse in the transfer of money between Iceland and other foreign countries. "The financial system as a whole came almost to a standstill. The collapse was multidimensional. It started as a fall in the stock market that gathered momentum from the autumn of 2007, and as a depreciation of the national currency (Icelandic krona) that started in the last two months of 2007, gathering speed towards the spring of 2008. Then the currency stabilized during the summer. When the banks fell in October the currency took another large dive; altogether it fell by close to 50 percent from peak to trough" (Ólafsson, 2013, p. 107).
"The Icelandic payment system effectively came to a standstill, with extreme difficulties in transferring money between Iceland and abroad. For an economy as dependent on imports and exports as Iceland this has been catastrophic" (Danielsson, 2008, p. 9).

The GDP per capita decreased in 32,40% in 2008, and in 2009 was in the same level than in 1999, ten years ago, what means that the level of the Icelandic economy backed a decade. That was the magnitude of the recession.

Now, with all this data, and knowing that the GDP is composed by consumption, investment, government spending and trade balance, we can guess what changed. The whole economy retracted; first the mortgages were not paid, so the banking sector was losing money and the investors withdraw the funds because of the uncertainty that this caused. On the other hand the consumption dropped considerably, caused by the increase of unemployment. The trade with other countries also decreased.

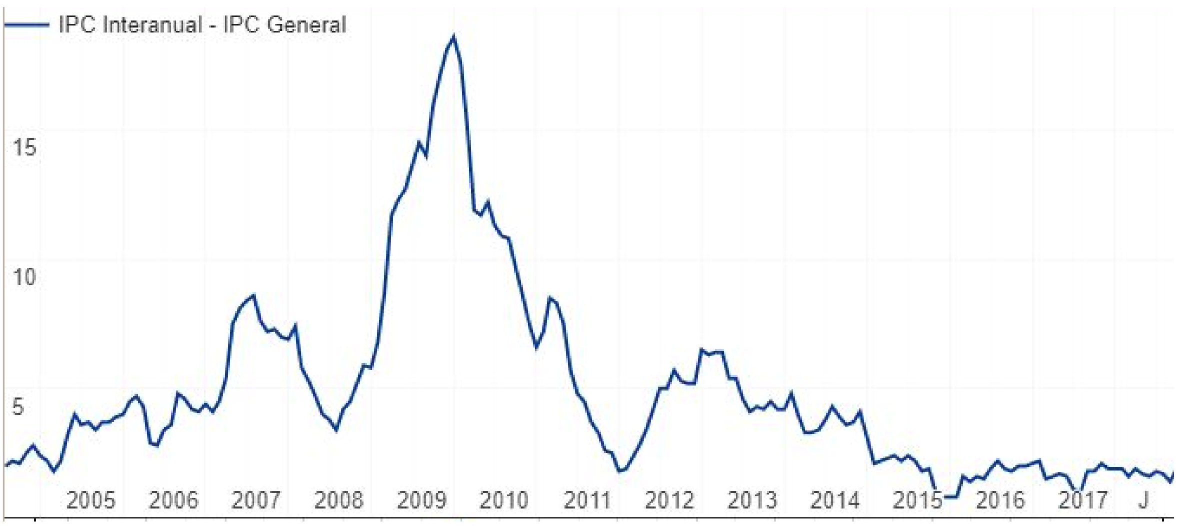
Everybody, also the government had debt and nobody could pay, so the money loses were huge for all the sectors. But for the housing sector, the housing bubble 'crash' was specially negative. In a speculating context in which people was buying and selling houses every minute and with high rates of prices, the construction sector was growing fast and investig a lot of money. It was one of the most affected sectors along with the banking sector.

In terms of inflation, as is represented in the following graphic, which shows the consumer price index in a period of fourteen years, the change before and after the fall of the financial system, in the consumer price index was drastic. Taking as a turning point the year 2009, you can see how the prices level increased in a spectacular way from 2008 to 2009. The housing bubble was growing at the same pace as prices did, above all the prices of housing. “The consumption level of 2007–2008, at the height of the bubble economy, was unsustainable given the overrated currency value at that time and the role of borrowed money as a source of consumption in some cases” (Ólafsson, 2013, p.119).

After the rupture of the housing bubble the consumer price index decreased, and did not stop until mid 2011. At its lowest point, prices reached levels similar to those of 2004, Icelandic economy was receding in the time. In spite of that, in 2012 there was another increase, although with a magnitude not comparable to that of the years 2008-2009, and as a result of which the Icelandic population could buy less goods or services than before the crisis having the same money. That is, its purchasing power declined with the increase in consumer prices.

Nowadays, the consumer price index still as low as was after the depression.

Graphic 2. ***Consumer price index between 2004 and 2017 in Iceland***



Source: datosmacro.expansion.com, 2018.

4.2. Unemployment and average wage after the crisis

The amount or percentage of employees or unemployed people is another measurer of the value of an economy and the well-being of its population. This parameter just includes the people within age to be able to work which wants to work and are looking for a job but does not find it. The unemployment is really useful when it comes to a study in which you are making a comparison of the economy over time to identify any drastic change and what is causing it.

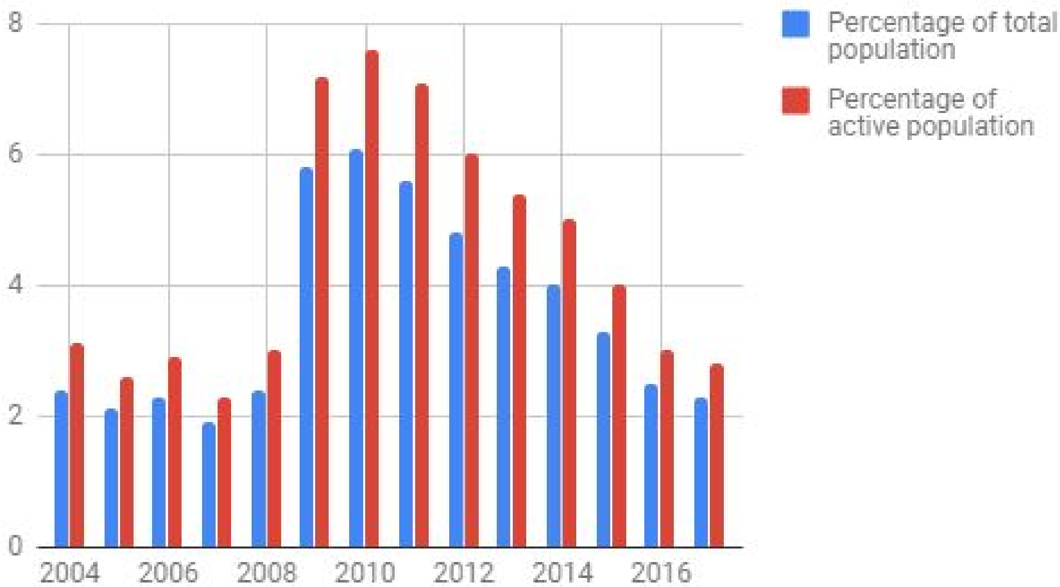
In the following table is shown, in a period of fourteen years, since 2004 to 2017, the thousands of persons unemployed, the percentage of unemployed people of total population and the percentage of unemployed people of active population.

Table 3. ***Unemployed people, percentage of total population and active population 2004- 2017***

TIME/UNIT	Thousand persons	Percentage of total population	Percentage of active population
2004	5	2,4	3,1
2005	4	2,1	2,6
2006	5	2,3	2,9
2007	4	1,9	2,3
2008	6	2,4	3
2009	13	5,8	7,2
2010	14	6,1	7,6
2011	13	5,6	7,1
2012	11	4,8	6
2013	10	4,3	5,4
2014	9	4	5
2015	8	3,3	4
2016	6	2,5	3
2017	6	2,3	2,8

Source: ec.europa.eu/eurostat, 2018.

Graphic 3.*Percentages of unemployed people in Iceland between 2004 and 2017*



Source: Own elaboration. Data source: datosmacro.expansion.com, 2018.

The graphic represents the percentages of unemployed people on the total population in Iceland, in blue, and on the active population, in red. The dates of the graphic are between 2004 and 2017.

Using the numeric dates that the previous table and graphic contribute is easy to see in a more graphic mode the changes in the number of people employed and unemployed before and after the crisis in Iceland.

Until 2008 the unemployed people rate in Iceland was very low, arousing the envy of other European countries and increasing the quality of life of Icelandic citizens. In 2007, before the crisis just 1,9% of the population was unemployed, 2,3% of the active population, or what is the same four thousand people. The change between 2007 and 2010 was drastic, the unemployment rate of active population grew until 7,6% more than tripling the levels in 2007.

However, after the bad levels of unemployment found in 2009 and later, Iceland recovers with some speed, lowering its unemployment rate year after year until 2017, when the level of unemployment was almost as good as it was in 2006, before the crisis.

This was so thanks to the policies that the government took immediately after the drastic changes suffered by its economy. Above all, Ólafsson, points out that the policies that most helped to regulate unemployment were those of redistribution of expenses, giving greater importance to social expenditures such as unemployment benefits or aid to households. “The government aimed to increase equality in the distribution of levels of living, to soften the blow to the living standards of the nation, to reduce unemployment, and to soften the worst debt burden of households, as far as governmental finances allowed (...) on the whole social protection expenditures increased by 4.2 per cent in real value kronur from 2007 to 2010, with an increase of 11.6 percent for transfers to households, while expenditures on services were cut by nearly 3 per cent in the same period. Expenditures on pension benefits were increased by a generous raising of the minimum pension. Of course expenditures on unemployment benefits increased massively (by some 600 per cent) and expenditure on labour market measures increased by 60 per cent in real terms” (Ólafsson, 2013, p.114).

Table 4. ***Average wage between 2004 and 2017 in Iceland***

Date	Average wage
2004	41.313€
2005	52.921€
2006	52.370€
2007	57.925€
2008	37.878€
2009	29.397€
2010	32.466€
2011	34.551€
2012	37.821€
2013	38.128€
2014	44.210€
2015	50.858€
2016	62.533€
2017	73.781€

Source: datosmacro/expansion.com, 2018.

Regarding the salary, in the previous table, table number 5, is shown the average wage in euros between 2004 and 2017.
Nowadays, Iceland is one of the European countries with the highest average salary per person, the data of wages in this country had always been really positive for its inhabitants and have indicated an advanced, strong and growing economy.

As is represented in the previous table, from 2004 to 2007 the average wage was growing progressively. Nevertheless, from 2007 to 2008 the average wage decreased more than 20.000€, going from 57.925€ of salary per person to 37.878€, and it continued falling until 2009, when arrived to 29.397€. That was a decline that brought the average salary to levels even lower than there were in 2001.

Despite of this, in 2010 the salary started to increase again, and has been increasing since then, faster every year. In numerous analyzes, such as Ólafsson's, the degree of recovery of this economic indicator has already been classified as surprising, last year the average wage was 73.781€ per person, if it is divided for example in twelve pays, is more than 6.000€ per month, what knowing the level of prices and the value of their currency is a good level.
"Increase from 2011 to 2012 was about 4.6 per cent. That increase was in effect larger than any yearly real wage increase in Iceland since 1998. It was in fact the highest yearly rise in 13 years. These figures clearly indicate the strength of the recovery" (Ólafsson, 2013, p.118).

Among others, one of the main causes of this miraculous recovery is due to a group of measures to change the economic situation of the country and that were aimed mainly at increasing social welfare. "In Iceland in 2009 minimum pensions were increased by 20 per cent and minimum wages were raised marginally, as were welfare benefits, which also became more targeted at the lowest income groups. The changes in the taxation system in effect lowered the real tax burden on lower income groups and increased the tax burden on the higher groups. The increased tax burden primarily fell on the top 40 per cent of households. Hence redistribution was a prominent feature of the Icelandic crisis strategy" (Ólafsson, salario, 2013, p. 112).

Something that also helped was the tourist boom that the country has experienced since 2010, when the volcano Eyjafjallajokul erupted.

4.3. Public deficit and public debt after the crisis

In economics deficit is understood when, in an specific period of time, the expenditure of the state, that is, the public expenditure exceeds its income. Is the negative result of the state accounts due to income through taxes on citizens and other types of income, lower than expenses in subsidies and other goods and services.

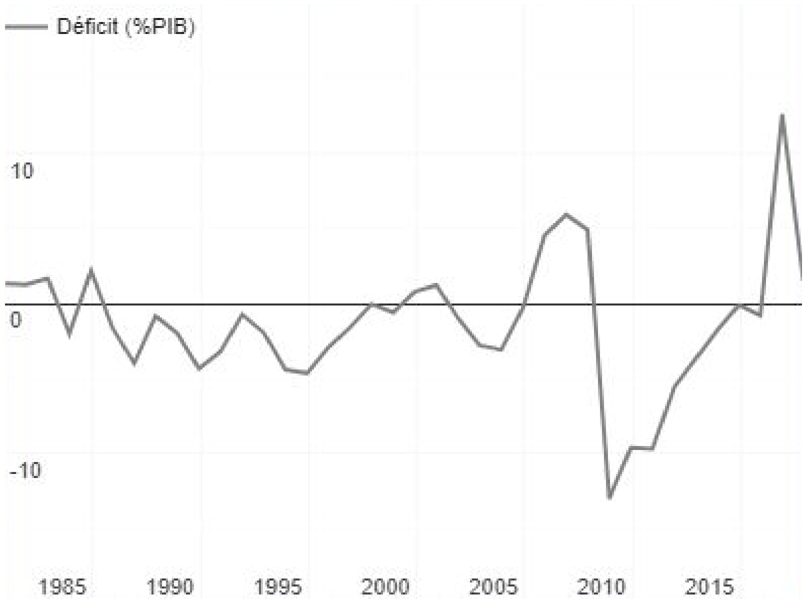
In the next numeric table appear the deficit in million of euros and the deficit as a percentage of the GDP in Iceland between 2004 and 2017.

Table 5. ***Public deficit in million of euros and as a percentage of the GDP, 2004-2017***

Year	Deficit (M.€)	Deficit (%GDP)
2004	-36	-0,30%
2005	602	4,50%
2006	799	5,90%
2007	765	4,90%
2008	-1.407	-13,00%
2009	-893	-9,60%
2010	-977	-9,70%
2011	-589	-5,60%
2012	-414	-3,70%
2013	-214	-1,80%
2014	-10	-0,10%
2015	-124	-0,80%
2016	2.308	12,60%
2017	321	1,50%

Source: datosmacro.expansion.com, 2018.

Graphic 4. ***Public deficit evolution as a percentage of the GDP***



Source: datosmacro.expansion.com, 2018.

As is shown in the previous table and graphic, the deficit in Iceland is represented as a percentage of the GDP, that is how is possible to know the real importance of it in the Icelandic economy. When the data appears in positive, will be surplus instead of deficit.

The fluctuation between deficit and surplus in Icelandic economy has been moving always, like usually in all economies. But there is a change before the crisis, when the banking sector was growing and apparently everything was going well, in 2007, there was a surplus with a value of 4,9% of the GDP, 765 million euros. Those were really good statistics for the country if you do not take into account what came after.
Between 2007 and 2008, the public accounts in Iceland came to have a deficit at worrying levels. The quantity of deficit was the 13% of the Gross Domestic Product in 2008, 1.407 million euros.

Despite of this in 2009 a slow recovery begins to be seen, which accelerates with the passage of time and from 2015 to 2016 a drastic change is recorded, having in 2016 a superavit of 2.300 million of euros and coinciding with the finalization of the payment of its debt with the IMF.

In terms of public debt, Iceland, despite of its small size in terms of inhabitants, accumulated million of euros of debt. The banking system increased to such level and accumulated such level of debt that the rescue by the IMF, International Monetary Fund, had to be huge.
The following table provides data on Icelandic debt from 2004 and 2017 in million of euros, as a percentage of the GDP and the debt per capita.

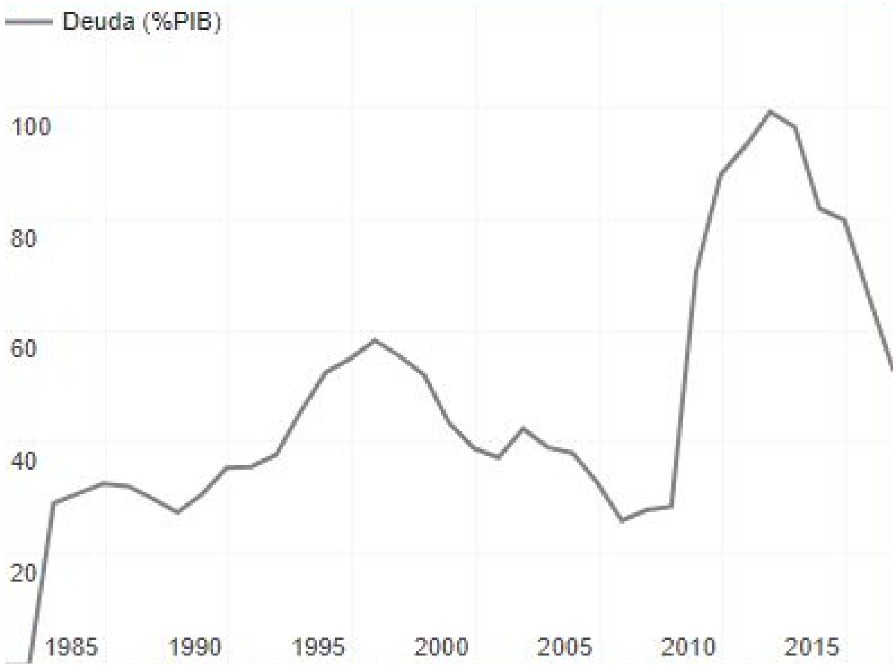
Table 6. ***Debt in million of euros, debt as a percentage of the GDP and debt per capita, 2004- 2017***

Year	Total debt (M.€)	Debt (%GDP)	Debt per capita
2004	3.643	32,73%	12.411€
2005	3.586	26,00%	11.956€
2006	3.502	27,90%	11.381€
2007	4.057	28,50%	12.861€
2008	2.925	70,40%	9.157€
2009	7.322	87,90%	23.053€
2010	9.286	93,00%	29.160€
2011	10.184	99,10%	31.867€
2012	9.693	96,40%	30.117€
2013	9.874	81,79%	30.319€
2014	10.654	79,73%	32.374€
2015	10.315	66,00%	31.021€
2016	9.678	52,75%	28.603€

Source: datosmacro.expansion.com, 2018.

The graphic number five is in connection with the previous table and allows to see in a more graphic way the debt as a percentage of the GDP of this country in a longer period of time.

Graphic 5. ***Public debt in Iceland as a percentage of the GDP, 1985-2016***



Source: datosmacro.expansion.com, 2018.

In November 2008 Iceland asked for a bailout of the IMF, the agreement they reached was worth 2.100 million euros. It is the first developed country to request assistance from the IMF in 30 years. Was in that time when the public debt of Iceland lift that way, and was the same debt the one that had been paying during eight years. Between 2008 and 2009, the debt doubled. Went up from 2.925 to 7.322 million euros.

In other papers such as Ólafsson or Fridriksson, the subject of the weight of a country's debt in times of crisis is discussed. Ólafsson, for example, points out that the creation of the bubble is influenced by many factors and among them the housing sector does not stand out as the main cause. On the contrary, he highlights the importance of the debt accumulation that the country had for years and specially before the 'crash' and the growing speculation. Also qualifies the policies carried out for the return of the debt very appropriate and effective. "On the eve of the collapse, Iceland's foreign debt amounted to almost eight times the country's GDP. Most harmful in the case of Iceland was the debt accumulation of the financiers and business speculators who were responsible for the big majority of foreign debts" (Ólafsson, 2013, p. 120).

Finally, thanks to the policies of reorganization of expenses, aid and taxes, in 2015 they managed to repay the debt and in advance to the proposed dates.

5.CONCLUSIONS

After years of neoliberalism policies in Iceland that began to take hold after the 70's, the country was plunged into a major crisis that affected both politically and financially as well as socially. This happened in 2008 when the bubble which has been created in previous years explode.

At the same time, in United States, a global economic crisis began in September 2008, when the bankruptcy of Lehman Brothers, one of the most important banks in the US, and the fall of the largest insurance company in the world, AIG, unleashed a global recession and the first global crisis of this century.
The consequences were serious internationally, but especially in Iceland the fall of the banking, financial and economic sector was huge. And is that Iceland was one of the European countries best positioned in terms of the welfare state in concerned, which means that GDP per capita was at a level higher than the European average, as well as its very low unemployment rate and its almost nonexistent public deficit.

When, due to a series of deregulation policies carried out, the size of the Icelandic banking sector grew beyond its possibilities, surpassing its value to that of the country's GDP and being impossible to be rescued by the state in case of financial collapse; the huge bubble explode. The new financial products created by the bank, like the subprime mortgages, to obtain more profit did not take into account the risks and when the system failed around the world, the country's debt increased rapidly. The government could not do anything to prevent the entire country from plunging into a crisis.
From 2008 to 2009, the unemployment rate quadrupled, going from 2% to reach 9%, on the other hand, the GDP was reduced by 10%.

In spite of this great blow, it has been seen how Iceland has been able to apply the correct policies to mitigate the effects of the crisis and come out afloat, specially using social policies. Which instead of further sinking the country as sometimes is believed, boosted consumption and with it production and the economy up; making a renewal in the distribution of subsidies and grants, as well as in taxes.

In this paper has been showed numerically and graphically, how the Icelandic economy has recovered of the crisis so fast compared to other countries that are still trying to get out. All this, trying to give an explanation about it, analyzing some policies carried out and their positive effects . In the future it would be interesting to compare the measures carried out in Iceland after the crisis with those carried out in other countries that were equally affected by the crisis, as it is something that this paper did not study.

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7. ANNEXES

Table 2. ***GDP, GDP per capita and GDP growth rates in quarters in Iceland between 2004 and 2017***

Year	Quarter	GDP	GDP Quarterly Var. (%)	GDP per capita	GDP per capita Quarterly Var. (%)
2004	I	2.678M.€	5,00%	9.215€	9,00%
2004	II	2.670M.€	-0,30%	9.188€	-0,30%
2004	III	2.788M.€	2,60%	9.595€	4,40%
2004	IV	2.905M.€	3,50%	9.894€	3,10%
2005	I	3.088M.€	-3,10%	10.518€	6,30%
2005	II	3.243M.€	5,50%	11.048€	5,00%
2005	III	3.474M.€	2,70%	11.833€	7,10%
2005	IV	3.711M.€	-0,50%	12.373€	4,60%
2006	I	3.585M.€	-1,50%	11.953€	-3,40%
2006	II	3.191M.€	4,40%	10.641€	-11,00%
2006	III	3.331M.€	0,20%	11.106€	4,40%
2006	IV	3.544M.€	0,10%	11.517€	3,70%
2007	I	3.598M.€	3,20%	11.695€	1,50%
2007	II	3.954M.€	4,80%	12.851€	9,90%
2007	III	4.026M.€	0,40%	13.086€	1,80%
2007	IV	3.995M.€	3,80%	12.663€	-3,20%
2008	I	3.497M.€	-2,30%	11.085€	-12,50%
2008	II	3.189M.€	-0,40%	10.108€	-8,80%
2008	III	3.073M.€	-0,80%	9.743€	-3,60%
2008	IV	1.612M.€	1,70%	5.049€	-48,20%
2009	I	2.460M.€	-7,60%	7.703€	52,60%
2009	II	2.309M.€	4,50%	7.228€	-6,20%
2009	III	2.214M.€	-0,30%	6.931€	-4,10%
2009	IV	2.254M.€	-3,20%	7.095€	2,40%
2010	I	2.255M.€	-3,90%	7.099€	0,10%
2010	II	2.499M.€	2,70%	7.867€	10,80%
2010	III	2.576M.€	-1,10%	8.110€	3,10%

2010	IV	2.690M.€	1,00%	8.448€	4,20%
2011	I	2.538M.€	-1,10%	7.971€	-5,70%
2011	II	2.553M.€	2,00%	8.017€	0,60%
2011	III	2.687M.€	2,20%	8.437€	5,20%
2011	IV	2.754M.€	-1,70%	8.618€	2,10%
2012	I	2.658M.€	1,00%	8.317€	-3,50%
2012	II	2.651M.€	-0,80%	8.297€	-0,30%
2012	III	2.938M.€	1,70%	9.193€	10,80%
2012	IV	2.806M.€	-1,20%	8.717€	-5,20%
2013	I	2.719M.€	4,80%	8.447€	-3,10%
2013	II	2.902M.€	-3,50%	9.016€	6,70%
2013	III	2.974M.€	3,60%	9.240€	2,50%
2013	IV	2.984M.€	1,30%	9.161€	-0,90%
2014	I	2.964M.€	-2,20%	9.101€	-0,70%
2014	II	3.119M.€	0,20%	9.576€	5,20%
2014	III	3.360M.€	5,30%	10.318€	7,70%
2014	IV	3.407M.€	-2,40%	10.352€	0,30%
2015	I	3.539M.€	0,10%	10.753€	3,90%
2015	II	3.701M.€	3,70%	11.246€	4,60%
2015	III	3.735M.€	0,70%	11.349€	0,90%
2015	IV	4.127M.€	0,90%	12.410€	9,40%
2016	I	4.158M.€	0,20%	12.503€	0,80%
2016	II	4.416M.€	3,90%	13.281€	6,20%
2016	III	4.889M.€	3,70%	14.702€	10,70%
2016	IV	5.348M.€	2,20%	15.807€	7,50%
2017	I	5.270M.€	-1,70%	15.575€	-1,50%
2017	II	5.519M.€	-0,80%	16.311€	4,70%
2017	III	5.424M.€	3,90%	16.031€	-1,70%
2017	IV	5.477M.€	0,00%	15.719€	-2,00%

Source: Own elaboration. Data source: datosmacro/expansion.com, 2018.