The Greek Tragedy in the Health Sector: Social and Health Implications

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Summary: Greece went into recession in 2009, after a decade of flourishing economic growth fluctuating annually around 4 percent; over the same period the average growth for the EU-27 was just about 2 percent. The economic downturn had a series of adverse effects on the economy and the health sector. More specifically, over the 2008–2015 period, GDP was reduced by 29.5 percent, wages were reduced by 35–45 percent, private consumption dropped by 30 percent and health expenditure declined by 41 percent. At the same time income inequality (shares S80/S20) increased by 11 percent and the unemployment rate reached 27.1 percent (an increase of 276.4 percent). The share of population at risk of poverty increased from 27.6 percent in 2009 to 36 percent in 2014. While life expectancy stabilized at about 80 years, infant mortality increased from 2.7 in 2008 to 3.8 in 2010, with a subsequent marginal reduction. The Eurozone countries and the IMF provided three rescue packages to Greece. The first economic adjustment program was signed in May 2010 between Greece and Troika (the European Commission, The European Central and the IMF) was worth 110 billion euro. The second adjustment program was signed in February 2012 and worth 130 billion euro, while the third one in June 2015 amounted to 86 billion euro. The terms of these bailouts included a series of required reforms, such as the liberalization of several protected economic and employment sectors, the reduction of public expenditures, the fight against corruption and the underground economy, the control of health expenditures, and the implementation of an austerity package. Consequently, the economic crisis has brought a significant deterioration to the health status and quality of life of the Greek Population. A set

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of quality of life instruments is used to assess the impact of the crisis on a Visual Analogue Scale (VAS). The quality of life mean scores indicated a significant deterioration of subjective health by 10 points. The VAS before the crisis was VAS_{Before} = 86.06 (st.d. =15.14) and the corresponding value during the crisis was VAS_{During} = 76.72 (st.d. = 20.51). The significant reduction in VAS was also associated with greater inequalities in the distribution of health. In addition low-income individuals declared losses of jobs, fears of long unemployment, and a significant deterioration of their psychological and emotional status. The findings will help develop better targeted health policies that seek to improvement of the health of the Greek population.

1 Introduction

Greece has gone bankrupt five times in its economic history through the 19th and 20th centuries. The milestones of crises are as follows: The first bankruptcy took place in 1827, four years after the Greek Revolution against the Ottoman State. Similar economic hardships leading to bankruptcy were recorded in 1832, 1843, 1893, and during the great crisis of 1932. It is worth mentioning the historic speech of then Prime Minister Charles Trikoupis, who declared on December 10, 1893, in the Greek Parliament the infamous phrase, "regretfully, we are bankrupt." At the end of the 19th century lender countries established an "International Audit Committee" to examine the economic situation in Greece in an effort to determine possible economic development paths that would ensure the repayment of the foreign loan. The committee examined the evolution of the macroeconomic aggregates in Greece and noted an important 1859 study conducted by the so called "Economic Commission"; which was composed of diplomatic representatives from Britain, Russia, and France. This study highlighted three important issues related to the functioning and efficiency of the Greek Economy: 1) the lack of reliable public financial management; 2) the voting but non implementation of the anticipated reforms revealing non-compliance with laws; and 3) the shortage of qualified civil servants, with the consequential inability of the government to effectively manage public administration initiatives to exit the crisis. It is striking how appropriate, even today, the 1859 proposal remains more than 160 years later. That May 2010 strongly resembles May 1859 is also rather worrying.[1]

The Greek bailout, later noted as the first "Greek Tragedy", was followed by a memorandum of understanding (MOU) signed between Greece and the so-called "Troika", which consists of three major international institutions: the European Central Bank, the European Commission, and the International Monetary Fund. Time passed and after three MOU agreements, Greece's economy is still in an ongoing recessionary trend that began in 2009. The prolonged economic depression has led to a grave reduction in social and health expenditures, resulting in a social and humanitarian crisis. Social and health spending in most European countries follows a "counter-cyclical trend", with and increased tendency toward satisfying the health and social needs of the populations, as is typically required during crisis periods. Greece, in the initial face of crisis and over the 2009–2012 period followed a similar expansionary trend in social spending, increasing its share to GDP from 24.4 percent in 2009 to 26.1 percent in 2012. However, cost containment measures imposed by troika led to a reduction by two percentage points over the 2012–2014 period, thereby generating considerable economic and social pressures in the middle and lower income

1 For a comprehensive review of two centuries (1829–2015) of debt crisis in Greece and its dependence on foreign financing, see Carmen Reinhart and Trebesch (2015).

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classes, with large groups of people falling into poverty. The share of population at risk of poverty increased from 27.6 percent in 2009 to 36 percent in 2014 (European Commission 2015a).

2 Chronicle of the modern crisis

At first glance the economic crisis of 1929 compared to the crisis of 2009 to 2015, shows substantial differences attributable to both its "depth" and "duration", as well as the range of its impact on society and the health of citizens. A brief reference to the facts could shed more light on the differences between the 1929 crisis and the current situation. The financial crisis of 1929 began in the United States, spreading rapidly around the world, including Europe, as it infected economies and social systems. At that time, the economies of Germany, Greece, Hungary, Romania, Poland, and Austria underwent payment failure and an immediate restructuring of their debt. The financial crisis led to a dramatic increase in unemployment and uncertainty, paving the way to subsequent political instability and dictatorships in many European countries (notably, Germany, Italy, and Greece). In Greece one of the most important reasons behind the crisis was the Asia-minor disaster and the need it created for extended policy measures providing housing, health and social protection. In March 1927, Greece requested a loan from the Financial Committee of the League of Nations, which sent a four-member committee to Greece in order to study the economic situation. The commission concluded that a loan prerequisite would be a reform of the financial system with the creation of a central financial institution, the Bank of Greece. In September 1927 the Geneva Protocol was signed, establishing the creation of the central bank, which came with a grant, in the form of a loan, of 9 million Sterling. From its inception, the Bank of Greece maintained close cooperation with the Financial Committee of the League of Nations until 1940, when the Second World War completely inhibited the development programs for the creation of technological infrastructure, or any further agricultural and industrial development in Greece.

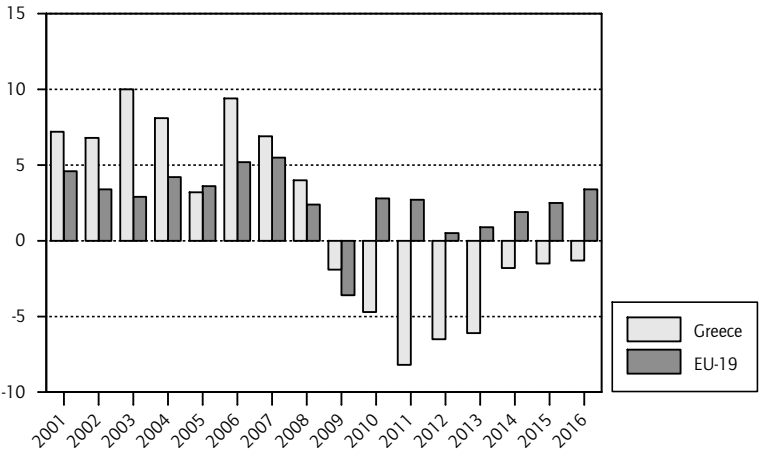
The features of the recent financial crisis are different in many facets: the geopolitical field, its emergence, and in its duration. The economic crisis broke out in September 2008 in the US where several factors (complex financial entities emerging, the housing bubble burst, shadow banking system, and inadequate financial risk assessment, to name a few reasons) led to economic chaos with many bank runs and, ultimately, giant corporations like the Lehman Brothers declaring bankruptcy. At this point it was realized that the global market was highly interconnected with the failure of specific institutions influencing corporations in other parts of the world due to high systemic financial interdependence. Ultimately the U. S. crisis led to the "infection" of several European countries, including Iceland (2008), Latvia (2008), Hungary (2008), Serbia (2009) and Romania (2009). On April 23, 2010, Greece resorted to the Troika (European Central Bank, European Union and the International Monetary Fund) requesting a loan of 110 billion euro and then, in March 2011, for an additional loan of 130 billion euro. Bailouts were also granted to Ireland (November 2010), Portugal (May 2011), and Cyprus (March 2013).

3 Macroeconomic fluctuations

After a period of economic growth and prosperity, when the average annual economic growth rate in Greece fluctuated in double the levels of the respective indices of the average European Union countries (IMF 2013a-d, EU 2013, Herrmann and Kritikos 2013), Greece experienced an unexpected financial crisis that completely reversed the economic models and expectations of Greek citizens. After experiencing an average annual GDP growth rate in Greece of 4 percent per annum from 2000 through 2008, when it was around 2 percent in the EU-28, GDP was –3.6 percent in 2009. A year later, in 2010, it was –4.7 percent. In 2011 initial expectations were busted and the recession worsened, with GDP shrinking by –8.2 percent, the worst recorded in EU history (Figure 1). This decrease is attributable to consumer demand of negative 7.1 percent, of public consumption of negative 9.1 percent, and a –20.7 percent fall in investments. The first sight recovery from the recession was observed with a GDP decrease of –6.5 percent in 2012 and –6.1 percent in 2013 (Figure 1). Despite "previous expectations" for a recovery, the recession continues. European Commission and Central Bank of Greece forecasts that the recession will continue through at least 2016. (Figure 1) Economic forecasts predict neither the "depth" – meaning the size reduction of GDP—nor the "duration" of the economic crisis. Greek GDP lost 30 percentage points over a period of only six years. Figure 1 portrays the "depth" and the "duration" of the "Greek tragedy" in comparison with the EU average. The greatest crisis "depth" was in 2011. Regarding the duration, it lasted six years and is the longest crisis for any European country.

Figure 1

Annual rate of GDP growth in Greece and the EU average
2001–2016



Source: Statistical Annex of European Economy Spring 2015.

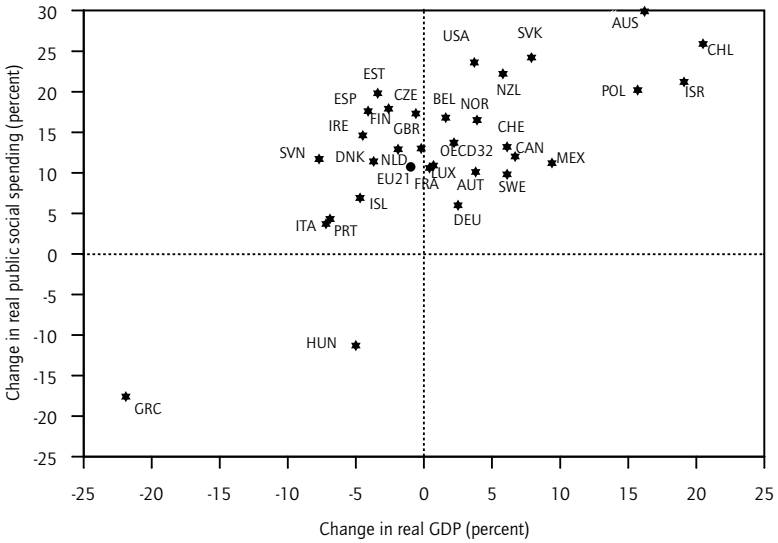
4 Social expenditure

Reviewing the facts of the economic crisis raises the question about how far the extent of the crisis was felt, including whether or not the Greek social sector was at all affected. Difficult times often call for empowering measures, with many European economies employing a "counter-cyclical" economic policy, where social spending is not allowed to fall faster than the rate of GDP decrease. The main reason is that social needs dramatically increase during crisis times, when people are forced out of jobs and income levels fall. Hence the logical step for state planners rushing to meet the increased social needs, as an increasing number of people are vulnerable, is to increase funding. The reality for Greece is different, as recorded in Figure 2. For purposes of analysis, we examine the comparative picture of the crisis in OECD countries, showing change in GDP on the x-axis and the corresponding change in social expenditure on the y-axis, comparing 2007/08 to 2012/13.

In most EU countries, the decline in GDP did not result in reduced social expenditure, but rather an increase. This is also true for most OECD countries—including a majority of EU countries—as shown in Figure 2: these countries are found in the upper half, reflecting a policy of increasing social expenditure whether the countries experienced a recession (upper left quadrant, with falling GDP), or a boom (upper right quadrant, with rising GDP). Greece and Hungary are the

Figure 2

Change in social expenditure in relation to change in GDP



Note: AUS = Australia, CHL = Chile, SVK = Slowakia, USA = United States of America, NZL = New Zealand, POL = Poland, ISR = Israel, EST = Estonia , ESP = Spain, CZE = Czech Republic, BEL = Belgium, NOR = Norway, FIN = Finland, GBR = United Kingdom, CHE = Switzerland, CAN = Canada, MEX = Mexico, SVN = Slovenia, DNK = Denmark, NLD = Netherlands, LUX = Luxembourg, SWE = Sweden, ISL = Iceland, ITA = Italy, PRT = Portugal, DEU = Germany, GRC = Greece, HUN = Hungary.
Source: OECD Social Expenditure Data Base.

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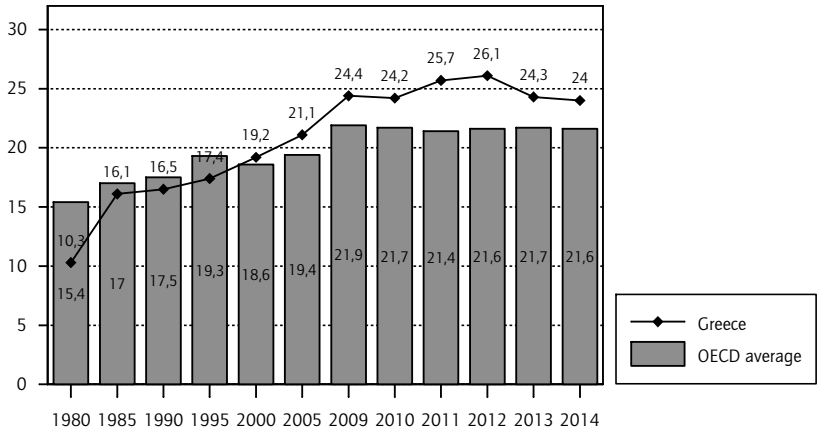
Figure 3

Social expenditure as percentage of GDP in Greece and OECD average
1980–2014



Source: OECD social expenditure data base.

exceptions: the decline in GDP is accompanied by a dramatic reduction in social spending. As noted earlier, this has a catastrophic social effect because a recession is precisely when it is crucial for governments to spend on social welfare to address increasing societal needs.

To gain a wider perspective on the matter, a dynamic view of social spending should be considered. It should be noted that Greece, like other European countries, initially expanded social expenditures during the early stages of the crisis. Figure 3 portrays the evolution of social expenditure as percentage of GDP in Greece and the OECD average from 1980 through 2014. Early in the crisis, the Greek percentage of social spending increased from 24.4 percent of GDP in 2009 to 26.1 percent in 2012.

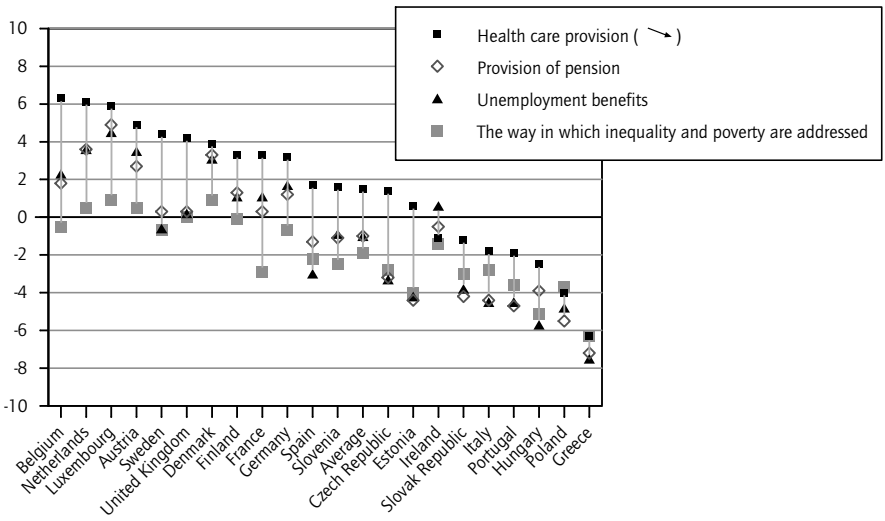
After 2012, the second memorandum agreements imposed desperate cost containment measures to control public and social spending in order to save money that would reduce Greek debt. Hence social spending was significantly cut, a reduction of two percentage points (see Figure 3), which is how Greece ended up with the extreme counter-cyclical social spending decrease observed between 2012 and 2014.

Further investigation is needed to determine the impact of this crisis on the satisfaction of Greek citizens' "social rights." Combining the evidence of Figure 2 with the corresponding data in Figure 4, where the results of 2012 Eurobarometer study on satisfaction with welfare state performance across the OECD are presented, we find that Greeks have the lowest satisfaction with regard to welfare benefits, including the provision of health care, pensions, unemployment benefits, as well as the way in which inequality and poverty are addressed (see Figure 4).

Historically, the Greek welfare system has been fragmented and mismanaged with low levels of effectiveness and efficiency. Despite the fact that social expenditure, as percentage of GDP, in-

Figure 4

Satisfaction with welfare state performance varies across European countries



Source: OECD 2014 Society at a Glance Note: Eurobarometer index on satisfaction 2012.

creased by 14 percentage points between 1980 and 2014 (i.e from 10.3 percent in 1980 to 24 percent in 2014), at a time when the corresponding average OECD increase was 6 percent, the Greek welfare state has been less effective at achieving social objectives. According to 2014 EU statistics (European Commission 2015), social transfers (excluding pensions) only reduced poverty by 17.5 percent in Greece, compared to the EU average of 36 percent. The social protection system in Greece is not well targeted and does not cover adequately the vulnerable groups (European Commission 2015). Policy reforms aim at restructuring and widening the health and unemployment benefits for people suffering from the crisis. Under the 2014–2020 Fund for European Aid to the Most Deprived (FEAD) program, Greece received more than 280 million euro in assistance to alleviate extreme poverty. In addition the European Social Fund provided Greece with an additional 800 million euro (European Commission 2015) to reduce poverty, tackle discrimination, and increase social inclusion.

5 Health expenditures

The reduction of social expenditures triggered a significant decline in health expenditure. Before the crisis, from 1993 through 2008, health expenditure had been growing faster than GDP, in almost all the OECD Countries, ensuring income elasticity greater than 1. The largest increase in health expenditure was observed during the ten years just before the crisis, when the annual rate of health expenditure growth was 5.6 percent, while GDP increased annually by 3.6 percent (higher than one income elasticity). Health spending declined to a near zero growth rate in 2010

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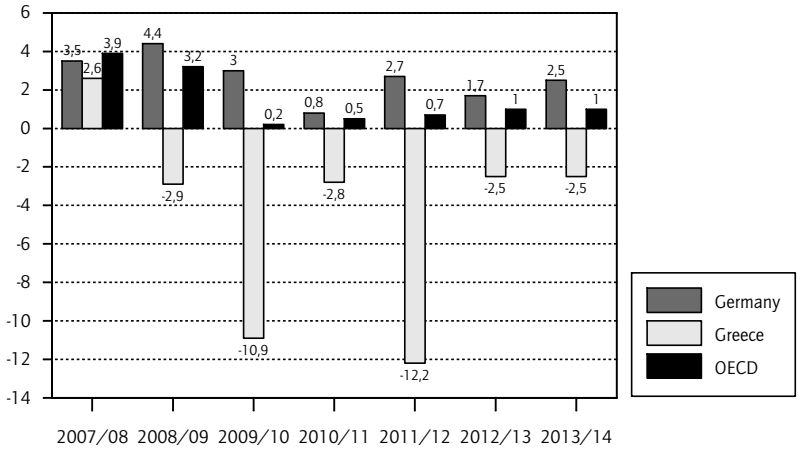
Figure 5

Annual growth in per capita health spending
2007–2014



Source: OECD Health Data Base 2015.

followed by a slight increase at rate around 1 percent for the period 2011 to 2014 across northern European Countries (see Figure 5).

The Greek economic crisis led to a major setback in the social sector, especially in healthcare (Kousoulis et al. 2013, Kondilis et al. 2012, Tsiacharistas et al. 2015). The upward trend in healthcare spending witnessed over the 1993–2008 period was completely reversed by drastic cuts, which proved severe for Greece, especially compared to both other OECD and European Union countries. Figure 5 portrays the rate of increase for health expenditures over the 2007–2014 period for Greece, Germany, and the OECD average. Greece appears to be the only OECD country exhibiting devastating reductions in health expenditures: –2.9 percent in 2009, –11.4 percent in 2010, and –12.2 percent in 2012. During the 2009 to 2014 crisis period, Greek health spending was cut by 34 percent on aggregate, while the corresponding decrease in other OECD countries was almost insignificant. Even in other Memorandum Countries, such as Ireland and Portugal, healthcare expenditure reductions were more modest, around 5–10 percent. The economic recession significantly affected Greece's health sector. During the crisis, life expectancy stabilized at about 80 years, while infant mortality increased from 2.7 in 2008 to 3.8 in 2010, with a subsequent marginal reduction to 3.7 in 2013. The remaining southern EU countries recorded declining infant mortality trends throughout the crisis. However, further investigation explore the possibility that the crisis is a "window opportunity", as the OECD argues, to generate structural reforms aimed at reorganizing the health sector, fighting corruption and the underground economy, as well as improving the equity and efficiency of resources (Androutsou et al. 2011, OECD 2015).

6 The Chronicle of health reforms

In the Greek pre-crisis period, there were three major reforms attempting to reorganize and restructure the health sector. The first was the 1983 passage of Law Act 1397 that established a National Health System (NHS) following the tradition of the British NHS. The second is the effort to regionalize and decentralize the bureaucratic administration by dividing Greece into 17 regional health authorities (PESYPs) (Law Act 2889 passed in 2001 and Law Act 3106 passed in 2003). The third reform was the Kalikratis Plan (Law Act 3852 passed in 2010) promoting the establishment of 13 independent administrative regions and 370 municipalities. It was planned that primary health care and public health programs would operate at the jurisdictional level under the establishment of seven health authorities called DYPEs. However, despite the good intentions of the reformers, bureaucratic delays and political party involvement in the decision making contributed to the fragmentation in the provision and financing of services of the health care system.

In 2010s, early on during the crisis, the Greek Government signed an agreement with troika to implement reforms in the economy and in the health sector. Within the framework of the economic adjustment program (Occasional Paper 72, December 2010) the European Commission assessed the need for reforms and invited the Greek Government to, "start preparing and implementing a comprehensive reform of the health care system". The overall objectives were to improve efficiency, control, and keep the public health expenditure at a level below 6 percent of GDP, while ensuring universal access and quality of services. The first "most promising reform" was the establishment of a unified health system called EOPYY (National Organization for Health Care Provision; Law Act 3918 passed in 2011). The previous four largest insurance funds (IKA, OAEE, OPAD and OGA) were unified under a self-managed organization covering more than 95 percent of the Greek population. In addition to EOPYY, several reforms were implemented in the hospital management and pharmaceutical sectors.

In the hospital sector, the Diagnosis Related Groups (DRG's KEN) framework was used in 2011 as a tool for reimbursing hospitals (Law Act 1702 passed in 2011). In addition, since 2014, internal auditing and cost accounting systems have been progressively introduced. The adoption of a centralized procurement system, named Central Committee for Health Supplies (EPY) and covering around 25 percent of hospital buys, produced substantial savings for the hospital sector. Further extending the procurement system to cover a wider range of hospital purchasing would produce even greater savings.

The reforms implemented in the pharmaceutical sector are delivering significant results. Electronic prescription and prescription by active substance nowadays covers more than 90 percent of the EOPYY's outpatient pharmaceutical prescriptions. The effective changes in the external reference pricing system introduced since 2012, the increase in generic drugs, the adoption of the positive list, and the launching of a claw-back system have jointly contributed to a substantial decrease in pharmaceutical expenditures from 5.1 billion euro in 2009 to 2.2 billion euro in 2014. At the same time, the efficiency in the pharmaceutical sector increased substantially. However, despite the success of these reforms, efforts should continue in order to increase the competitiveness and making the pricing system more transparent.

Nonetheless, the reduction of the pharmaceutical expenditures ought to be more than a savings policy (Yfantopoulos 2008). It should be accompanied by a series of measures and incentives leading to the development of an export-oriented pharmaceutical industry. Studies at the Uni-

versity of Athens and other research centers indicate the export potential of the sector and investment opportunities concerning pharmaceutical products. Exports, research and innovation should be the main pillars developing the Greek pharmaceutical sector and should serve as an incentive for a more efficient and competitive Greek drug industry (Yfantopoulos 2008).

7 Unemployment and health

Unemployment is also a major social and health factor (Milner et al. 2013, Drydakis 2015). According to ELSTAT evidence, Greek unemployment reached 27.6 percent in 2014, while prior to the crisis it fluctuated around 7.6 percent. During the crisis the number of unemployed increased by 1,000 to 1,200 individuals per week. It should be noted that those most affected by unemployment are young people and women. Considering the long-term growth potential of Greek GDP, the long term prospects of reducing Greek unemployment rates are not promising (Vlachadis et al. 2014). The weighted average GDP growth for the 2013 to 2060 period is projected to fluctuate around 0.7 percent. Such small growth in GDP is not particularly conducive to employment. Therefore, unemployment is expected to remain high until 2025 (from 28 percent in 2013 to 22.1 percent in 2020 and 17.2 percent in 2025). An easing in unemployment rates is expected after 2030, with a gradual decline that will reach 7.5 percent in 2060. The most worrying fact for Greece is the phenomenon of hysteresis, whereby the current large values of short-term unemployment permanently affect long-term unemployment. In other words the vastly increased rate of unemployment in Greece today may lead many workers to gradually lose their skills, thus being driven out of the market permanently, thereby reducing the labour force, leaving an enduring effect that will lead to increased unemployment rates being observed in the Greek economy for decades.

The relationship between the economic crisis, unemployment and healthcare is widely discussed in the literature (Tapia Granados 2005, Ruhm 2008, Kentikelenis et al. 2011, Karatzanis et al. 2012, Karanikolos et al. 2013). Dr. Margaret Chan, WHO Director-General warned member states at the 2009 WHO Assembly about the effects of the crisis:

> *"The potential impact of the financial crisis and its upheavals are not to be underestimated. We should not be surprised if there is a rise in suicide rates and mental disorders"* (Stuckler et al. 2009),

in a Lancet publication, argues that a 1 percent increase in unemployment is closely associated to an increase of 0.8 percent in suicide rates and a corresponding increase of 0.8 percent in alcoholism.

Numerous studies show this relationship, some even using dynamic econometric models based on up to 10-year lags. However establishing causality in this case is very tricky from an econometric perspective. Examining the current literature on Greece we may distinguish between: 1) political statements like the one from Minister of Health who reported a 40 percent rise in suicides during the first half of 2011 compared to the same period on 2010; 2) simple descriptive statements indicating a suicide rate increase of 17 percent over the period 2007–2009 (Kentikelenis et al. 2011: 3) statistical trend analysis revealing a statistically significant reduction in the standardized suicide rates of –0.84 percent (95 percent CI –1.6 percent, –0.1 percent) from 1992

to 2008, with a subsequent statistically significant increase of 9.25 percent (95 percent CI 2.7 percent –16.3 percent) in SSR; and, lastly, 4) more rigorous and robust econometric modeling, controlling for various socio-economic, gender and demographic effects reaching the conclusion that,

> *"fiscal austerity, higher unemployment rates, negative economic growth and reduced fertility rates lead to a significant increase in overall suicide rates in Greece"* (Antonakakis and Colins 2014).

The results these studies have important policy implications for prevention programs, calling out for more targeted social and health policies.

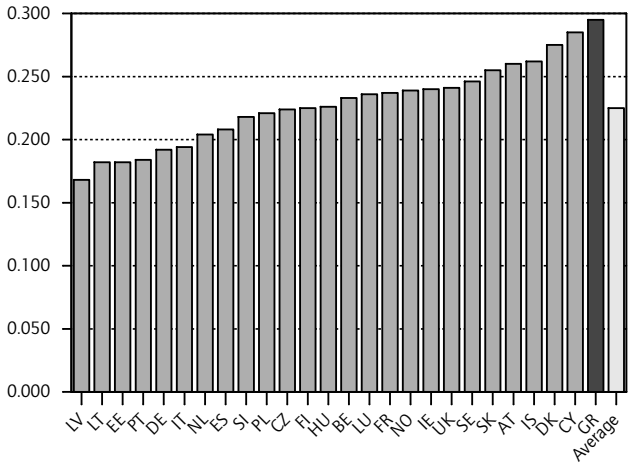
Recent studies conducted at the University of Athens show that people left outside the labour market have multiple physical and psychological problems related to anxiety, stress, and chronic depression. Moreover, unemployed individuals make more use of drugs due to chronic diseases. Unemployment is, therefore, closely linked to the so-called "iceberg of illness". Typically unemployment measurements refer to the visible side of the iceberg that is associated with the "apparent" health of the patient. However, the hidden part of the iceberg is of social and cultural interest because unemployment is associated with psychological, cultural and physical dimensions that are not easily detectable and have a long-term nature, significantly impacting public healthcare systems and social security.

8 Health inequalities

Recording, measuring and combating social inequalities in the health sector is a major challenge for modern healthcare systems (Borrell et al. 2007). The European Commission, World Health Organization, and World Bank have developed coordinated programs to study the social factors influencing health inequalities (European Commission 2013b, OECD 2013, 2014, WHO 2009 a and b). The 19th century studies of Villerme, Chadwick, and Virchow point out that life and death are directly related to social welfare (Wilkinson and Pickett 2010). In the 1930s, following the "movement of social medicine", health inequalities were systematically investigated, only to languish in terms of scientific interest in the 1950s and 60s. However, interest again intensified in the early 1980s and is now a significant scientific endeavor achieved by using advanced forms of statistical monitoring and documentation. Research results have substantially impacted state policies, especially as governments appear to be interested in initiatives and actions aimed at reducing inequalities. Several European countries, including Finland, France, Italy, Lithuania, the Netherlands, Sweden and the United Kingdom, have already taken similar initiatives on a national level or by setting up special committees that aim to implement "targeted" reforms. European Union institutions (the Parliament, Council, and Commission), in collaboration with the WHO, have produced a large number of studies, expressing the need to address health disparities taking into account the Commission's White Paper, "Together for Health: A Strategic Approach for the EU 2008–2013". It is stated that where necessary, policy actions to reduce health inequalities across the European Member States should be pursued. Moreover, the European Commission in an initiative entitled, "Solidarity in health", started a preliminary consultation process with the aim of reducing health inequalities. An essential dimension of the European Healthcare Model is to ensure equality and social justice in the European healthcare systems. Eurostat investiga-

Figure 6

Health inequalities in subjective health across EU



Note: LV = Latvia, LT = Lithuania, EE = Estonia, PT = Portugal, DE = Germany, IT = Italy, NL = Netherlands, ES = Spain, SI = Slovenia, PL = Poland, CZ = Czech Republic, FI = Finland, HU = Hungary, BE = Belgium, LU = Luxembourg, FR = France, NO = Norway, IE = Ireland, UK = United Kingdom, SE = Sweden, SK = Slowakia, AT = Austria, IS = Iceland, DK = Denmark, CY = Cyprus, GR = Greece.
Source: Authors' estimates of Gini Coefficients based on a University of Athens Study.

tions find that a substantial weakness of the European Healthcare Model is the satisfaction of the equality objectives, since it reveals a challenging inequality in life expectancy among men—a gap of 14 years. These inequalities are directly linked to socio-economic factors related to the history of social and healthcare systems as well as the effectiveness of the health system in reaching all citizens needing primary and secondary care services (Galbraith 2012, Gravelle 2002). However it should be noted that despite the continuous efforts of the EU and WHO for greater social justice and equality in the health sector, many studies show that health inequalities remain unbridgeable between social classes, between regions, and between EU countries (Mackenbach 2008, Mackenbach et al. 2013). A study undertaken at the University of Athens using the EU-SILC data for 26 European Union countries concludes that health disparities remain high, with Greece having the greatest inequality among EU countries (see Figure 6). Inequality in health is measured using GINI coefficients, which take values from zero to one ($0 < \text{Gini} < 1$). Small values of the Gini coefficient show little disparity while high values indicate high inequality existent. Athens University measurements find the Greek Gini coefficient is $G = 0.2947$, while the EU average is $G = 0.2248$. The study suggests that Greece and Cyprus have the greatest health disparities.

It is striking that with the 1983 enactment of Law 1397, entitled, "On the establishment of a National Health System", Greece adopted a Beveridge type of a public health system primarily aimed at ensuring the principles of equality and social justice. Following the European Social Model, Greece adopted, along with other southern European countries, a "National Health Service" under the principle of equal access to health services for all citizens regardless of income or social status. Under the European Health Model (European Commission 2013b), equality, social justice and financial sustainability should be the key objectives of any health system. Paradoxically after

30 years of the Greek NHS and the continuing reforms for greater equality, Greece appears to be the European country with the greatest inequality. Although there has been much rhetoric for greater equality, actions on the ground have not lead to a more equal and just redistribution of health resources. It should be highlighted that during the crisis, inequalities increased, affecting an increasing number of low income families, poor and vulnerable. More and more Greek citizens are unable to pay the increased charges for medicine and medical examinations. There is already research finding that the middle and low-income are less able access health care services. The sluggish growth of the public sector, combined with mismanagement and corruption, are contributing to increased health inequalities. In several Eurobarometer studies it is pointed out that the public perceives that the health sector is one of the most corrupt sectors in Greece (Special Eurobarometer 325).

9 Impact of crisis in health status and quality of life

The economic crisis has caused many adverse economic effects for all European countries causing some of them, including Greece, to implement severe fiscal austerity measures. According to existing literature (Stuckler et al. 2009, 2011, 2012, Tsiacharistas et al. 2015, Maresso et al. 2015), economic crises can have immediate effects like deterioration of health status as measured by self-reported measures and worsening of mental health status, as well as health behaviour changes. Other health effects, like changes in mortality, may take longer time to manifest. Financial crisis and economic recession are associated with increases in mental disorders, suicides, addiction problems and substance abuse, adoption of less healthy behaviours regarding nutrition and exercise, as well as in general poorer health status. The effect of crisis is not the same across all population groups. The most vulnerable groups, including the elderly, the unemployed, chronic patients, and migrants, face a greater risk of being affected. Thus, as the economic recession deepens, health inequalities are likely to widen.

At the University of Athens Health Economics Unit, we developed methodologies (Yfantopoulos and Yfantopoulos 2013, 2015) to assess, track, and mitigate the effect of the economic downturns on healthcare systems of the memorandum countries (Greece, Portugal, Ireland, Spain and Cyprus). The general objective is to fill the knowledge gap on the preparedness and operational responses of the health sector to economic shocks. In this section we report the evidence from our research on the impact of the crisis on living standards, and the quality of life of the Greek population both "before" and "during" the crisis. A set of quality of Life instruments (EuroQol 1990) is used to assess the impact of the crisis on a Visual Analogue Scale (VAS). Face to face interviews were conducted to a randomly selected sample of 5,500 individuals (53.3 percent women, 46.7 percent men) living in the Athens area. The survey was conducted by trained interviewers. The sampling was random at an individual level and stratified by gender, age group, education, and municipality. The selection of the subjects was based on the last available census at the time (2011) of the Hellenic Statistical Authority (El.Stat). The major purpose was to obtain representation of diverse population groups that may have different levels of health and quality of life profiles. The subjects were acquainted with the purpose of the study, which was previously approved by the University of Athens Committee for Ethics and Research.

Greek citizens were asked to assess their subjective health, before and during the current crisis using a Visual Analogue Scale (VAS) taking the values: 0 = worst imaginable health and 100 =

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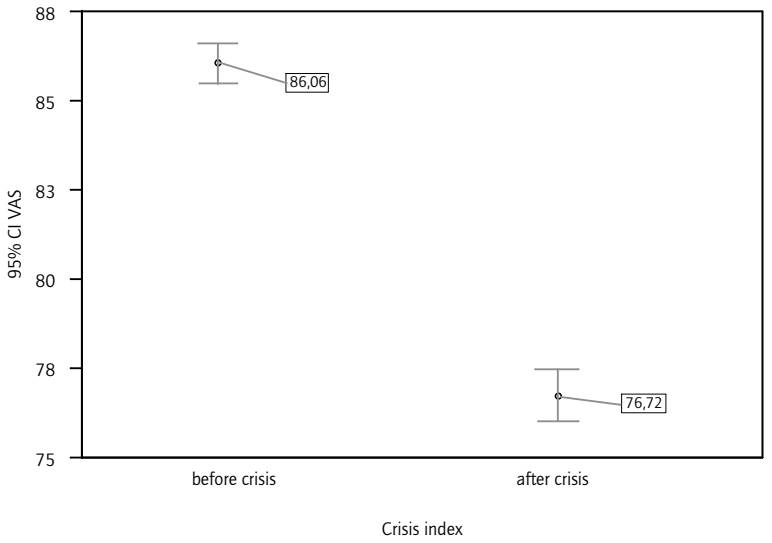
perfect imaginable health. Health related quality of life indices were assessed across: gender, age, education, employment status, income, and living conditions. The economic crisis resulted in a significant deterioration of both the perceived health status and the quality of life for the Greek population. The quality of life mean scores indicated a significant deterioration of subjective health by 10 points. The VAS before the crisis was VAS_{Before}= 86.06 (st.d. =15.14) and the corresponding value during the crisis was VAS_{During} = 76.72 (st.d. = 20.51) (see Figure 7).

The significant reduction in VAS was also associated with greater inequalities in the distribution of health. The VAS gap among the poor is much greater in comparison to richer classes. Indicatively the gap among the poor is $VAS\text{-}GAP_{poor}$ = 14.9, {VAS_{Before}= 82.2 minus VAS_{During} = 67.9} and the corresponding $VAS\text{-}GAP_{rich}$ is only 4.9 {VAS_{Before}= 88.7 minus VAS_{During} =83.8} (see Figure 8).

In addition, low-income individuals declared job losses, fears of long unemployment, as well as a significant deterioration of their psychological and emotional status, as depicted in the dimensions of Anxiety-Depression and Pain-Discomfort. Low income people faced greater difficulties

Figure 7

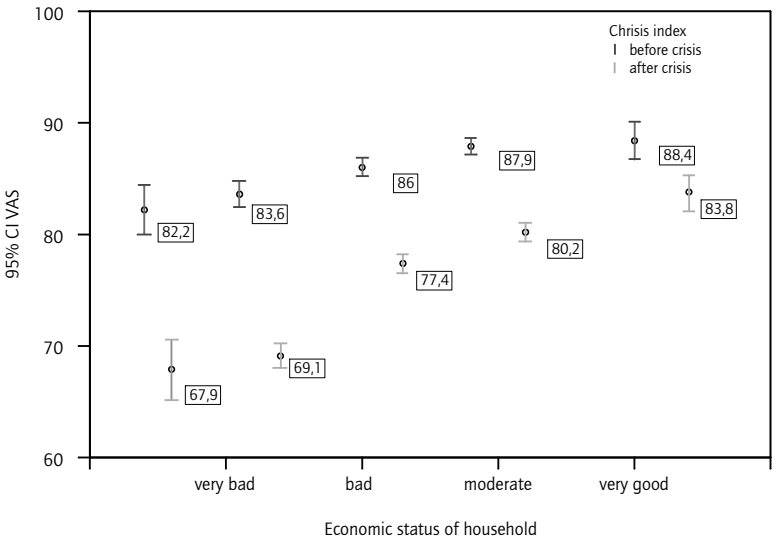
Visual analogue values for the state of health before and during the crisis



Source: Yfantopoulos, J. (2015), University of Athens.

Figure8

Distribution of health (visual analogue values) across economic groups



Source: Yfantopoulos (2015), University of Athens.

accessing health services and expressed greater mistrust of politicians. The finding of this research will help develop more effective health policies seeking to improve the health of the Greek population.

10 Conclusions

More than thirty years have passed since the establishment of the Greek National Health System in 1983, and yet the situation is still critical. Although there was a boom period following entrance into the Eurozone, Greece used significant borrowing to finance the economic growth observed over the 2000s. However, the instigation of the global economic crisis, initially appearing in the U. S., the major western economies faced a shock to their finances. The situation was no different for Greece, where the borrowing finally caught up with the country, with massive amounts of debt revealed and the country forced to seek assistance from the troika. In order to receive new loans, the new measures were required: With the troika seeking to save every possible penny from the Greek economy, difficult decisions were made, including the cutting of social and health expenditures by two percentage points of the GDP. This came with severe impacts for the Greek population, leading many analysts call it a "humanitarian crisis" in order to describe how the current crisis extends beyond simple financial hardships. The reduction in social and health spending has led to adverse effects on the health of the Greek population. While life expectancy stabilized at about 80 years, infant mortality increased from 2.7 in 2008 to 3.8 in 2010, although there was a subsequent marginal reduction. The quality of life mean scores indicated a significant deterioration of subjective health by 10 points. The Visual Analogue Scale (VAS) before the

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crisis was VAS_{Before}= 86.06 and during the crisis VAS_{During} = 76.72. Moreover the reduced overall economic activity drove many people into unemployment, which is associated with mental illness and increasing suicide rates. Historically, the Greek healthcare system has always been associated with corruption and clientelistic policies, with many reforms failing to address these important issues. In public perception surveys, Greek people express major distrust in public healthcare, characterizing it as the most corrupt societal institution. The crisis has only made things worse, with Greeks declaring rising distrust in the welfare system and the politicians representing them. However some optimists view the crisis as an opportunity for Greece to assume responsibility and address the inefficiencies that are deeply rooted in its social welfare system. In the case of health, it is vitally important that inefficiency is tackled, keeping equity in mind. Greece, in its biggest crisis of its life, both in depth and duration, needs to implement reforms and it is a gruesome paradox that the most vulnerable members of society are the ones hit hardest by the crisis. The state most do its utmost to provide a "social net" for those in need, implementing incentive systems that will effectively promote the long-term improvement of its population's health status.

References

— Androutsou, L., M. Geitona, and J. Yfantopoulos (2011), Measuring Efficiency and Productivity Across Hospitals in the Regional Health Authority of Thessaly, in Greece. Journal of Health Management, 13 (2), 121–140.
— Antonakakis, N., and A. Collins (2014): The impact of fiscal austerity on suicide: On the empirics of a modern Greek tragedy. Social Science & Medicine, (12) July, 39–50.
— Borrell, C. I. et al. (2007) Explaining variations between political traditions in the magnitude of socio-economic inequalities in self-perceived health, in Tackling Health inequalities in Europe: an integrated approach Eurothine Final report, Department of Public Health, Erasmus University Medical Centre, Rotterdam, 2007. Available from http://ec.europa.eu/health/ph_projects/2003/action1/docs/2003_1_16_frep_ en.pdf
— Drydakis, N. (2015): The effect of unemployment on self-reported health and mental health in Greece from 2008 to 2013: a longitudinal study before and during the financial crisis. Soc Sci Med 1982, 128.
— Eurobarometer (2009): Special Eurobarometer 325 Attitudes of Europeans towards corruption European Commission.
— European Commission (2013a): Health inequalities in the EU. Final report of a consortium. Consortium lead by Sir Michael Marmot.
— European Commission (2013b): The Second Economic Adjustment Programme for Greece: Second Review May 2013. European Economy Occasional Papers, No. 148. Brussels, Directorate-General for Economic and Financial Affairs. May.
— European Commission (2014): The Social Situation Report in the European Union European Commission and Eurostat. Luxembourg.
— European Commission (2015a): Commission Staff Working Document Assessment of the Social Impact of the new Stability Support Programme for Greece. Brussels, 19.8.2015 SWD(2015) 162 final.
— European Commission (2015b): Commission Staff Working Document Assessment of the Social Impact of the new Stability Support Programme for Greece. Brussels.
— EuroQol Group (1990): EuroQol—a new facility for the measurement of health-related quality of life. Health Policy, 16 (3), 199–208.

— Galbraith, J. K. (2012): Inequality and Instability: A Study of the World Economy Just Before the Great Crisis. New York, NY, Oxford University Press.
— Gool, K., M. Pearson (2014): Health, Austerity and Economic Crisis: Assessing the Short-term Impact in OECD countries. OECD Health Working Papers, No. 76, 2014 OECD. DOI: http://dx.doi.org/10.1787/5jxx71lt1zg6-en
— Gravelle, H., J. Wildman, and M. Sutton (2002): Income, income inequality and health: what can we learn from aggregate data? Soc. Sci. & Med., 54, 577–589.
— Herrmann, B., and A. Kritikos (2013): Growing out of the crisis: hidden assets to Greece's transition to an innovation economy. IZA Journal of European Labor Studies, (2), 14. www.izajoels.com/content/2/1/14
— IMF (International Monetary Fund) (2013a): World Economic Outlook: Hopes, Realities, and Risks. April. IMF, Washington, D. C.
— IMF (2013b): Greece: Ex post Evaluation of Exceptional Access under the 2010 Stand-by Arrangement. Country Report No. 13/156. IMF, Washington, D. C.
— IMF (2013c): Greece: Third Review under the Extended Arrangement under the Extended Fund Facility. Country Report No. 13/153. IMF, Washington, D. C.
— IMF (2013d): Greece: Selected Issues. Country Report No. 13/155. Washington, D. C., IMF.
— Karanikolos, M., P. Mladovsky, J. Cylus, S. Thomson, S. Basu, and D. Stuckler (2013): Financial crisis, austerity, and health in Europe. Lancet, 381 (9874), 1323–1331.
— Karatzanis, A. D., E. K. Symvoulakis, V. Nikolaou, and G. A. Velegrakis (2012): Potential impact of the financial crisis on outpatient hospital visits due to otorhinolaryngologic disorders in Crete, Greece. International Journal of Medical Science, 9, 126–128. [28].
— Kentikelenis, A., M. Karanikolos, I. Papanicolas, S. Basu, M. McKee, and D. Stuckler (2011): Health effects of financial crisis: omens of a Greek tragedy. Lancet, 378 (9801), 1457–1458.
— Kondilis, E., E. Smyrnakis, M. Gavana, S. Giannakopoulos, T. Zdoukos, and S. Iliffe (2012): Economic crisis and primary care reform in Greece: driving the wrong way? British Journal of General Practice, 62 (598), 264–265.
— Kousoulis, A. A., K. E. Angelopoulou, and C. Lionis (2013): Exploring health care reform in a changing Europe: lessons from Greece. European Journal of General Practice, 19 (3), 194–199.
— Lionis, C., E. K. Symvoulakis, A. Markaki, C. Vardavas, M. Papadakaki, and N. Daniilidou (2009): Integrated primary health care in Greece, a missing issue in the current health policy agenda: a systematic review. International Journal of Integrated Care, 9, e88.
— Mackenbach, J. P., et al. (2008): Socioeconomic inequalities in health in 22 European countries. The New England Journal of Medicine, 358, 2468–2481.
— Mackenbach, J. P., M. Karanikolos, and M. McKee (2013): The unequal health of Europeans: successes and failures of policies. Lancet, 381 (9872), 1125–1134.
— Maresso, A., P. Mladovsky, S. Thomson, A. Sagan, M. Karanikolos, E. Richardson, J. Cylus, T. Evetovits, M. Jowett, J. Figueras, and H. Kluge (2015): Economic crisis, health systems and health in Europe: country experiences. WHO EUROPE.
— Milner, A., A. Page, and A. D. LaMontagne (2013): Long-term unemployment and suicide: a systematic review and meta-analysis. PLoSOne, 8, 1932-6203 (Electronic), e51333.
— OECD (2013): OECD guidelines on measuring subjective well-being. 2013 Report. OECD, Paris.
— OECD (2014): Society at a glance 2014: OECD social indicators. OECD, Paris.
— OECD (2015): OECD Health at a Glance 2015. OECD, Paris.

— Polyzos, N., et al. (2012): Reforming reimbursement of public hospitals in Greece during the economic crisis: Implementation of a DRG system. Health Policy, 109 (1), 14–22.
— Reinhart, C., and C. Trebesch (2015): The pitfalls of external dependence: Greece. 1829-2015. Brooking Papers on Economic Activity. BPEA Conference Draft, September 10–11, 2015.
— Ruhm, C. (2008) A healthy economy can break your heart. Demography, 44, 829–848.
— Stuckler, D., S. Basu, M. Suhrcke, A. Coutts, and M. McKee (2009): The public health effect of economic crises and alternative policy responses in Europe: an empirical analysis. Lancet, 374 (9686), 315–323.
— Stuckler, D., S. Basu, M. Suhrcke, A. Coutts, and M. McKee (2011) Effects of the 2008 recession on health: a first look at European data. Lancet, [27] 378, 124–125.
— Stuckler, D., and M. McKee (2012): There is an alternative: public health professionals must not remain silent at a time of financial crisis. European Journal of Public Health, [24] 22, 2–3.
— Stuckler, D., C. Meissner, and L. King (2008): Can a bank crisis break your heart? Global Health, 4, 1–12.
— Tapia Granados, J. A. (2005): Recessions and mortality in Spain, 1980–1997. Eur J Popul, 21 (4), 393–422.
— Tsiachristas, A., Ch. Lionis, and J. Yfantopoulos (2015): Bridging knowledge to develop an action plan for integrated care for chronic diseases in Greece. International Journal of Integrated Care, 15, 22 October 2015.
— Vlachadis, N., M. Vlachadi, Z. Iliodromiti, E. Kornarou, and N. Vrachnis (2014): Greece's economic crisis and suicide rates: overview and outlook. J Epidemiol Community Health, 68 (12), 204–205.
— WHO (2009a): Financial crisis and global health: report of a high-level consultation. World Health Organization, Geneva.
— WHO (2009b): Health amid a financial crisis: a complex diagnosis. Bull World Health Organ, 87, 1–80.
— Wilkinson, R., and K. Pickett (2010): The Spirit Level: Why equality is better for everyone. London, Penguin Books.
— World Economic Outlook Database (2015): International Monetary Fund. [cited 2015 Aug 15]. Available from: www.imf.org/external/pubs/ft/weo/data/changes.htm
— Yfantopoulos, J. (2008): Pharmaceutical pricing and reimbursement reforms in Greece. European Journal of Health Economics, 9, 87–97.
— Yfantopoulos, J. (2013): Dynamic aspects of the underground economy in Greece. Journal of Economic and Social Measurement, 38 (1), 97–112.
— Yfantopoulos, J., D. Balourdos, and K. Nikolopoulos (2009): Economic and Social Dimensions of the Welfare State. Gutenberg Edition (In Greek).
— Yfantopoulos, J., and P. Yfantopoulos (2013): The psychometric properties of the EQ-5D-5L in a population-based study in Greece. In: J. Busschbach (ed.): 29th Proceedings: Scientific Plenary Meeting of the EuroQol Group. Rotterdam, EuroQol Group, 188–193.
— Yfantopoulos, J., and P. Yfantopoulos (2015): The Validity of the EQ-5D-5L instrument in assessing the impact of Economic Crisis on Population's Health. Paper presented in the 32nd Plenary Meeting of the EQ-5D Conference in Krakow, Poland.