

Youth unemployment and financial crisis: NEET rates in the PIGS countries

-Bachelor Thesis-

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Abstract

During the period between 2006 and 2013, the Eurozone economy has witnessed the consequences of a manifold scenario of financial crises, all originating from the same credit crunch phenomenon as a feature of financial instability. On the economic surface of this scenario, NEET rates of young adults between 25 and 29 increased drastically in the PIGS countries during this period, as a real life implication of financial disorder and growing imbalances. Next to that, the developments from a banking crisis turning into a sovereign debt crisis forwarded Eurozone financial crisis management to the political agenda, resulting in the construction of the Troika and supply-side economic adjustment programs for the PIGS, in order to prevent their sovereign defaults and to enhance financial stability. This paper uncovers that financial crisis, financial crisis management and risen NEET rates have been antagonists between 2006 and 2013. Moreover, it examines the interaction between the demand-led and debt financed economies of the PIGS with Troika based financial crisis management. Thereby, it uncovers the fact the Eurozone currently misses the tools of a fiscal union, in order to address imbalances effectively, concerning which Troika lead financial crises management failed. The vulnerability of NEET rates of young adults in the PIGS countries to financial crises points at demand for concerted political action in order to address the problem financial instability weak Eurozone coordination, which is undermined by core-periphery power politics.

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1. Introduction chapter - Draft Version

One of the groups in society most vulnerable to unemployment evolving from economic shocks during financial crises are the young (Banerji et al., 2014). During the recent period of financial crises between 2006 and 2013, young adults found it increasingly difficult to find employment, which makes risen youth unemployment rates (YUR) a key real economic and social consequence of financial crises (Choudhry et al., 2010).

In this paper, the development of youth unemployment will be analysed based on young adults aged 25 to 29 aged Neither in Employment, Education or Training (NEET) the transformation of financial crises from the global financial crisis (GFC) into the sovereign debt crisis (SDC) and the subsequent Eurozone crisis (EZC) (Junankar, 2014; Martin, 2011). Thereby, the sequencing of the dialectic between financial crises and financial crises management conducted by national governments and by the European Commission (COM), the European Central Bank (ECB) and the International Monetary Fund (IMF) known as the Troika, will form the analytical framework that is supposed to help to explain the increases in NEET rates of the aforementioned age group. Among the countries that have been hit hardest by the financial crises, Portugal (PT), Ireland (IE), Greece (EL) and Spain (ES), summarised by the PIGS countries, have witnessed more or less drastic increases in unemployment (see Fig. 1; Total unemployment as a percentage of labour force). In Fig. 2, NEET rates, the extent to which NEET rates of the age cohort in question aged have been rising during the reference period is made visible and will serve as the independent variable, while indicators of the dimensions of financial crises and financial crises management will serve as explanatory variables.

The acronym PIGS derives from the variety of acronyms used to bundle the group of Eurozone MSs that have been under special observation by the COM based on their negative outlook of public finances, concerning public debt and public deficits and regarding mostly negative economic growth after the beginning of the GFC. In other papers, scholars refer to PIIGS including Italy (IT), or GIPSIC adding Cyprus (CY) as well (Pitelis, 2012; Vale, 2014). In this paper, PIGS concerns the PIGS as the group of countries that has been under economic adjustment programs of the Troika, excluding CY, with the latter being considered as a direct spill-over effect from the case of EL (Zeman, 2013). Despite the different national profiles in terms of economy, labour market and employment regulations and development of financial crisis, three of the PIGS countries, PT, IE and EL share the characteristic of a sovereign default that could only be avoided by Eurozone bailout loan programs, which were attached to compliance with a Memorandum of Understanding (MoU). The MoUs define the agreement between the PIGS countries and the representatives of the Troika as the supra-national monitoring instance upon fiscal austerity and internal devaluation as international crisis management policies demanded by international creditors, namely net contributing Eurozone MSs to the bailout facilities, EFSF, EFSM and ESM. These characteristics are shared by the PIGS countries, except for ES, which required a banking recapitalisation extension of the ESM in summer 2012 (Breuss, 2015). Therefore, the financial assistance for ES occurred on a much lower level and with a much ‘softer’ character of imposed measures of financial crisis management compared to the ‘hard’ sovereign bailout loan programs of the rest of the PIGS countries (Quaglia & Royo, 2015).

The economic analysis is characterised by applied research addressing economic theory in terms of supply and demand side economic policy as a tool of financial crises management and the consequences these policies have for the development of NEET rates. Further, the impact of the dialectics between financial crises and financial crises management on NEET rates in the PIGS countries will be retrieved based on the application of financial crises management policies on the aforementioned theories in order to provide a basis for understanding of risen NEET rates between 2006 and 2013. Thereby, the questions whether economic theory and the representing explanatory factors enable one to understand the evolving NEET rates and whether this enables one to disentangle impact of Troika imposed economic adjustment programs on NEET rates from earlier events of financial crises and financial crises management, will be answered. The analysis has been conducted based on reviewing the existing literature about the most relevant explanatory factors to explain

increases in, unemployment, YUR and NEET rates, and on national profiling of economies, labour market and employment characteristics and financial crises and approaches to financial crises management. This leads to hypotheses formulation grounded on the expected evolution of NEET rates based on the combination of national profiles in the aforementioned respects, explanatory factors and the shifts in indicators of explanatory factors grounded on Troika interventions. In the end, the sequencing of events of financial crises and of financial crises management, the shifts in explanatory factors and the resulting shifts in NEET rates will demonstrate the development of NEET rates during the recent period of financial crises during the period between 2006 and 2013.

Therefore, the recent period of financial crises has been divided into four different sub-periods, namely the US-subprime crisis (2006-2007), the GFC (2008-2009), the SDC (2010-2011) and the EZC (2012-2013). This division allows one to bundle the impact of the different sub-periods of financial crises better and to capture the difference in characteristics among them. Further, it provides the basis for the sequencing of national financial crises management in terms of policy measures that are supposed to have an impact on NEET rates and the shift towards international financial crises management of the Troika, which is expected to change the impact of indicators on NEET rates more or less significantly. Thereby, this paper addresses the question whether economic theory analysed in the context of the recent period of financial crises and financial crises management serves as a tool to understand risen NEET rates of 25 to 29 aged in the PIGS countries between 2006 and 2013. Further, the economic analysis conducted based on the national profiles of economy, labour market and employment prerequisites and the impact of national and Troika lead financial crises management aims at disentangling the impact of the Troika's economic adjustment programs on the NEET rates through shifts in indicators of the explanatory factors considered. It will evolve clearly, that the interaction between the national profiles and the Troika play a significant role when determining the significance of the Troika regarding the shifts in indicators determining the rise in NEET rates, leading to a multifaceted conclusion.

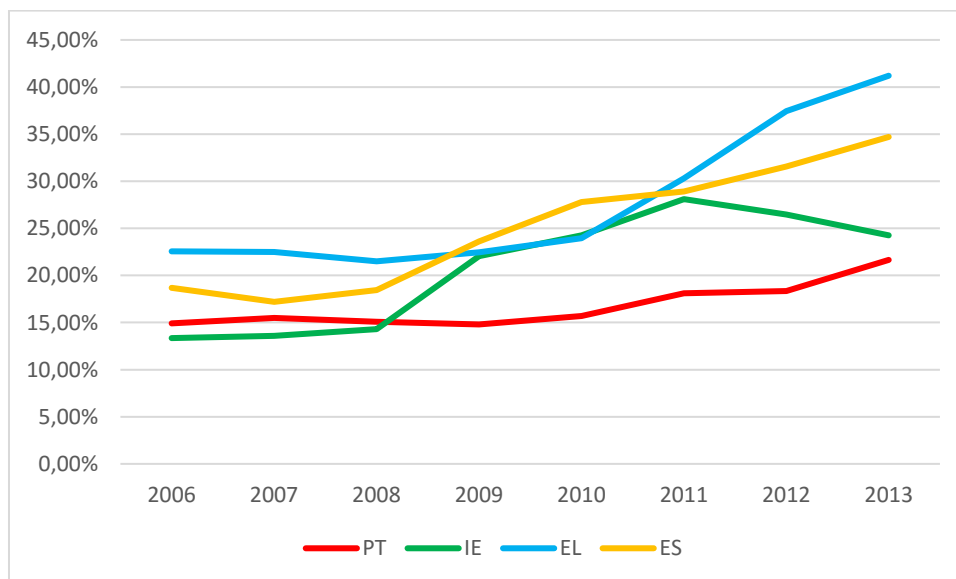
In the following, the concept of NEET rates as the dependent variable will be defined clearly and the context of the recent period of financial crises and financial crises management during the period of 2006 to 2013 forming the independent variable, will be outlined shortly. Subsequently, a short literature review about the explanatory factors of YUR in general and the relation between the latter and financial crises will provide insight in the status quo of academic literature on the mechanisms between the shocks evolving from financial crises and the resulting YUR. This will serve as a derivation of the research question. Further, the social and scientific relevance of this paper will be described. Subsequently, the background chapter will address the development and the underlying causes of the recent period of financial crises, namely the roots and the evolution of the GFC from the US-subprime mortgage crisis and its transmission to the Eurozone, will be explained. Further, the imbalances and shortcomings of the latter as a single currency area resulting in the multiple sovereign debt crisis and how the Troika appeared on the Eurozone's landscape as a consequence of unsustainable public finances and public sector indebtedness. Moreover, the background will identify the economic policy approach taken by the Troika, which is supposed to be supply side economics and juxtapose it to demand side economics, finishing with the theoretical relationship between both approaches and NEET rates. The methodology section will follow outlining the approach of applied research as the tool of analysis of the relevant indicators' impact on NEET rates identified by the literature review and the multi-layer design of the economic model explaining shifts in NEET rates, as well as the sequencing of national and Troika based policies' relevance for the change in indicators. Further, the theoretical framework will retrieve the indicators from the academic literature considered, define them and outline the theoretical considerations in the context of financial crises and financial crises management. In particular, the theoretical framework will aim at theorising the impact of supply side policies as the policy approach used to address financial crises in the PIGS countries. Moreover, the national profiles of the PIGS countries in terms of economic structure, labour market and employment regulations and the nature of and the approach towards financial crises and financial crises management will be described. This will lead to hypotheses formulation about the expected

impact of Troika crisis management on indicators and therefore, NEET rates, vis-à-vis the periods prior to Troika involvement. The section of economic analysis will examine the changes in impact evolving from the transformation of the US-subprime crisis towards the GFC and from national to international financial crisis management during the SDC and EZC. Thereby, the analysis will be aiming at disentangling the impact of Troika lead financial crisis management from previously conducted national financial crisis management. The conclusion will summarise the findings with regard to the research question and the whole research scope highlighted by this paper. Limitations of the applied research conducted and of its findings will be explained as well as implications for future research dealing with the relation between financial crisis management and youth unemployment as such. Finally, the conclusion will evaluate the big picture of youth unemployment, financial crises and financial crises management addressed in the background.

YUR, young adults and NEET rates

Since the speculative bubble of the US-subprime mortgage market has burst and hit the global economy in September 2008, the Western world has witnessed a financial meltdown (Martin, 2011). During the period of 2006 to 2013, unemployment rates have been massively increasing due to the continuous scenario of financial crises. Among the countries that have been hit hardest by the financial crises, the PIGS countries have witnessed more or less drastic increases in unemployment (see, 2016a; Fig. 1, total unemployment as a percentage of labour force). YUR and NEET rates in particular have been rising as a consequence of the impact of the crises on the real economy (see Fig.2, NEET rates).

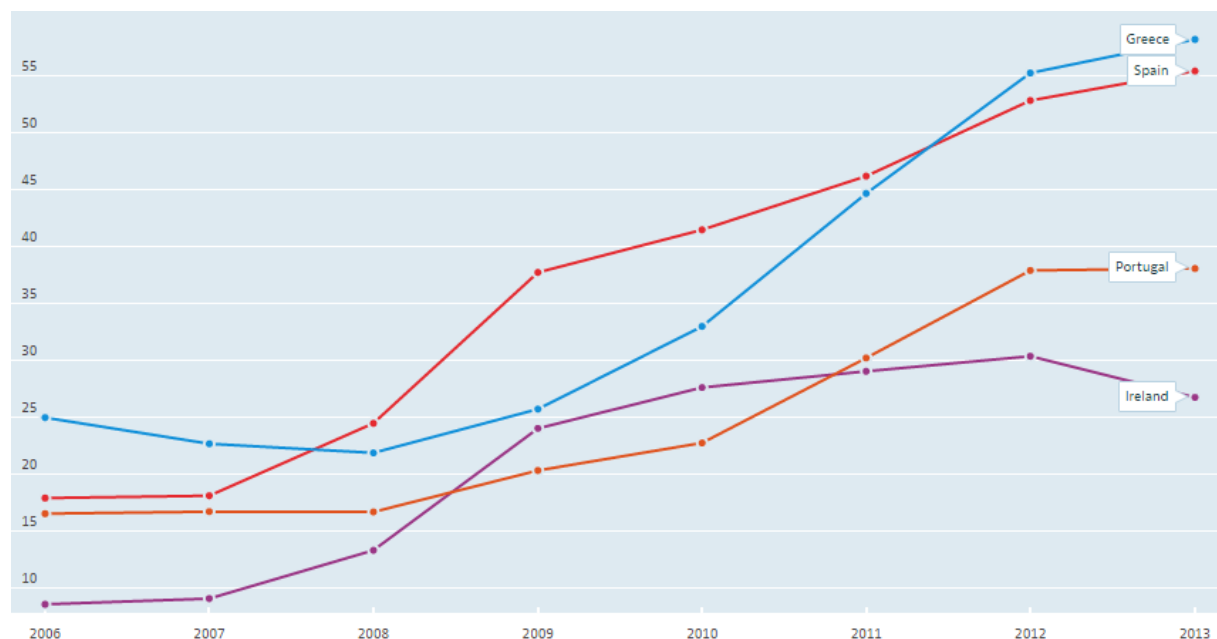
Fig.2, NEET rates, 25-29 aged, PIGS countries, 2006-2013, percentage of age cohort



Source: OECD stats (2015). Education: Percentage of young people in education, in employment and Not in Education, Employment or Training (NEETs). Retrieved 15 January, 2016, from

<http://stats.oecd.org/#>

Fig. 3: Youth Unemployment rate, percentage of total youth labour force, 15-24 aged, PIGS countries, 2006-2013



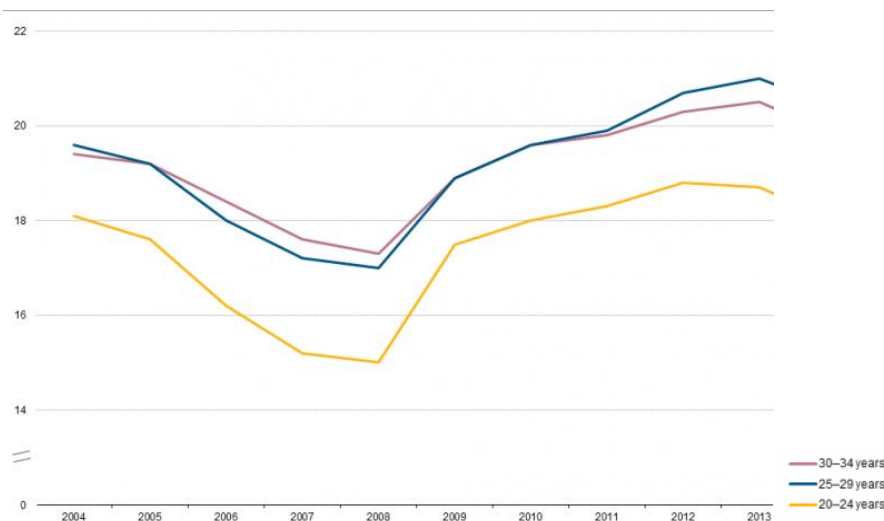
Source: OECD data (2016b). Youth unemployment rate. Retrieved 08 July 2016, from <https://data.oecd.org/unemp/youth-unemployment-rate.htm#indicator-chart>

Among the young unemployed, which are mostly conceptualised by the 15 to 24 year old being part of the labour force of a country looking for a job but unable to find one, the concept of youth neither in employment education or training (NEET) is seen as much more precise by academic literature (Bruno et al., 2013). Further, it allows one to measure vulnerability to unemployment and inactivity better than the general YUR and thereby also addressing the inclusive character of the institutional architecture of labour markets, regarding education and training, which is seen as a source of potential future labour market (re-)integration. This aspect is not covered by YUR (Elder, 2015). Comparing YURs and NEET rates makes cross-national studies on education-to-work transition level and inactivity much easier than taking YURs alone, due to the fact that young people that do not succeed in direct labour market integration by employment might pursue (vocational) education or training programs. Therefore, the concept of NEETs and the comparison with YUR enables one to distinguish clearly between the unemployed and the inactive in an age cohort. The phenomenon of higher YUR compared to adult unemployment during recessions evolves from the higher sensitivity to business cycles, lower work experience and weaker employment protection due to more precarious employment conditions, increasing involuntary unemployment among the young (Bruno et al., 2013). On the other hand, voluntary unemployment evolves as the other side of the medal of the regulatory dimension, either through the discouraging effect of weak labour market perspective or disincentives to seek (re-)integration into the labour market (O'Higgins, 2001). Being classified as NEET does not necessarily mean that inactivity is a status one is forced into by discouraging labour market circumstances or an undersupply of (vocational) education or training, but it also implies having not the incentives to work, due to family circumstances or a generous welfare state (Neumark & Wascher, 2004; Bentolila & Jimeno, 2003; Todaro, 2008). Nonetheless, the lines between discouraged and unwilling unemployed to seek labour market (re-)integration are blurred, especially during financial crises as welfare state benefits might be more attractive vis-à-vis long periods of job seeking with increasingly limited probability of success. Therefore, their incentives to pursue labour market integration in any kind of employment, training or education are lower than to do otherwise (Elder, 2015). Therefore, the

concept of NEETs compared to YUR accounts for all the willing, discouraged and unwilling to engage in the search for employment, education or training.

Concerning the exact definition of young workers and young labour market newcomers, people aged between 25 and 35 are counted in some statistics and studies of youth unemployment as well, due to a longer period of (tertiary) education. Therefore, young workers aged 25 and older are supposed to integrate much easier into the labour market than the 15 to 24 aged. Nonetheless, the age cohort of 25 to 29 aged, often named young adults, is stated to share much of the problems faced by the traditional young of 15 to 24 aged, when it comes to labour market integration (Bell & Blanchflower, 2015, 2015).

Fig. 4 NEET rates, 3 age groups, EU 28, 2004-2013



Source: Eurostat (2015)

Therefore, the group of 25 to 29 aged labour market newcomers represented by NEET rates seem to be of high relevance when it comes to the real economic impact of financial crisis on labour markets and the chances of young newcomers (Elder, 2015; The Brussels Times, 2016). The shifts and changes in youth unemployment and NEET rates appear to be more striking than the ones of adult unemployed, due to the fact that the labour force participation ratio is lower than the one of adults based on education and training (O'Higgins, 2012). This is another reason of NEET is more appropriate here, as it measures inactivity and potential labour market integration via (vocational) education and training. Ultimately, the dependent variable in this study will be NEET rates of 25 to 29 aged in the PIGS countries, which have undergone tremendous increases during the recent period of financial crises management. According to Fig. 4, the NEET rates in question respond more or less strongly to the GFC and the SDC, with persisting effects during the EZC in the Mediterranean countries of the PIGS, while IE witnesses a distressing scenario in this respect (see Fig.2, NEET rates). In the end, the risen NEET rates signify the drastic consequences of financial crises on the real economy, which causes social challenges in terms of increasing labour market and employment imbalances.

The dialectic between financial crises and financial crises management in the PIGS countries

The independent variable bundling explanatory factors meant to serve as elements to understand the phenomenon of risen NEET rates in the PIGS countries will be financial crises and financial crises management. The impact of the latter two concepts will evolve in a dialectical form, due to the proactive role of financial markets and on the reactive role of governments on the national and international level towards developments of the former.

Defining the term financial crisis as such, one can distinguish between a currency crisis, a banking crisis and a debt crisis (Lestano & Kuper, 2003). According to the conceptual definition of financial crisis by Honohan & Laeven (2005) and by Laeven & Valencia (2008), a financial crisis can be either characterised as a (non)systemic banking crisis, as a currency crisis implying drastic nominal exchange rate depreciation or a sovereign debt crisis evolving from sovereign default to private lending or sovereign debt restructuring. It is found that statements of governments and rating agencies have had a significant impact on the Eurozone's real exchange rate and that the real depreciation of the Euro can therefore rather be classified as a feature of the SDC and EZC rather than a separate cause of financial crisis (Ehrmann et al., 2013; De Grauwe & Ji, 2013).

According to the definitions by Honohan & Laeven (2005) and by Laeven & Valencia (2008), the recent period of financial crises of 2006/2007-2013 matches a (non)-systemic banking crisis and a sovereign debt crisis of public default to private lending. Next to this, a financial crisis can be triggered by large exchange rate fluctuations or drastic decrease in exchange rates, which is to a much lower extent appropriate to the recent period of financial crises than the first two definitions (Honohan & Laeven, 2005; Laeven & Valencia, 2008). This becomes clear as the development of financial crises between 2007 and 2012, when the Eurozone had witnessed the impact of the US-subprime mortgage crisis, the GFC and the SDC, has not led the Euro's real exchange rate to drop far below the level of 2007 (The Economist, 2012). Contrarily, it is found that statements of governments and rating agencies reacting to changes in financial market confidence towards sovereign creditability have had a significant impact on the Eurozone's real exchange rate. The real depreciation of the Euro can therefore rather be classified as a feature of the SDC and EZC rather than a separate cause of financial crisis (Ehrmann et al., 2013; De Grauwe & Ji, 2013).

The recent period of financial crises is characterised by an increasing financial instability in several facets. On the one hand, the credit crunch evolving from the GFC and from the SDC lead investors and financial markets in general to be much more concerned about risks of sovereign default, which was a result of an overall much more risk concerned behaviour of financial markets (Baldwin & Wyplosz, 2012). Therefore, the recent period of financial crises can be stated to evolve from the same credit crunch phenomenon, which evolved first on the private level and was then transmitted to the public level, in both cases by decreasing financial market confidence in the creditability of financial corporations and subsequently, the PIGS countries (Mody & Sandri, 2012).

Moreover, the recent period of financial crises, most notably the SDC and the EZC, demonstrated that the public and private financial sector have become increasingly intertwined and interdependent. Furthermore, recent central bank policies and the status quo of commercial bank business regarding cross-border actions, credit and investment all show that since the GFC, the financial sector as undergone changes based on reassessment of risk (Claessens & van Horen, 2014). The direct impact of the GFC on the real economy has been drastic in several Eurozone MSs, such as IE and ES, whereas the SDC and the EZC have reinforced more risk-concerned attitudes of global financial markets (Baldwin & Wyplosz, 2012; Stracca, 2013).

The threefold division of the recent period of financial crises between 2006 to 2013 is derived from the fact that the GFC and the SDC are two features of the same credit crunch phenomenon that has its triggering roots in the US, evolving from the US-real estate bubble (Martin, 2011; Lane, 2012; Arghyrou & Kontonikas, 2012). Although the lines between the three periods of financial crises are somewhat blurred, there are key events that separate them from each other. The impact of the GFC in the PIGS countries is grounded on the fact that global financial markets witnessed a shock evolving from the burst of the US-housing bubble. In general, the Eurozone has a higher response rate to US financial markets than vice versa, which explains the contrary development of the US and the Eurozone after the outbreak of the GFC in 2008, as the Eurozone was hit by the SDC and the EZC

subsequently. The latter ones had only a limited impact on the US (Ehrmann et al., 2011). Overall, the transmission effect of the US-housing bubble is highly critical, when addressing the causes for the GFC and its real economic consequences. The transmission effect is characterised by tightening financial conditions and decreasing risk appetite of financial corporations drying up international financial markets and thereby erasing financial space for the real economy in, among others, the PIGS countries (Ehrmann et al., 2011; Helbling et al., 2011, Chudik & Fratzscher, 2011). The shock itself is defined by increasing banking sector leverage and by rising private sector debt, which eroded trust among actors on financial markets and lenders' confidence in the real economy (see Fig.5, private sector debt; Fig.6; banking sector leverage). The consequences of this decline in access to credit for both the banking sector and the real economy meant that private households and businesses across the Eurozone MSs lacked access to finance to a critical extent. This effect varied among the PIGS countries, the most drastic impact of the GFC has been witnessed by IE in 2008, with the rest facing drastic recessions in 2009 (see Fig.12, real GDP growth). Based on the credit crunch and the consequences on private financial corporations and the resulting impact on aggregate performance, the PIGS countries had to engage in financial crisis management, concerning bailouts and nationalisations of troubled banks and fiscal stimulus, in order to stabilise financial markets and their real economies. The recessive impact of the US-subprime mortgage crisis that signified the burst of the US real estate bubble, the latter being witnessed with similar characteristics and to a weaker extent by Eurozone MSs such as IE, ES and NL, has been spread globally by a transmission mechanism of toxic assets traded by a large amount of financial corporations. The GFC therefore originated in the US, while similar scenarios in the Eurozone and the globally intertwined financial markets contributed to a high exposure to the burst of the housing bubble (Lane, 2012). In some Eurozone MSs, such as IE and ES, but also in Iceland and Hungary, the implications of the GFC and crisis management policy triggered and SDC and dependence on international financial assistance in order to prevent systemically relevant financial corporations from default, which had reached beyond the commitment and the solvency of the aforementioned countries (Mody & Sandri, 2012). Evolving from the fiscal commitment to minimise the impact of the GFC as means of financial crisis management and deriving from the effect of the aggregate economic shock in terms of output on government revenues, public finances of the PIGS countries witnessed increasing leverage and restrictions to their fiscal angle (Lane, 2012; see Fig.9, general government debt, Fig.10, general government deficit). The narrowing in fiscal terms resulted in increasingly difficult conditions to distress highly leveraged public finances by sovereign borrowing from financial markets, becoming visible in soaring government bond yields and downgrading of sovereign creditability by rating agencies, which was fuelled by a self-fulfilling mechanism of negative market sentiment (De Grauwe & Ji, 2013). The period of converging sovereign bond yields to (lower) German levels during the great moderation transformed into divergence of highly spreading government bond yields, which has been one of the main features of the SDC (see Fig.7, government bond yield spreads). In short, financial markets as the creditors of the PIGS countries gradually lost confidence in the creditability and in the sustainability of the former's debt, putting EL, IE and PT in an extremely vulnerable position of facing sovereign insolvency. In relation to the loss of financial market and creditor confidence, sovereign commitment to restore the former by fiscal consolidation in order to strengthen their fiscal position, was considered too low. This interacts highly with efforts of national governments to remain creditable, in terms of adjustment capacity to aggravating scenarios on financial markets, translating into measures that enhance the ability to repay and to make public finances more sustainable in terms of debt and deficit levels (Hallerberg, 2012). Finally, this lead to a cut-off from sovereign borrowing for three of the PIGS, making them face a sovereign default, which was prevented by Eurozone and IMF bailout loan mechanisms. Ultimately, this leads to a high demand for fiscal discipline, in order to restore financial stability and debt sustainability, which is necessary to maintain a certain level of creditability. Automatically, this points at fiscal consolidation, which can either be revenue or expenditure based, implying either rising taxes or expenditure cuts (Mason & Jayadev, 2013). The political and economic preferences within the Eurozone show a clear tendency to supply-side economics of financial crisis management, namely fiscal austerity, privatisation, deregulation and internal devaluation (Myant et al., 2016, Karger, 2014).

Although the recent financial crises evolve from the same credit crunch phenomenon and lines between the GFC and the SDC are blurred, which holds for the countries just mentioned, the causes of the SDC are to a certain extent located in the architecture of the Eurozone. Further, the distinction between the SDC and the EZC is grounded on the existential threat of contagion evolving from low fiscal stability within the Eurozone and the increasing obstacles this phenomenon implied to the Eurozone as a whole. Defining the reasons for the involvement of the Troika in financial crisis management of each of the PIGS countries from 2010 onwards, which is a result of the cut-off from sovereign borrowing, one comes across unifying and distinguishing reasons. First, IE saw the evolvment of the GFC as a direct threat to public finances as high fiscal commitment has been required to bailout troubled Irish banks and therefore engaged in fiscal consolidation in 2008 already. EL and PT are high fiscal deficit Eurozone MSs and suffered from the extreme underperformance of their economies during the GFC, shrinking their fiscal revenue and increasing their deficits. In the case of EL, a lack of transparency about public finances caught sovereign creditors in late 2009, as the recently elected government had to announce an even higher deficit than stated beforehand. This announcement triggered the SDC of EL, while IE and PT faced similar fiscal conditions, making financial markets increasingly about their sovereign default as well. Therefore, EL has been the trigger element of the SDC, with Troika crisis management and the harsh imposture of austerity and internal devaluation on most of all EL, being meant to deter ES from abstaining from voluntary austerity and internal devaluation. Therefore, ES has been under a much softer and less voluminous program of financial assistance for banking recapitalisation in order to address the imbalances of its private financial corporations after the outbreak of the GFC (Karger, 2014).

Hence, financial markets demanded a safety net from the Eurozone as a response for fragile financial corporations based on the highly leveraged Eurozone MSs ES and IT that had witnessed a period of downgrading of creditability by credit rating agencies and decreasing financial market confidence in summer 2012. Therefore, the result of the contagion of the SDC towards the third and fourth largest Eurozone economy, respectively, lead to continuous amplification of financial markets and to a challenge of the composition of the Eurozone regarding its troubled MSs. The breaking result has been the creation of the ESM and its direct banking recapitalisation competences, as well as the statement of ECB-President Mario Draghi, to do ‘whatever it takes to safe the Euro’, and therefore to save the Eurozone from breaking apart (ECB, . As a result the ECB announced an OMT program leading to its function of a lender of last resort as it became to operate in the primary government bonds market (De Grauwe, 2013). This statement is seen as a significant institutional shape and as a policy change, as through the EZC, the crises gained relevance for the whole Eurozone leading to a major policy change of one of the Troika’s institutions. Moreover, the announcement of the ESM and of the OMT program was supposed to ease pressure on national governments to enhance sovereign creditability and to decreased uncertainty on financial markets about the survival of the Eurozone and about the solvency of its MSs (Baldwin & Wyplosz, 2012). The latter event has been assessed as a supranational signal to ease pressure on Eurozone MSs, most critically the PIGS, in terms of interest rates on sovereign bonds supposed to relax the interaction between sovereigns and financial markets as their creditors, while obliging them to austerity in reverse (Nelson et al., 2012). From the decreasing government bond yield spreads of ES and IT after the Draghi statement, the question arises if this has actually eased pressure on PIGS countries governments in fiscal terms, regarding fiscal room to move and spill-over effect to increased private investor confidence (see Fig.8, government bond yields ES & IT).

The dialectical reciprocity between financial markets and sovereigns is characterised by signalling evolving from fiscal policy on the side of the sovereigns and various indicators of creditability and confidence, such as government bond yields or credit rating agencies’ statements. Financial market discipline and capability to repay debt are the demands made by creditors, while the debtors strive

towards easy access to credit under most favourable conditions. The angle, within which sovereigns find access to credit is therefore determined by their commitments to guarantee capability to repay or to enhance it, if necessary. Further, the reciprocal relationship between sovereigns and financial markets is characterised by signalling of actions, reactions and statements and the resulting information asymmetry of a classical principal agent problem and herd behaviour of financial markets resulting in varying room to move for national fiscal policy makers (Mosley, 2000). Based on these aspects, financial markets finance the debt of sovereigns, while close observing the indicators of financial market discipline and the responsiveness towards developments on financial markets, mainly pointing at fiscal policy. At the same time, rating agencies even more closely examine sovereign creditability and evaluate the latter based on their observations (Hallerberg, 2012). This process based on the availability, transparency and reliability of information about the attractiveness in terms of risk of default of investment or credit receiving actors provides the most basic understanding of international finance and global financial markets. Shifts in the determinants of attractiveness of investment or lending are reflected in herd behaviour of financial markets resulting in financial market shifts towards the safe havens perceived by investors and creditors (Bikhchandani & Sharma, 2001). The herd behaviour of actors on financial markets being the main reasons for shifts in confidence and for volatility of credit ratings and creditability and finally, also contagion of anticipated (sovereign) defaults (Beirne & Fratzscher, 2013; Giordano et al., 2013). This relation may be influenced by statements or actions in day-to-day politics made on the central governmental level and factors leading to information asymmetry of a typical principal-agent problem (Bikhchandi & Sharma, 2001; Hallerberg, 2012). During the SDC, the reciprocal relationship between financial markets and sovereigns has been extremely relevant, as EL, IE and PT witnessed a cut-off from borrowing from financial markets as financial market confidence and therefore creditability drastically declined based on unsustainable debt-levels and an undersupply of fiscal commitment to ensure capability to repay (Mody & Sandri, 2012; Lane, 2012). With the transformation of the SDC into the EZC, the pressure of financial markets widened from Eurozone MSs, most critically the PIGS countries, to the supra-national level of the Eurozone as a whole, in order to guarantee the creditability of its MSs and its survival as a whole (De Grauwe, 2013). Applying the concept of financial market confidence and creditability to the GFC, the drying up of the interbank market implied as a massive threat to the solvency of (non-)systemically relevant financial corporations, which triggered the so called Great Recession and the following global financial meltdown with enormously negative real economic consequences (Martin, 2011). At this point, NEET rates as an economic and social become highly relevant as a feature of the resulting recession (Bruno et al., 2013; Choudhry et al., 2010). Further, financial crisis management conducted on the national and international level in order to minimise the consequences of the threefold financial crises appear in a critical spotlight as NEET rates have been rising in the PIGS countries nonetheless.

As mentioned before, the period of recent financial crises is divided into two occurring phenomena, namely financial crises themselves (GFC, SDC, EZC), and financial crises management in order to tackle the consequences of financial crises on the PIGS countries, evolving from the same credit crunch phenomenon (Lothian, 2014). The engagements of national governments are best summarised by financial sector stabilising measures in terms of nationalisations and bailouts, by fiscal stimuli to improve economic climate and by fiscal commitments to adhere to demands to enhance sovereign creditability in order to restore financial market confidence (Katos & Katsouli, 2012; Hardiman, 2013; Pedrosa, 2014). On the international level, the Troika appears on the stage of financial crisis management with the threatening sovereign default gaining increasing relevance, monitoring adherence to commitment of austerity and internal devaluation as the conditions for the bailout loan programs. In fact, the Troika as a supra-national crisis management entity, enforces the creditor's will on the PIGS countries, addressing both the demands of financial markets and contributing Eurozone MSs. On the one hand, this means a loss of national sovereignty in fiscal policy, which actually means Eurozone

policy guidance in many more areas, such as social and economic policy. On the other hand, the Troika translates the abstract demands of financial markets meaning private creditors and investors into concrete national policy measures, to which adherence is measured by economic adjustment programs and by (quarterly) reviews. Hence, the stated aim of the Troika is to enforce fiscal discipline, regain financial market confidence by enhancing external competitiveness through austerity, internal devaluation, deregulation and privatisation as goals and means at the same time. Overall, the just mentioned policies laid down in the economic adjustment programs attached as a conditionality to the disbursement of the bailout tranches to the PIGS, aim at increasing financial stability in the Eurozone. Thereby, enhancing fiscal discipline, external competitiveness and clearing the private financial sector in order to prevent another major banking crisis are ultimate targets that are supposed to be achieved by the Troika's crisis management (European Commission, 2014; Myant et al., 2016, Blankenburg et al., 2013).

The beginning of the EZC with the banking recapitalisation program for ES' financial sector, which significantly differs from the stricter sovereign bailout programs for the rest of the PIGS and is therefore characterised as a soft loan program, marks a break point regarding international financial crisis management (Karger, 2014). The engagement of the ECB in the sovereign bond market was supposed to enhance financial market confidence in sovereign creditability and thereby ease pressure on national governments, based on the guaranteeing role of the ECB as a lender of last resort (De Grauwe, 2013). Consequently, the following dialectic occurred between NEET rates as the dependent variable and financial crisis management as the independent:

The occurring events of financial crises are:

- Transmission of the US-subprime market crisis to the Eurozone (2007)
- decline in financial market confidence (GFC; interbank lending; investment, 2008)
- Output shock I (output, 2008-2009)
- Highly leveraged public finances due to GFC (2009-2010)
- Cut-off from sovereign borrowing from financial markets (SDC, 2010-2011)
- Real economic shock II (output, 2011)
- Contagious effect of SDC triggers EZC (2012)

These events have been supposed to be tackled by the following measures of financial crises management:

- Bailouts, nationalisations, deposit guarantees (2008-2009)
- Fiscal stimuli to initiate recovery (2009-2010)
- Voluntary adjustment to ensure fiscal discipline (2009-2010)
- Troika intervention to ensure fiscal discipline (2010-2013)
- ECB announces OMT project to stabilise Eurozone finances (2012)

Research Question and sub-questions

In order to clearly identify the changes in employment chances of 25 to 29 year old NEETs in the PIGS countries due to the different periods of financial crises, the following explanatory main research question will be addressed.

To what extent does economic theory addressing government spending, private investment and regulatory shifts in terms of labour market and employment policy enable one to understand the risen NEET rates of 25 to 29 aged in the PIGS countries and to disentangle the impact of Troika policies on this relationship during the period of 2006 and 2013?

Additionally, the following three sub-questions are meant to contribute to a clear answer to the main research question.

SQ 1: What was the impact of the GFC (2008-2009) on NEET rates in the PIGS countries, based on the chosen indicators?

SQ 2: How did the SDC (2010-2011) and the Troika crisis management change the impact of the examined indicators on NEET rates in the PIGS countries compared to the GFC?

SQ 3: How did the impact of the examined indicators on NEET rates in the PIGS countries change in 2012 when the SDC was considered to have turned into the EZC (2012-2013)?

These research questions aim at paving the way towards understanding the rise in NEET rates in the PIGS countries based on macroeconomic theory addressing the recent financial crisis and financial crisis management. Further, they are supposed to disentangle the pre-Troika periods (GFC, mostly) and the phase after the Troika came to intervene (SDC & EZC) in order to test the impact of Troika policy aggregate performance and NEET rates. The recessive impact of the GFC on aggregate performance appears to be relevant, while the output also declined during the SDC due to decreasing financial market and consumer confidence. From the beginning of the EZC in 2012, the announcement of the OMT program of the ECB is supposed to calm down financial markets, relieve pressure on national governments and to increase investors' and sovereign creditors' confidence, which is supposed to provide a more positive aggregate outlook. Due to the fact, that the existing literature covers aggregate performance as the main dependent variable of shifts in youth unemployment, the former is established as the layer on top, being moved by its determinants of government spending, investment and private consumption (Blanchard et al., 2010). Fiscal and regulatory policies embedded in financial crises management have an impact on these determinants, as well as shocks in private finances evolving from financial crises, which has been demonstrated widely by the existing literature.

2. YUR, NEETs and financial crises – a literature review

As stated above, the PIGS countries faced a significant financial crisis due to the GFC, which has been varying in extent and character on the national level, due to the exposure to the characteristics of the US-housing bubble. The macroeconomic performance of the Eurozone has been weakened by the recent period of financial crisis. According to Khramov & Lee (2012), the Economy Performance Index (EPI) of a country is defined by the aggregate performance in terms of growth, the budget deficit as a measure of the fiscal stance, the inflation rate as a measure of the monetary stance and unemployment, in order to measure the production stance. The monetary stance plays only a roll during the EZC in this paper, as monetary policy is in the hands of the ECB, which becomes more relevant during the EZC, compared to the crises periods before due to the announcement of the OMT program (De Grauwe, 2013). On the other side, unemployment will be established as the dependent variable in terms of NEET rates of the 25 to 29 aged, which will be analysed merely based on output growth, due to nearly super-cyclical dependence of YUR and NEET rates on output (Ryan, 2001). Aggregate performance and the fiscal stance are the most critical factors, due to the output shocks witnessed by the PIGS countries during the GFC and EZC and due to the relevance of austerity and internal devaluation in terms of financial crises management. The fiscal stance is extremely relevant regarding the development of the GFC towards the SDC and EZC it will play an important role when analysing the increases in NEET rates. The latter holds even more for the aggregate performance in terms of output, which will be the main independent variable in order to provide a basis for understanding the increases in NEET rates. Based on the explanatory factors addressed by the existing literature and grounded on the relevance of austerity and internal devaluation, a multi-level approach towards the explanatory factors of NEET rates in this paper is defined by fiscal and regulatory policy in terms of labour markets and employment prerequisites. Moreover, the investment appears to be critical evolving from the increasing decline on financial markets starting with the US-subprime mortgage crisis. Putting the financial factors, namely fiscal and private investment related ones and the non-financial or regulatory factors together, these directly and indirectly are supposed to have an

impact on the main determinants of output, which again determines NEET rates and bundles the impact of these factors (Blanchard et al., 2010; Banerji et al., 2014). Consequently, output will be the layer on top, determined by indicators of the regulatory, fiscal and investment dimension, which are supposed to be influenced by financial crisis management policies. The exact construction of variables in a multi-level model will be further elaborated in the methodology section. In the theoretical framework, the expected outcome regarding output and NEET rates grounded on fiscal, labour market and employment policies in the PIGS countries will be defined based on their national profiles and the theoretical knowledge acquired on each of the four explanatory factors. In this section, the relevance of aggregate performance in terms of output and of its aforementioned determinants serving as explanatory factors will be retrieved from the existing literature.

Relating to EPI, the importance of aggregate demand and the role of government expenditure especially explains the importance of the fiscal stance in the PIGS countries, while aggregate economic performance measured by output growth is the main independent variable to explain fluctuations in youth unemployment (Banerji et al., 2014). As the fiscal stance is one of the determinants of output, it will be relevant to analyse the impact of the fiscal stance on NEET rates (Blanchard et al., 2010). The fiscal stance is of particular high interest as the economic adjustment of the Troika is stated to have pursued fiscal austerity and internal devaluation as the most important components of the economic adjustment programs. As these two policy concepts imply fiscal retrenchment and decreasing social standards, the resulting impact on public spending and private consumption is critical concerning the factors contributing to recession and risen NEET rates, both before and after MoUs were signed and the respective policies have been conducted. Further, the approach to financial crisis management taken by the Troika can be classified as expansionary contraction with a front-loaded character, in order to improve the macroeconomic situation in the PIGS countries, most critically the sustainability of public finances (Clarke & Newman, 2012).

Based on risen NEET rates and absent recovery in the PIGS countries, it is highly questionable whether the Troika has effectively addressed fiscal discipline and low external competitiveness, while at the same time enhancing economic performance (Sinn, 2014). Generally, the approaches of national and Troika crisis management have not succeeded in preventing the downward development of labour market perspectives for the aforementioned group of 25 to 29 aged in the PIGS countries. Therefore, the gradual and steady increase during the period of 2006 to 2013 is a common problem faced by the PIGS countries, albeit to a diverging extent during the different sub-periods of financial crisis on a cross-national basis (see Fig.2, NEET rates).

However, the fact that Eurozone MSs have been facing this problem to a varying extent during the recent period of financial crises is based on cross-national vulnerability to shocks evolving from their national economic and labour market profile and due to the nature of financial crisis and the approach to financial crisis management. Therefore, the national characteristics of the PIGS countries in macroeconomic terms highly matter when it comes to the developments and transformation of the GFC into the SDC in the PIGS countries (Hall, 2014; Aghyrou & Kontonikas, 2012). This makes the interaction between the national profiles in terms of economic structure, labour market and employment prerequisites and the effectiveness of national level policies addressing fiscal discipline and external competitiveness in terms of the resulting aggregate economic performance and labour market and employment conditions highly relevant. Therefore, there might still be a trade-off between demands of financial markets posed by investors and creditors translated into national level fiscal expenditure and regulatory policies supposed to enhance fiscal discipline and external competitiveness on the one hand and aggregate performance regarding output and labour market and employment conditions on the other hand, especially in highly-demand led economies. Consequently, the political willingness to conduct fiscal austerity and internal devaluation depends on the economic structure of the country in question and the situation of sovereign finances, which might sovereigns prevent from adhering to financial market discipline, but might protect economic performance and therefore unemployment from soaring. This approach evolves from the theory of varieties of capitalism

established by Hall & Gingerich (2009) and underlines the importance of national level variables and differences in regulatory respects. These signify the approach to financial crisis management of national governments and the interaction between the Troika and the national profiles of the PIGS countries during the SDC and the EZC, which more or less highly influence the development of NEET rates during the latter two periods of financial crises (Hall, 2014). Practically, the Troika translates the abstract demands of international financial markets on the PIGS countries in more or less hard and trenchant measures of austerity and internal devaluation the PIGS countries missed to conduct before being cut-off from sovereign borrowing (Brazys & Regan, 2016). Hence, the Troika based crisis management and the risen NEET rates appear extremely relevant to be correlated during the period between 2006 and 2013, as the success of Troika imposed crisis management is assessed regarding the aspect of real economic and employment outcomes, hinting at the trade-off between financial market and fiscal discipline and economic recovery (Blyth, 2013).

During the recent period of financial crises, financial markets have been amplifying more and more vis-à-vis the PIGS countries and the whole Eurozone, resulting in Troika interventions. Briefly summarising the approach of the Troika is twofold. On the one hand, fiscal discipline in order to ensure capability to repay is supposed to be enhanced by austerity, translating into fiscal consolidation. On the other hand, the aspect of low external competitiveness is meant to be tackled by internal devaluation, in terms of privatisation and deregulation of employment and labour markets, in order to attract investors and to reduce current account deficits (De Grauwe & Ji, 2013; Busch et al., 2012 ; Armingeon & Baccaro, 2012). This policy of expansionary contraction is characterised by highly front-loaded measures and are supposed to function as a substitute of currency devaluation, which is a common tool of monetary policy that does not apply to the PIGS countries as they are bound by the Euro system and the monetary policy of the ECB. Theoretically, front expansionary contraction aims at enhancing external competitiveness and thereby at reviving supply-side and export-led economic growth (Sander, 2012). In the range of possible ideological approaches one could have taken, this approach has been characterised as orthodox and neo-liberal and dogmatic, due to the enforcement of the just mentioned policies as a condition to eligibility to disbursement in tranches of the bailout loans, vis-à-vis sovereign default and in this case probable Eurozone exit (Erne, 2012).

As this paper deals with the impact the aforementioned events of financial crises and financial crises management have had on NEET rates, the existing literature can give clear pointers regarding the factors having an impact on unemployment, youth unemployment and NEET rates in the context of the recent period of financial crises. Through reviewing the literature, the most important characteristics of youth unemployment in general and during the recent financial crises as well as the most relevant explanatory factors of it are identified. The focus hereby will be on the PIGS countries and studies dealing with youth unemployment in these countries.

On the one hand, the recent period of financial crisis and the responses to it in forms of national and international financial crises management are not the underlying cause of the general problem of youth unemployment and risen NEET rates in the PIGS countries, they only provoked a cyclical increase (Marelli et al., 2012; see Fig.2, NEET rates; Fig. 3, YUR). Therefore, high YUR are stated to be structural when being higher in comparison to countries that reach the levels witnessed by others only cyclically, as visible in the cases of ES and EL on the structural and IE and PT on the cyclical side. From OECD statistics, one can conclude that cyclical increases in IE and PT have contributed to the increase of NEET rates towards structural levels of ES and EL (Marelli et al, 2012). According to Scarpetta et al. (2010), the impact of financial crises on young adults unfolds with the increase in competition for jobs, due to decreasing labour demand and based on the nature of young adults being employed in temporary contracts, which increases their vulnerability to lay-offs. The dependence on business cycles and economic performance has been witnessed most drastically in IE and ES, due to the significant impact the GFC had on these countries. While NEET the rates of ES continued to rise during the SDC and EZC, IE managed to decrease NEET rates during the EZC, pointing at the

structural differences between both countries, which will be examined by the country profiles (Scarpetta et al., 2010; see Fig.2, NEET rates).

Overall, young adults are hit more significantly by recessions than adults are due to a higher share in precarious employment relations, such as temporary and part-time contracts, which increases the chance to become redundant during crises (Scarpetta et al., 2010). Scholars have proven this relationship for the recent period of financial crises, mostly dealing with the impact of the GFC on the real economy and, by consequence, on NEET rates (Choudhry et al., 2010, Banjerji et al., 2015). This phenomenon, is stated to occur due to a decline in labour demand, being based on shrinking product demand and consumer confidence (Bell & Banchflower (2010). Therefore, the regulatory aspect of labour markets concerning the degree of segmentation, precarious employment conditions and employment protection is critical when it comes to the protection of young adults from the recessive impact of economic downturns, especially due to financial crises. The vulnerability of young adults towards high NEET rates due to recessions is therefore twofold, based on the aspect of decreasing hires on the one hand and grounded on the concentration of lay-offs towards the younger vis-à-vis adult employees, due to precarious employment conditions signifying the importance of the regulatory aspect of employment conditions on the other hand. In the short, the young adults being employed fail to keep it, while the ones seeking employment are confronted with negative labour demand (Rocha Sanchez, 2012).

Moreover, the academic literature establishes a stronger growth dependency for young than for adult workers in order to find employment (Agnello et al., 2014, Ryan, 2001, Freeman & Wise, 1982, Scarpetta et al., 2010). Therefore, higher NEET rates are easily explained by the contraction of labour demand and their weak position regarding redundancy. Therefore, a positive aggregate outlook of the economy in terms of economic growth is important when talking about labour market integration by finding employment, pointing at vulnerability in terms of labour demand. On the other hand, the capacity to remain employed is therefore highly dependent on the degree of rigidity or flexibility that evolve during a downturn and lead to adverse effects on young adults and youth than on adults due to the regulatory of labour markets and employment. Nonetheless, the problem of high NEET rates as a form of youth unemployment is rooted in the aggregate economic performance of output development which keeps NEET rates from rising, to a certain extent (Banerji et al., 2014). Regarding the impact of financial crisis as an explanatory factor of risen NEET rates, it is thus of critical importance to address the impact on the real economy and aggregate economic performance in terms of growth.

The findings of Bruno et al. (2013) point at divergence when it comes to the persistency of the recessive impact of the GFC and the output dependency of youth unemployment in Europe, with the Anglo-Saxon region, including IE being highly responsive to output, which holds for a much lower extent for the Mediterranean area, including EL, ES and IE. In addition, the persistency of an economic shock appears to be relevant regarding the overlap of effects between the GFC and the SDC after 2010. With further regard to timing, it is stated that it takes five quarters for unemployment to peak is stated to be reached after recovery has started, with increasing unemployment figures until the peak is reached (Marelli et al., 2012). Therefore, a shock in output is translated into higher YUR or NEET rates in the year after the shock. According to Bruno et al. (2013), output dependency has decreased during the period of 2008 to 2011, whereas persistence has increased, most notably in the Mediterranean countries. This points at low capacities to adjust and a weak basis for recovery. The latter is stated to be undermined significantly by the SDC, which increases the probability of a hysteresis effect leading in a higher natural rate of (youth) unemployment (Marelli et al., 2012).

Next to the dimension of economic performance in terms of output, this points at the regulatory dimension of labour markets, depending on educational signalling and successful education-to-work transition on the one hand and the institutional character of the labour market on the other hand. Breen (2005) underlines the relation between educational signalling and EPL in a cross-country comparison, concluding that on the national level, there has to be a clear measurement for the educational skills and their applicability to the labour market in terms of a labour, actually skill supply and demand match,

engineered by national educational systems and labour market institutions. Moreover, low EPL can imply as a boost to enhanced youth employment. Consequently, national level specificities play a critical role in applying EPL related findings to institutional mechanisms of national labour markets, and consequently national economic and employment profiles, based on the findings made by Breen (2005). The national According to O'Higgins (2012), the widespread argument of flexible labour markets supporting young youth employment does not hold regarding the reactions to the recent period of financial crises, as more liberal employment protection legislation (EPL) tended to increase youth unemployment and rather strict EPL applied vice-versa. In flexible labour markets, such as IE and also ES, due to a high temporary cohort, youth unemployment increased, which underlines this finding (Marelli et al., 2012). Regarding the institutional framework of labour markets, replacement rates indicating the generosity of welfare and benefit system and pointing at incentives to (un)employment, are found to be negatively correlated with youth unemployment (Bell & Banchflower, 2010). As noticed by Breen (2005), the potential gains of deregulated labour markets and soft EPL mostly comes across with clear educational signalling, featuring a high degree of labour demand and supply match. Consequently, this points at the importance of national characteristics in terms of labour demand and supply match, as well as the integrative potential of labour markets. As noted by Eichhorst et al. (2014), the Mediterranean are mostly an example of structurally high youth unemployment rates, due to structurally weak labour market institutions and labour market rigidity, in terms of minimum wages, which is identified for EL. Moreover, labour market segmentation contributes to labour market flexibility, but also to the vulnerability of the young in times of recession, most of all ES (Scarpetta et al., 2010; Rocha Sanchez, 2012). Therefore, the regulatory dimension addresses the aspect of remaining employed during financial crises, underlined by EPL and the institutional labour market specificities, merely concerning the point of finding labour market integration by either employment education or training. The institutional signalling evolves from minimum wages vis-à-vis median wages and opportunity cost defined by earnings when being unemployed compared to employment (Banerji et al., 2015): Moreover, the findings by Breen (2005) and O'Higgins (2012) point at an ambivalent impact of EPL and of national profiles when it comes to the recessive of financial crises. Finally, pensions play a significant role regarding private consumption as a determinant of output through the multiplying effect, and due to their relevance in the economic adjustment programs of the Troika (Busch, 2013; Behrend, 2015).

Another aspect determining YUR and NEET rates, depending on the national profile in economic and labour market respect are public sector finances, especially government spending in terms of government consumption and government investment, which is supposed to fuel the demand-led growth and translate into enhanced private consumption based on higher levels of household disposable income (Hein & Tarrasow, 2009). According to Blanchard et al. (2010), government spending in the latter two respects and private consumption are extremely relevant determinants of aggregate economic performance. Deriving from the fact that the GFC implied as a shock to aggregate demand, is highly critical to examine the impact of fiscal policies in terms of government consumption and investment from the background of financial crises management addressing the SDC and EZC. Consequently, in a period of Troika based austerity, the dimension of public finances implies extremely relevant to the PIGS countries. According to Agnello et al. (2014), expenditure driven consolidation measures increase unemployment, most notably YUR. Commonly, it acknowledged that high government size goes hand in hand with structurally weak economies and labour markets with a high rate of natural unemployment. This mostly increases YUR and leads to a high government dependency, when comparing countries (Feldman, 2006). This points at the structural weaknesses supposed to discovered in the Mediterranean of the PIGS countries. Holden & Sparrman (2015) find that there is a negative relationship between government purchases and unemployment rates with an even stronger impact during recessions and higher persistence under fixed than under flexible exchange rates to which the PIGS countries are not an object anymore since they are bound by the Euro-system. Further, shrinking public employment and social spending, such as pensions and spending on Active Labour Market Policies (ALMP spending), which have been part of the Troika's economic adjustment programs, are seen as a damage to employment in general (Banerji et al., 2015;

Wulfgramm & Fervers, 2015). Globally, the higher the extent of fiscal tightening has been in a country, the higher its youth unemployment rate is (Matsumoto et al., 2012). Concerning government investment and unemployment, Young & Pedregal (1999) find that in general, government investment is not able to decrease unemployment, which points again at the structure of an economy in order to allow labour supply and demand to find a high equilibrium. Moreover, the effectiveness of government investment on output underlies qualitative and quantitative criteria, such as consequences for fiscal stability, which points at productivity of public capital. Therefore, this again points at higher (youth) unemployment as a consequence of highly state-based economies, due to highly questionable positive impact of public investment on growth, which is required to bring down YUR. The weak economic structure of several Mediterranean Eurozone states, most notably EL leads to the classification of a highly demand-led growth model and to high fiscal commitment in terms of government spending in order to achieve economic growth (Hall, 2014). This goes hand in hand with weak structures for youth employment and logically, NEET rates are high and YUR is structurally high in countries, such as EL or ES. Therefore, aggregate demand undermining policies, such as austerity, are expected to shrink output, which increases NEET rates.

This point of view spills over to the factor of private investment, which is supposed to enhance growth and employment through spending on business activity in a country based on private equity spending. In this rather supply-side oriented model, there has to be enough room and favourable conditions for enhanced private investment, which is conflicting with the demand-led model of the Mediterranean of the PIGS countries. Therefore, the Troika aims at increasing private investment and deregulating public services in order to create room for private investment supposed to gain competitiveness and to enhance aggregate performance as the main financial crises management strategy next to fiscal consolidation (Myant et al., 2016; Arifandi & Rahman, 2014). Moreover, the statement of ECB-President Draghi in summer 2012, when the EZC is considered to have surpassed the SDC, is supposed to increase financial market confidence in the sovereign creditability of the PIGS countries, which should ease pressure on national governments to continuously harsh austerity measures (Claey, 2014). On the other hand, the announcement of the OMT program of the ECB is also seen as a potential boost to private investment, thereby serving as a spill-over effect from creditors of the public sector to investors of the private sector. The existing literature has not addressed this particular case of the ECB yet, contrastingly to the general relation between monetary policy and investment (Yang, 2006; Blanchard et al. 2010). Therefore will be interesting to analyse the consequences of the ECB's policy shift in 2012 on investment during the EZC.

In the existing literature, there is a broad consensus about the growth enhancing and unemployment reducing effect of increasing private investment, but the impact of investment on youth unemployment has hardly been discovered yet. Most of the articles considered established strong positive relationships between the level of FDI and economic growth as well as unemployment. Generally spoken, investment and unemployment move hand in hand (Smith & Zoega, 2009). Moreover, investment is supposed to boost employment under condition that real wage are flexible and adjustment works smoothly (Driver & Munoz-Bugarin, 2010). Investment points at the relevance of hot and fixed capital. The former concerns portfolio investment while fixed capital is defined by long-term interest of which Foreign Direct Investment (FDI) is an example. FDI is supposed to be clearly linked to enhanced economic growth and higher employment (Ramirez, 2006). Driffields & Taylor (2000) point at the generation of high-skilled employment and the reduction of structural unemployment by higher FDI. While PT, EL and ES were mostly attracted by foreign portfolio debt securities and bank loans, FDI was very limited in these countries (Merler & Pisani-Ferry, 2012). Scholars argue that hot capital has been critical in the PIGS countries due to the lack of fixed capital and due to the nature of hot capital being mostly loans and bonds from which obligations arose for the domestic markets (Lane, 2012). When it comes to catching up economies and the relation between FDI and unemployment in urban areas, FDI is able to reduce unemployment in low-skilled industries (Yabuuchi, 1999). According to the findings of Rachdi & Saidi (2011), FDI is able to generate growth in a variety of countries, while portfolio is to a lesser extent, and therefore poses clear expectations

regarding the PIGS countries and their growth-based NEET rates. Research by Durham (2004) concludes that the benefit from both portfolio and FDI in terms of growth depends on the extent to which national structures allow the absorption of investment. Absorption capacity highly depends on the either debt based or productivity based character of a national economy.

According to the existing literature, the cyclical increase of more or less structurally high NEET rates in the PIGS countries has been due to various aspects evolving from the explanatory factors just mentioned in the national respect. The national prerequisites regarding economic structure, labour market and employment regulation and absorption capacity of hot and fixed capital determine the overall effect of fiscal and regulatory policies in terms of aggregate performance and private investment, as significant factors of financial crisis, having a determining impact on NEET rates. It is therefore critical to determine the involvement of national specificities in the causal chain of the explanatory factors of financial crisis management policies, national shifts in fiscal and regulatory policy and the evolving impact on the determinants of aggregate performance and finally NEET rates (Hall & Gingerich, 2009; Hall, 2014). The interaction between the mainly demand-led economies of the PIGS and the supply-side oriented financial crisis management imposed by the Troika will therefore be addressed in this paper aiming at an understanding of risen NEET rates.

Regarding PT, increasing NEET rates are stated to be based on traditionally low aggregate performance, evolving from weak economic structures that have been substantially weakened by the austerity and internal devaluation conducted by the Troika. This exposes NEET rates highly to the SDC and EZC, rather than the GFC. In the case of IE, the opposite picture of highly risen NEET rates throughout the GFC and SDC arise, which is supposed to be rooted on the devastating impact of the GFC on investment and aggregate performance. When it comes to EL, the poor labour market and aggregate performance outlook is stated to be worsened by the Troika measures, which is signified by soaring NEET rates. On the other hand, ES appears as a mix of EL and IE due to its weak labour market architecture, which got as well hit by the GFC to a high extent, which continued most notably during the EZC (Black, 2014; Lane, 2012; Royo, 2009).

Regarding the economic adjustment programs occurring with the bailout loans and their implications on youth labour markets, pressure is generally stated to be enhanced by the measures imposed by the Troika (Papadopoulos, 2014). Although scholars mostly draw clear conclusions on either side of the medal upon their analyses of the effectiveness and feasibility of Troika crisis management, mature national structural weaknesses and national shifts in welfare lead to a diverse outcome of academic evaluation of the Troika (Pavolini et al., 2012; Callan et al., 2011; Robbins & Lapsley, 2014). Therefore, the Troika engagement in IE can not be classified a success story in the general sense even though NEET rates decreased after the Troika intervened, due to weakened social infrastructure in the country. Neither can the Troika's crisis management policy stated to be a failure in EL, although NEET rates have been soaring since the Troika has stepped in, due to the structural problems faced by EL before the intervention (Papadopoulos, 2016). This underlines the necessity of examining the interaction between national profiles in the aforementioned terms and the financial crises management of the Troika, in order to address risen NEET rates in the PIGS countries completely.

In this sense, financial crises management of the Troika has addressed the climate of financial markets to a higher extent than it has addressed macroeconomic imbalances and aggregate performance or labour market inefficiency. This has lead to a vicious circle of economically counterproductive measures that hindered economic recovery but focused on fiscal adjustment and internal devaluation instead (Armington & Baccaro, 2012; Sinn, 2014; Sander, 2012; Brazys & Regan, 2016). Overall, this would theoretically explain the risen NEET rates of 25 to 29 aged, supporting those economists that argue that the Troika has not successfully tackled the competitiveness and nationally specific shortcomings of the PIGS countries, but has focused on the pure survival of the Eurozone and on preventing sovereign defaults (Sinn, 2014). Although the view that sharply risen NEET rates and YUR in general in the PIGS countries are due to the persisting situation of financial crises, the impact the economic adjustment programs of the Troika had on them has not been examined yet and the

differences among the PIGS countries in this respect have neither (Mathijs, 2014). Additionally, the causal chain between the dialectic of financial crises and financial crises management, meaning austerity and internal devaluation conducted by the Troika in particular and YUR or NEET rates across the PIGS countries based on the development between the different periods of financial crises do hardly exist in the existing literature.

As the impact of the GFC on NEET rates in the PIGS countries is quite evident, this paper will investigate by applied research whether economic indicators of the addressed dimensions of financial crises and financial crises management help one to understand the risen NEET rates of 25 to 29 aged in the PIGS countries. Moreover, it is supposed to provide insights in the question to what extent the indicators of the dimensions of financial crises signify a difference in impact between the different periods of crises, namely before and after the Troika has started to intervene in the PIGS countries. Finally, this aims at providing a conclusion on the question to what extent the increases in NEET rates in the aforementioned countries and reference period can be based more strongly on the GFC or on the economic adjustment policies of the Troika, on which the existing literature has not made a clear statement yet. In other words, if the Troika based crises management lead to a more negative outlook of employment chances for 25 to 29 aged, based on the impact of the chosen indicators.

Therefore, the indicators supposed to clarify the soaring NEET rates in the PIGS countries between 2006 and 2013 are defined by

- Economic performance (output): real GDP growth, real GDP/capita,
- Public financial dimension (fiscal angle): government consumption, government investment,
- Private financial dimension (investment): hot capital (portfolio investment) vs. fixed capital (FDI)
- Non-financial dimension (regulatory angle): labour cost (tax wedge, ratio of minimum wages to median wages), employment protection legislation (EPL), opportunity cost (net benefit replacement rates)

All these indicators will be further operationalised in the theoretical framework and in the methodology section. Possible connections between the indicators of the three different dimensions have not been covered by the existing literature and will not be left uncovered by this paper as well, as the links remain unclear.

Social & Scientific relevance of youth unemployment in times of financial crisis

The social and scientific relevance of the aforementioned research questions and youth unemployment from the background of the recent period of financial crises evolve from three main reasons.

Regarding the social relevance, the consequences of youth unemployment may be drastic for the young adults concerned as well as for society as a whole regarding the country in question, depending on the level of youth unemployment and on the status quo of society, which may be undermined by financial crisis. The consequences of youth unemployment for the young adults in question have been uncovered by the existing literature and can be summarised by threats to their well-being on the mental and socio-economic dimension in a rather soft or rather drastic way (Winefield, 1997; Hammarström & Janlert, 1997; Smith, 2015; Sander, 2012).

Concerning the soft consequences, unemployment or inactivity based on being classified as NEET at the age of a young adult, the bad labour market perspectives faced might foster willingness and attractiveness to first seek lower qualified employment as an interim solution to overcome joblessness, which is often perceived frustrating due to over-qualification, underpay and the underutilisation of skills (Quintini, 2011). Moreover, young graduates perceive their labour market perspectives as too bad to successfully integrate into the labour market, even after tertiary education and remain in the latter or in training in order to enhance their employability, as they did not qualify enough to achieve

employment. This leads to long-term students finishing as highly-qualified professionals at an age which would mean employment and therefore social security contribution for years in other countries (O'Reilly et al., 2015; Lastra-Anadon et al., 2011; ESU, 2013). This situation is similar to many NEETs at the age between 25 to 29 in ES. In addition, the existing literature has proven a so called scarring effect of unemployment and inactivity at young age, meaning that young adult NEETs face more difficult conditions to (re-)integrate into the labour market in the long-term and tend to earn less in the future compared to their employed counterparts in the same age cohort (Sander, 2012). Therefore, a scarred cohort of youth and young adults has negative consequences for the people concerned and for national societies and economies as a whole. Another aspect influencing individuals and countries in a similar way is the hysteresis effect of high YUR and NEET rates. This implies that an increase in the latter ones might increase the natural rates of youth unemployment and NEET in the long term. It further increases the seriousness of high YUR and NEET rates for a country and for the individuals concerned, as the probability of the latter to be unemployed or inactive at the age of a young adult increases (Parodi et al., 2012). Another tremendous consequence of high YUR and NEET rates evolves from the deterring impact of weak labour market perspectives and bad employment conditions as especially young graduates increasingly perceive this as an incentive to emigrate in order to profit from more favourable labour market and employment prerequisites abroad. Therefore, emigration of young graduates and professionals due to financial crises and therefore weak economic prerequisites means a challenge for both the emigrants when seeking employment elsewhere and for the country in question equally, as the loss of especially young high-skill professionals means missing human resources in order to achieve recovery and to maintain it. The so called phenomenon of brain drain is witnessed by all of the PIGS countries, due to low cultural barriers to emigration to former colonies in, for instance, Latin America, Australia but also well-performing Eurozone MSs or Great Britain. Most of all IE has been witnessing a massive brain drain since the beginning of the GFC. The consequences of a brain drain ranges from a loss of (future) highly-skilled professionals to initiate and maintain recovery to decreasing relevance of the PIGS as home country of the emigrants, as many of them might not return in case of continuing economic depression (Labrianidis & Vogiatzis, 2013, Nelson 2015; Gibson & McKenzie, 2011).

Regarding the hard consequences of YUR and NEET rates, a mix of the mental and the socio-economic consequences appears. The mental consequences concern mental illnesses such as depression up to enhanced suicidal behaviour as a result of unemployment or inactivity. Another consequence of unemployment or inactivity can be poverty and social exclusion, which again might lead to depression and enhanced risk of suicidal behaviour, which is more often the result of unemployment or inactivity comparing young adults with adult counterparts (Hammartsröm & Janlert, 1997). This further increases the social relevance and the seriousness of the problem of youth unemployment and NEET rates for society. Most critically and at very high levels, youth unemployment can lead to civil unrest implying as a significant threat to social peace, as existing economic and labour market structures appear to be ineffective regarding the integration of a certain amount of (highly-skilled) young adults (Winefield, 1997). Economic imbalances in form of high youth unemployment increases the vulnerability of young adults to extreme political positions boosting radical movements, which has intensively been witnessed by EL (Sotiris, 2013). Through the social and economic consequences of financial crisis, being among others risen NEET rates, political imbalances through the radicalisation of the population result at the end of the day (Kriesi, 2014; Sotiris, 2014). The social relevance of NEET rates as a consequence of financial crises is therefore concentrated on the relation between the latter two concepts, but applies to the individuals and societies in question to a very high extent. The transmission of the recessive impact of financial crisis concerns the economic dimension in the first instance, by risen NEET rates translating into a scarring and hysteresis effect and threatens living standards and social cohesion by brain drains, faced by IE and enhanced suicidal behaviour of the individuals concerned, most notably in EL. Finally, the political and social consequences might appear costly for national societies by civil unrest and radicalisation of the (younger) population.

Coming to the scientific relevance, the public debate between economists, politicians and scholars about the recent period of financial crises and financial crises management has been highly controversial. In the centre of the controversial debate, economic effectiveness, the political robustness and the democratic legitimacy of the Eurozone's financial crises management, in terms of bailout loan programs and economic adjustment supervised by the Troika, as representatives of the Eurozone finance ministers (Sinn, 2014; Erne, 2012; Lane, 2012; Wyplosz, 2013). Regarding YUR as a consequence of financial crisis, scholars have addressed the relationship between the GFC and risen YUR and NEET rates across a variety of countries. Thereby, they have been mainly focusing on the impact of recessions as such in order to prove the higher output dependency of the young compared to adult workers (Choudhry et al., 2010; Bruno et al., 2013, Scarpetta & Manfredi, 2010). Moreover, the existing literature has addressed the regular dimension of financial crises management broadly with regard to YUR and NEET rates, most critically addressing minimum wages and EPL (Banerji et al., 2015; Breen, 2005; O'Higgins, 2012). The social, economic and political consequences of high NEET rates leading to the classification of a lost generation by scholars, have been analysed as well (Bell & Blanchflower, 2010). What is missing in the existing literature is a multi-variable approach towards the phenomenon of risen NEET rates in particular, addressing the dimension of aggregate performance as well as the fiscal and regulatory dimension. Secondly, the NEET and YUR seen over the whole period suggest a changing impact of financial crises, with the beginning of the SDC in 2010 implying as a turning point towards a depressive scenario, except for IE, which witnesses a moderation in NEET rates during the EZC (OECD, 2016d; Armingeon & Baccaro, 2012; Sander, 2012). In the existing literature, the impact of financial crisis management and the indicators addressing the economic adjustment programs of the Troika is not addressed explicitly concerning YUR or NEET rates, which also holds for disentangling the impact of the different periods of financial crises. Most critically, this holds for the impact of the SDC vis-à-vis the GFC and the feature of Troika lead crises management versus nationally conducted measures.

Therefore, the maxim of this paper is not to blame the Troika for undermining aggregate performance in such a way that NEET rates would rise as a logical consequence. This paper is supposed to find out whether theories of the impact of fiscal and regulatory policy determine output in such a way, that one will finally get the resulting NEET rates of the PIGS countries and whether the economic adjustment programs of the Troika imply as a negative factor in this relation or not. This will evolve based on what national profiles of the PIGS countries tell one about the interaction between the latter and the Troika.

The existing literature has characterised the Troika's approach towards financial crises management as orthodox, due to its supply-sided character and at the same time as neo-liberal and authoritative, based on the privatisation and deregulation measures, which have been imposed on the PIGS countries as a condition for eligibility to the disbursement of the bailout tranches (Hacker, 2014; Behrend, 2015). The trade-off between supply-side and neo-liberal economic policy and the demands and expectations of young NEETs regarding labour market and employment perspectives has been addressed in the existing literature as well (Armingeon & Baccaro, 2012). Consequently, this paper may add academic knowledge to the question whether Troika crisis management has been effective in terms of the labour market and employment perspectives of 25 to 29 aged, which, according to the existing literature, are classified as a lost generation due to the increases of NEET rates in the PIGS countries (Scarpetta et al., 2010). On the whole, this paper will allow one to draw conclusions upon the relevance of macroeconomic theory in terms of fiscal and regulatory policy and investment concerning NEET rates in the PIGS countries undergoing a period of serious financial crisis and on the effectiveness regarding the development of NEET rates during the SDC and EZC. Therefore, the potential relevance of this paper goes beyond the research focus formulated by the research questions, as it is able to transfer the effectiveness of national and Troika lead financial crisis management from the financial, monetary and fiscal dimension, which have been intensively addressed by the existing literature to the economic stance of youth unemployment. This statement derives from the Troika's intentions of leaving the most vulnerable of society when adjusting budgets and labour markets, going hand in hand with the

statement of a burden that would be shouldered equally by society (European Commission, 2014). In the light of intensively risen NEET rates, this is highly questionable in the first instance as they have appeared particularly vulnerable regarding the consequences of recessions, according to a magnitude of scholars (Bruno et al., 2013; Banerji et al., 2014). Another particular feature of this paper is the comparison among the PIGS countries with each other and their responsiveness of changes in financial crises and financial crises management in terms of NEET rates and thereby addresses the interaction between financial crises management and national profiles. The issue of differentiating among the PIGS in the respect of fiscal policy, creditability and overall national profiles is relevant due to the domino-like effect of contagion within the Eurozone (Gentile & Giordano, 2013; Kalbaska & Gatkowski, 2012). This aspect addresses the question whether credit rating agencies should treat them differently or not, which may have enormous consequences for the assessment of sovereign creditability by financial markets and pull them towards a cut-off point from borrowing which has happened in the cases of EL, IE and PT (Gärtner et al., 2011). According to the existing literature, the interaction of the Troika with the national profiles of the PIGS have had mixed outcomes, pointing at possibly negatives consequences for their economies, and consequently for their people. The recent period of financial crises has had enormous consequences for the PIGS countries in terms of fiscal and regulatory sovereignty, but for their citizens as well as the measures of austerity and of internal devaluation imply as dramatic to parts of the population of, most importantly EL (Blankenburg et al., 2013).

3. Background chapter

In this section, the chronology of a period of financial crisis between 2006 and 2013 will be reviewed based on its main characteristics, causes and effects on the PIGS countries. First, the period of 2006 to 2013 will be summarised based on the most important aspects and causes including all three sub-periods. Hence, a detailed description of the general economic and labour market outlook, of the ultimate consequences of the crises in the PIGS countries, including the Troika's economic adjustment programs in the PIGS countries and empirical evidence on YUR and NEET rates will be given by country profiles. Finally, it will be discussed to what extent the Troika's engagement is legally conform with EU law, which theoretical economic and ideological patterns are underlying the crisis management by the Troika and the social implications the Troika's engagement has had on the PIGS countries in terms of living standards, welfare and fundamental rights.

The causes of the GFC, SDC and EZC

In order to understand the underlying reasons for the recent period of financial crises, being the credit crunch phenomenon on the private level that spilled over to the public, one needs to study the two dimensions that have been mainly held responsible for causing it. On the one hand, the changing characteristics of the global financial system play a significant role due to global financial interconnectedness. On the other hand, access to credit in form of the US-subprime mortgage market is stated to have been the trigger point of global financial imbalances.

The global dimension of the GFC is stated to have occurred due to global integration of financial markets, which has been fostered by technological and innovation in terms of financial products and due to a global deregulation wave of financial markets that had started in the late 1970s. Thereby, the private financial sector and investment banking in particular have increasingly gained relevance for the global economy on the one hand. On the other hand, deregulation and global integration through connecting technologies have caused an increasing complexity that evaded from regulatory control to an increasing extent during the recent decades (Crotty, 2009).

When it comes to the US-based reasons of the GFC, the ‘US-housing bubble’ as a form of a speculative real-estate bubble evolving from the US-subprime mortgage market has increasingly contributed to imbalances in the global financial system. The US-housing bubble has been characterised by massive speculation on the volume of the housing market being characterised by housing prices and the amount of subprime mortgage lending and borrowing. In the case of the US-housing bubble, the burst has been evolving from rapid increases in valuations of real property until unsustainable levels have been reached in relation to, among others, income. Subsequently, decreases in home prices and the mortgage debt resulting from lending being higher than the value of property lead to a decreasing volume of the housing market and to the bust of the bubble (Phillips & Yu, 2011). According to various economists, historically low interest rates in the US were partially responsible for causing the housing bubble, as in general economic terms, income was not able to shoulder the enormous burden of credit or, specifically, subprime mortgages, accumulated by private households, mortgage giants and investment banks. During the booming years of the bubble, US-private household debt rising to 130 per cent of income, which is 30 per cent higher than the average rate in the earlier 2000s (Bianco, 2008).

Furthermore, two aspects that further aggravated the serious impact of the housing bubble have been risk and securitisation. A large part of the subprime mortgage lending has been defined as high risk, with the lending being financed by mortgage-backed securities (MBS), a form of CDOs that were highly traded by investment banks. Consequently, as house owners were unable to afford the mortgages, the number of foreclosures marked the decline of the housing market in 2006. The same year marked the free fall of the housing market occurring after the enormous boom that peaked in 2005. As risk premiums of subprime mortgages decreased in the period of 2001 to 2007, lenders considered higher risk borrowers for loans. Moreover, subprime mortgage loans are mostly adjustable rate mortgages (ARMs) which can be used as so called teaser rates as they may increase in the future. According to estimations, one third of ARMs in 2004 to 2006 had teaser rates, in were hardly affordable by house owners during the last years of the boom. Therefore, US-subprime mortgages witnessed enormous losses, as well as did investors of CDOs, that had been traded among banks all around the globe (Bianco, 2008). In 2007, CDOs involving US-market MBSs had already been traded on global financial markets, including large Eurozone banks. Moreover, the speculative character of the US-housing market has spread to commodity and stock markets, which enhanced the degree of global interdependence of financial markets.

After March 2007, when the bubble is stated to have burst, globally operating banks faced increasing liquidity problems evolving from missing return from investment in MBS. The problem in the interbank market was one of asymmetric information, as many banks that were engaged in the US-subprime market and were trading with MBS, came to know that these assets were toxic when the bubble burst, but could not estimate to what extent other banks were hit to the same extent. As a result, interbank lending dried up and the global financial system collapsed (Baldwin & Wyplosz, 2012). This is known as the transmission effect of the non-systemic banking crisis, as so called toxic assets, mainly evolving from the US-housing bubble flooded the global investment market, making financial corporations with mostly Western origin extremely vulnerable to a burst of the bubble. Moreover, financial market confidence decreased significantly regarding lending to corporations exposed to the toxic assets of the US-bubble, which increased banking sector leverage in many Western economies (Crotty, 2009; Longstaff, 2010). On the other hand, the private sector concerning non-financial corporations and private households witnessed high indebtedness as a result of decreasing interbank lending and logically following declines in lending to the real economy, which posed a threat to wealth of depositors in the end. Therefore, the shock evolving from the burst of the US-housing bubble was transmitted around the globe through interdependence on financial markets and the global

trade of toxic assets. Together with the high private sector leverage due to mortgage fuelled real estate booms similar to the US in Eurozone countries, such as IE, ES and NL, this global banking crisis formed a double credit crunch, that made aggregate performance decline during 2007 and 2008.

The systemic character and the classification of a GFC evolve from most significant impact on the world economy during the recent period of financial crises, which is defined by the decision of the US-government of abstaining not from a bailout financing for the bankrupt US-investment bank Lehman Brothers in September 2008. The latter caused a systemic banking crisis as systemically relevant financial institutes in a range of industrialised nations were facing bankruptcy. The existential threat evolving from the globally spread and highly intertwined trade of CDOs of the US-subprime mortgage market lead to failures of banks and insurance companies, which was cleared by the public sector intervention and nationalisations following the principle 'too big to fail', in order to prevent contagion and an even more drastic impact on the real economy. The systemic GFC as a systemic banking crisis has therefore been a typical example of a real estate bubble, that spread to commodities and bonds' markets and implied as an existential risk to the global financial system (Allen & Carletti, 2009; Phillips & Yu, 2011). By relying on Reinhart & Rogoff (among others 2008), Allen & Carletti (2009) state that the systemic banking crisis being the essential characteristic of the GFC has had a major impact on macroeconomic variables, being output and unemployment in the first instance. Further, interbank lending decreased with the bust of the US-housing bubble, first on the US, then on the global level. The global recession was therefore based on the importance of the international financial markets, the global financial turmoil and the declining lending to the real economy. In addition, several Eurozone MSs, such as IE and ES, but also the Netherlands witnessed a boom and bust scenario, similar to the US. The direct impact of the GFC on the real economy has been witnessed by national industries that have been booming prior to the crises, such as construction and financial services in IE and ES or the automotive industry of DE and the US (Allen & Carletti, 2009).

Indirectly, the subsequent financial crisis management conducted by national governments in form of expansionary fiscal policy being translated into fiscal stimulus, bailouts, guarantee schemes and nationalisations in order to prevent the enormous consequences of a collapse of the global financial system, weakened the public financial stance of several countries significantly (Overbeek, 2012). In combination with central bank interventions, these measures for troubled financial institutions protected saving and deposit accounts to a certain extent from being erased due to debt restructuring of their banks and decreased the danger of contagion. During the year of 2009, the global financial imbalances already lead to international financial assistance of the IMF to Iceland, Hungary and Ukraine as they were unable to bear the cost of the GFC's implications, most importantly on their national banks. On the other hand, the impact of the US-subprime mortgage crisis on stock markets and on the real economy is stated to be more dramatic than during the Great Depression after the stock market crash of 1929, leading to the conceptualisation of the Great Recession in late 2008 and 2009 (Allen & Carletti, 2009).

Basically, there are five main aspects that caused the spill-over from the GFC on the private to the SDC on the public level. First, governments have been acting highly pro-cyclical during the boom, which worsened their fiscal outlook dramatically when the second factor, the fiscal cost for the stabilisation and bailout measures of the private financial sector occurred with the outbreak of the GFC. Thirdly, the enhanced necessity to increase spending on fiscal stabilisers such as safety nets came along with the macroeconomic implications of the GFC. The fourth point evolves from the economic consequences of the GFC as well, grounded on the decreasing public revenue from booming sectors, such as financial services and construction, which holds most of all for ES and IE. Last but not least, fiscally leveraged Eurozone MSs engaged in austerity and internal devaluation in order to ensure

market confidence and competitiveness to a diverging extent and with a high divergence in timing, which harmed their creditability (Buiter & Rhabari, 2010).

During the GFC, confidence in the form of interbank lending has been threatened due to widely spread exposure to bad loans and toxic assets evolving from the real estate bubble. When the GFC transformed into the SDC with government bond yields of the PIGS countries soaring, which signifies the diminished confidence of financial markets in sovereign creditability, the downgrading by rating agencies that affected troubled financial institutions turned to the creditworthiness of sovereigns. The credit boom that has been faced by the private sector prior to the GFC has been a feature of fiscal policy in the PIGS countries as well, most notably concerning PT and EL. In the case of IE and ES, government rescue measures for the private sector have been the factor turning pre-crisis healthy finances into highly leveraged ones (Wyplosz & Baldwin, 2012; Lane, 2012). The bad macroeconomic outlook of the PIGS countries, among which most critically the fiscal and growth based national situation lead to a reconsideration of creditability of sovereigns in late 2009 and early 2010, decreasing the solvency of the PIGS countries gradually and resulting in the engagement of the Troika based on the Eurozone's rescue policy. As IE has been most heavily exposed to the macroeconomic consequences of the GFC, agencies downgraded its sovereign creditability the first among the PIGS countries in 2009 (Lane, 2012). During the SDC and EZC, the relation between the PIGS countries and their creditors, being private financial institutions in the first instance and subsequently the bailout loan program contributing Eurozone MSs as main actors of the crises, can be characterised by a classical principle agent model. In this respect, the creditors are the principles and the PIGS countries are the agents with the doctrine to enact fiscal discipline. In order to overcome the problem of asymmetric information, concerning the fact that creditors do only have limited access and insight in the fiscal policy and implementation of fiscal discipline and competitiveness enhancing measures, the Troika as a controlling agency acts on behalf of the creditors. Due to this construction, surveillance of adherence to economic adjustment are ensured, which is an additional source of information about the fiscal stance next to rating agencies evaluations and financial market movements (Arifandi & Rahman, 2012; Vegh, 2012). This model is supported by scholars having found a significant spill-over effect of sovereign downgrading by rating agencies, contributing to the herd behaviour of financial markets during financial crises (Arezki et al., 2011).

The downgrading of IE occurred approximately together with ECB's warning on highly indebted Eurozone MSs to enhance their fiscal discipline. In fall 2009, the global economic and financial outlook seemed to have improved again with improved forecasts for 2010. The climax of the financial turmoil was reached when sovereign debt of the PIGS countries has been considered to be unsustainable, as fiscal deficits have been rising since the beginning of the GFC and economic performance was still low, although shortly recovering in 2009. The request of EL's government for international financial assistance in spring 2010 meant the beginning of the SDC and of its contagious spread towards the rest of the PIGS countries that resulted in the international bailout loan programs supervised by the Troika (Lane, 2012; Vegh, 2012).

The SDC evolved as a transformation of the credit crunch characterising the GFC on the private level into a scenario of feared insolvency on the level of sovereign nation states. To be precise, this concerned the Mediterranean MSs of the Eurozone, of which EL required a double bailout loan package (2010, 2011) in the reference period of 2006 to 2013 and the rest of the PIGS countries a single bailout loan package (European Commission, 2014). Except ES, that required a direct banking recapitalisation in summer 2012 as a result of contagion of the credit crunch in the Eurozone's periphery, the PIGS countries faced their sovereign borrowing to be cut-off from financial markets as their debts have been stated to be unsustainable (Royo, 2015). Therefore, creditors declined to continue to finance their debt, which mostly holds for EL. As sovereign budget deficits have increased massively during the GFC and as the national crisis management policies of bailing out troubled banks has been counterproductive in that sense, that the fiscal stance of all of the PIGS countries has deterred

financial markets from financing their debt, made them relying on fiscal transfers of the Eurozone core and the IMF. In this sense, the credit crunch phenomenon that spilled over from the private to the public sector would become a vicious circle at the moment at which no bailout mechanisms would be in place. As the global financial system relies on credit and confidence, it systemically depends on the public and the private level guaranteeing for each other to some extent. Therefore, not bailing out the PIGS countries, most critically EL, would have left Eurozone banks extremely leveraged and shifted the focus of financial crises back to the private level (Gentile & Giordano, 2013). Typically, a phase of announcements of risen public debt and public deficits, downgrading of sovereign creditability by rating agencies and tough negotiations with Eurozone lenders paved the way to agreement on bailout loans and economic adjustment programs in form of Memoranda of Understanding (MoU). In the case of ES' direct banking recapitalisation, a loan program for the latter purpose and not for sovereign bailout was agreed upon with Eurozone lenders by ES' government. This clearly distinguishes ES from the rest of the PIGS countries, which were all granted sovereign bailout loans during the SDC. On the other hand, ES witnesses a drastic recession and sharp increases in unemployment, most critically youth unemployment, reaching the highest levels among the PIGS countries, except for EL. Although ES takes a similar way to fight the crisis and engages in austerity more or less voluntarily, which holds to a higher extent for IE and to a lower and descending extent for PT and EL, this does not calm down the fear of contagion of the SDC to the fourth largest economy of the Eurozone. This statement is underlined by the downgrading of its creditability by rating agencies and risen government bond yields during the SDC (Lane, 2012).

Since the first bailout for EL has been announced in spring 2010, speculations about a breakup of the Eurozone arose more and more due to the fear of contagion and uncertainty on financial markets. Again, the scenario of a sovereign default of EL would mean a spill-over effect that would set the solvency of the creditors of EL at stake, requiring the bailout of the private financial sector again. As after EL, IE and PT required bailout loan programs as well in 2011, contagion was manifested. Moreover, it spread further to ES, which required financial assistance to stabilise its private financial sector in 2012, which was going hand in hand with IT's struggles in fiscal and private financial respect. The situation of ES and IT implied that the solvency of the fourth and the third largest economies of the Eurozone were under threat, which raise concerns about a structural rescuing mechanism replacing the incidental ones setup to bailout EL, IE and PT. Consequently, EU leaders and the ECB took measures that were supposed to safeguard the Euro as a single currency, signifying that the Euro's existence has been under threat. Therefore, spring 2012 marked the beginning of the EZC.

The transformation of the crisis from the SDC to the EZC is fluid, as ES has been under increased fiscal stress since the outbreak of the SDC and problems only intensify significantly in spring 2012. IT resembles the scenario undergone by ES in certain respect as its financial crisis aggravates gradually from summer 2011 on, being downgraded and forced to pay the highest interest rates on sovereign bonds in the Eurozone at this point. Both countries were highly pushed towards austerity by Eurozone core MSs and witness the replacements of their governments (Gentile & Giordano, 2013; The Economist, 2012). The most critical implication ES and IT have for the Eurozone is probably the fact that they witness the peak of a banking and a private sector liquidity crisis in spring 2012. This makes them push for more fiscal integration and direct liquidity provision for the private sector by the long-term established ESM at the EU summit in June 2012 (The Economist, 2012). The successful conclusion of these measures shows the significance of the problems of these two Eurozone MSs and their implication for the whole Eurozone. This leads some Mediterranean economists state that a default of ES would have the same character of consequences as the default of Lehman Brothers in 2008, but these consequences would be at a drastically higher level. Although ES and IT are stated to

be the big winners of the EU summit in June 2012, the contributing MSs of the Eurozone succeeded in pegging financial assistance for fiscal and private financial purposes to strict adherence to austerity in reverse. The results of the probably most important EU summit since the outbreak of the financial crisis is the formulation of the ESM Treaty, which is ratified and enforced in October 2012 (Gocaj & Meunier, 2013).

In order to guarantee the solvency of the Mediterranean MSs of the Eurozone, the disbursement of the 130 billion bailout to EL starts and Eurozone ministers of finance agree on extending the existing bailout facilities EFSF, ESFM and ESM to fusion into one ESM fund of around 800 billion Euro. This is the result of IMF and G20 pressure of extending the financial firewall of the Eurozone in order to be able to address a possible bailout for ES or IT.

The general picture evolving from the bailout loan programs and the accompanied economic adjustment under Troika supervision shows, that its economic adjustment programs have been evaluated very diversely by the public. On the one hand, the PIGS countries were required to conduct radical measures of austerity, privatisation and internal devaluation that have caused massive protests in all of the PIGS countries. Politically, the consequence of the sovereign bailout loan programs and of the attached austerity packages have caused the public to vote down governments that agreed upon the latter with the Troika (Afonso et al., 2015; Kriesi, 2013). On the other hand, Eurozone contributors and the Troika have been reacting positively to all conducted and intended austerity measures hoping that these would calm down financial markets. Moreover, transfers of political control and fiscal surveillance to the EU level and enhanced cooperation on these issues were intended to improve the institutional architecture of the Eurozone and the fiscal coordination of its MSs, in order to prevent a similar scenario recurring in the long term. Generally speaking, the contributing MSs have pushed forward these initiatives, while the Mediterranean periphery has strived to a deeper fiscal integration in order to ensure fiscal transfers and enlarged rescuing mechanisms for as well public finances and the private financial sector, in order to support large economies, such as ES and IT. Several agreements have been reached during the SDC in order to stabilise public finances of the Eurozone, with financial assistance being available upon condition of strict austerity in reverse. This characterises financial crises management during the EZC as well (Gocaj & Meunier, 2013). Regarding the short-term evaluation of the Troika crisis programs, scholars argue that the expansionary contraction evolving from them has failed to deliver the desired effect in fiscal, macroeconomic and competitive terms and that economic performance of the PIGS countries has not improved since the GFC (Sinn, 2014; Sander, 2012). Although the Troika managed to implement rigorous measures of fiscal consolidation that contributed to financial stability and calmed down financial markets, the strive for solid public finances in terms of fiscal balance and lower debt load has not been fully achieved yet, most notably not in EL (Vegh, 2014; Blyth, 2013; see Fig.9, general government debt). When it comes down to the determination, whether Troika crisis management will be successful, national specificities are a decisive factor regarding to the political willingness to engage in austerity and internal devaluation and to the national characteristics of the economic structure and labour market institutions (Hall, 2014; Hallerberg, 2012).

The imperfections of the Eurozone – a problem of divergence and missing coordination

Since the European Monetary Union (EMU) has been established in 1999, there has been much discussion on whether the Euro is a currency that would fit to the national divergences of its MSs. When speaking about European economic integration, most of all fiscal and monetary policy, mentioning cross-national divergences is inevitable. A definition of the economic core and the economic periphery of Europe, and also of the Eurozone, evolves from the model of the ‘blue banana’, which connects the economic centres of Europe. The form of a banana thereby derives from the curved line connecting London, the Benelux countries, Western Germany, Austria and Northern IT as the

economic core (see Fig.10, blue banana). The economic periphery is stated to be formed by the Mediterranean countries, that joined the EU at a later stage than the founding countries did, most of all EL, ES and PT (Lapavitsas et al., 2010; De Grauwe & Ji, 2013). When the SDC evolved, the arguments between monetarists and economists among the Eurozone MSs about how to deal with economic divergence appeared to be relevant again. Before the introduction of the Euro, Monetarist EU MSs, among which France, Belgium, Italy and Luxemburg advocated to overcome the cost evolving from economic divergence with quick monetary integration, meaning that more economic integration would follow informally and divergence would be decreased in this way. Economist MSs, most of all Netherlands and Germany on the other hand argued for policies enhancing economic convergence before proceeding with monetary integration, worrying about cost that would weigh higher than benefits if monetary integration would be undertaken without erasing economic divergences, at least to a certain extent (Cini & Perez-Solorzano Borraran, 2010). The mentioned divergence is not only visible when it comes to NEET rates, it also became highly evident when the PIGS countries solvency became under threat, as they have been mostly counted into the periphery that diverged from the core in fiscal and economic respect. When the Euro was introduced, Monetarists counted on a catching-up process of peripheral MSs converging with the core in order to decrease imbalances within the Eurozone. During the great moderation, how the boom years between 2000 and 2008 are called, this catching up process occurred in ES and most notably IE regarding output growth. EL witnessed positive business cycles as well, whereas PT has been lagging behind traditionally in this respect. Moreover, fiscal discipline and compliance with the 3/60 rule established with the Maastricht has been high in the case of IE and ES, prior to the GFC, whereas PT announced higher deficits twice (2002 and 2005) and EL once (2004) since the introduction of EMU on 1999 (Lane, 2012).

In order to tackle the SDC, monetarists advocated rescue packages that have been introduced through the EFSF and its followers, while economists advocated a return to monetary sovereignty by re-introducing national currencies. On the one hand, this would give Eurozone MSs the competence to conduct national exchange rate policies fitting to their level of competitiveness, on the other hand, this would not solve the PIGS' fiscal and debt problems (Armingeon & Baccaro, 2012). Moreover, the shock implying to financial market and their confidence in the case of a MSs leaving the Eurozone has been hard to be determined. This is why Eurozone leaders feared a second banking crisis evolving from the losses of Eurozone exit of several MSs faced by the private financial sector. By consequence, the Monetarists won again.

Nonetheless and un-ignorable for monetarists, the problem of the Eurozone being not an optimum currency area (OCA), became highly clear by the SDC. The reason for economic divergence and the missing catch-up process of the periphery was partly to be found in the missing fulfilment of the OCA criteria in the Eurozone. According to Krugman (2012), OCA criteria have been conceptualised by, among others, McKinnon, Kenen and Mundell, stating that a functioning single currency area needs to have a high degree of

- labour mobility (Mundell),
- production diversification (Kenen),
- openness to trade (McKinnon),
- fiscal transfers,
- homogenous preferences when it comes to problems affecting the single currency area as a whole
- a sense of a common destiny.

The adherence to these criteria aim at a well-functioning of the single currency area in question and thereby enhancing welfare and economic development in it. Moreover, they require a high degree of similarity in fiscal, economic performance and regulatory respect in order to be able to address (asymmetric) shocks.

A high degree of labour mobility refers to low barriers to employment mobility based on a homogenous labour market, and similar legal and cultural prerequisites that point at unemployment rates in times of recessions (Mundell, 1961). Although EU law enshrines free mobility of workers, goods, capital and services, labour mobility is generally happening only to a low extent within the Eurozone (Mau & Verwiebe, 2010). Nevertheless, the crisis has boosted the mobility of the young, most notably visible by the brain drain, which is not necessarily based on employment abroad but on poor labour market outlooks in the PIGS countries. This even increases the gravity of shocks, as the emigrating young graduates imply a lack of professionals, once recovery is in sight (Gibson & McKenzie, 2011).

When it comes to production diversification, the Eurozone's economy is not as diversified as it should be regarding the high reliance on financial services and the construction sector in IE and ES and more robust industries (Blankenburg et al., 2013;). This again increases the vulnerability to asymmetric shocks (Kenen, 1969). Moreover, low internal production diversification within the Eurozone MSs points also on the labour market mismatch in the periphery, as young adults tend to be either overqualified or unable to find employment since the GFC (Dolado et al., 2013; Mora, 2002).

Regarding openness to trade, the Eurozone fulfils this criterion based on the four freedoms and the single market (McKinnon, 2002). Nonetheless, the trade balances of the Eurozone MSs evolve demonstrate that while the core has a trade surplus, the periphery has a trade deficit, which perfectly reflects the blue banana model of a highly competitive north and a demand-led southern periphery (see Fig.10; blue banana). This is the result of the export-led northern trade model based on supply-side oriented economic policy in the core countries and IE, which matches the import-based and demand-led model of the southern periphery, most notably ES, EL and PT. Consequently, openness to trade can be stated to be fulfilled, but in such an asymmetric manner that demand-shocks, such as the GFC lead to a diminished aggregate demand which finally decreases labour demand and therefore also the inclusive potential of the labour markets of the PIGS (Hein & Tarassow, 2009).

Further, fiscal transfers have been introduced with the rescue packages evolving from the EFSF, EFSM and ESM due to financial crisis management policies crisis management. Nonetheless, fiscal deficits and sovereign debt levels of Eurozone MSs over time indicate that there has been a need for fiscal transfers since a long time already in order to tackle fiscal imbalances and to ease the pressure evolving from asymmetric shocks and also to enhance convergence. Instead, the fiscal transfers evolving the rescue packages to the PIGS countries can be stated to fail to do so due to the goal of servicing debt and balance public finances, but not to reduce imbalances in order to serve as a starting point for a catching up process, for instance in terms of production diversification (Kenen, 1969; Blyth, 2013; Liu, 2013).

Homogenous preferences refer to consensus on crisis management when addressing the implications evolving from macroeconomic shocks and mutual understanding in the times of crisis. Based on the political discourse about how to use financial crisis management in order to solve the SDC, divergence between core and periphery came up again. This is based on high demand for fiscal discipline and low debt levels by the core and enhanced fiscal transfers and the fiscal space to enact fiscal stimuli by the periphery (Lane, 2012; Gocaj & Meunier, 2013).

The last criterion of a sense of a common destiny points at the cost of integrating and operating in an OCA, which can be best explained by the contagious effect of sovereign defaults, the danger of disintegration of the Eurozone through sovereign defaults. This has been characterised by German Chancellor Merkel's statement, 'when the Euro fails, Europe fails', and ECB-President Mario Draghi's statement, 'to do everything what it takes to save the Euro' (Wright, 2012; ECB, 2012). In theory, a common destiny also evolves from a unanimous financial crisis management, with the most basic agreement of bailout funding for the otherwise defaulting MSs. Another critical point addressing the composition and institutional architecture of the Eurozone as such evolves from its insufficient degree of integration in order to be able to manage crises effectively, that is to say, to solve them and correct previous failures. The bailout loan programs are stated to be only time-buying mechanisms to overcome the worst quickly, but not considered sustainable solutions as they do not address the PIGS countries' competitiveness problem and their production profile to a sufficient extent (Sinn, 2015). On the other hand, governments of the core MSs have long been denying the possibility of sovereign bailouts by referring to the no-bailout clause of the Maastricht Treaty, which has not been credible as the financial implications of a default of EL and, more critically, ES, would have been a domino-effect. This was clear to actors on financial markets as well (Copelovitch et al., 2016; Arghyrou & Kontanikas, 2012; Varoufakis, 2013). These imperfections become visible when considering the introduction of the Euro as a milestone in capital market integration, boosting the trade of (sovereign) debt and thereby creating more transparency when it comes to mismanaged economies that face difficulties to adjust, such as the Mediterranean (Dornbusch, 2000; Baldwin & Wyplosz, 2012). Overall, the Mediterranean countries are seen as rather rigid when it comes to dynamic adjustments to the demands of financial markets, which decreases their adjustment capacity to adherence to confidence of financial markets and creditability, which are highly critical and decisive in international finance. This derives from the fact that collective bargaining and protection of labour evolves to a higher degree when it comes to adjustment, making the Mediterranean countries more rigid, than e.g. Anglo-Saxon ones. The theory of VoC establishes three different types of economies. These are defined by the degree, to which collective decision-making is either centralised to the state with unions and associations of capital and labour exert their influence. Firstly, mixed market economies (such as the Mediterranean of the PIGS) pointing at a strong impact of the political economy on the bargaining outcome, which makes adjustment capacity to market prerequisites low and rigid. Secondly by liberal market economies, which are defined by leaving adjustment to the market (such as IE and other Anglo-Saxon states) and coordinated market economies, that are classified by state-support to market processes, in order to lead adjustment in the right direction (Hall & Gingerich, 1998; Hassel, 2014; Hall, 2014). Therefore, the race to the bottom of social standards demanded by financial markets in times of an SDC is supposed to be taken faster by IE than by the rest of the PIGS (Hassel, 2014; Lapavistas et al., 2010; Deakin, 2013). On the other hand, the Eurozone as a form of ultimate monetary integration erased national differences in creditability, as the currency risk evolving from different exchange rate was not given anymore, leading to identical interest rates for all Eurozone MSs. Consequently, the Euro appeared to be too strong for the PIGS countries creditability as they were able to borrow to lower interest but were considered to be much more unable to repay, than for instance, the core MSs, leading to the cut-off from sovereign borrowing from financial markets (Baldwin & Wyplosz, 2012).

All in all, the main reasons explaining the dysfunction of the Eurozone as a single currency area providing wealth and growth while sustainably enhancing the standard of living of its citizens, lie in the divergence of its composition. On the one hand, this could be solved on the expense of political, economic, financial and social cost of downsizing the Eurozone to an OCA of the core MSs. The expenses would be merely for the periphery in this case, but the economic and financial cost appearing to the core due to a barrier to exports in real economic and financial terms would be significant as

well. On the other hand, it could be solved by establishing a fiscal union and investment mechanisms in order to enhance production diversification, in order to remove the imbalances within the Eurozone. Cost occurring in this case would be merely political and would render nowadays financial crisis management of austerity and internal devaluation ad absurdum. Therefore, it is not expectable that this will be done by Eurozone leaders. The essence of the problem of the Eurozone lies in its divergence, with the NEET rates being a socio-economic feature of increasing difficulties to provide sustainable economic growth and financial stability. The latter two are undermined by the demand-led and debt based character of the PIGS countries' economies, with current account and fiscal deficits and public debt being the result of competitive disadvantages compared to the core. This is one side of the medal. The other side concerns the vulnerability of their economies to shocks, such as the one evolving from the GFC, which turns out to be highly asymmetric comparing its consequences in the core with the one in the periphery. As their national profiles defining their economic strength does not fit the Euro as a currency pegging them to the stronger core, currency devaluation is not an option for the PIGS, as they are bound by the Euro-system and the ECB. Instead, fiscal austerity and internal devaluation in order to address the deficit and debt problem on the one hand and to enhance low competitiveness, seem not to fit their national profiles. As a logical consequence, the SDC turns out to be the example of a classical principle agent problem. The principle, namely international financial markets and the core MSs of the Eurozone as the creditors of the PIGS, offer financial assistance for adherence to austerity and internal devaluation in reverse, which is monitored by the Troika. The PIGS countries as the agents have to comply to these measures in order to be eligible to the bailout funds, which prevents them from defaulting. Due to the diverging preferences of principles and agents regarding financial crisis management, austerity and internal devaluation appear very painful for the PIGS countries. Therefore, the Troika is installed as a monitoring layer in between, which reports quarterly on the adherence to the measures of economic adjustment. With this institutional architecture, the problem of asymmetric information about compliance is supposed to be solved. As covered by the existing literature, transparency and reliability is highly important regarding the measurement of adherence to the conditions imposed by creditors, similar to the relationship of signalling between sovereign and financial markets. Therefore, the signals evolving from the quarterly reviews of the Troika also depend on the accessibility to data and day-to-day work of the public sector.

Financial crisis management: Supply- and demand side economics and the Troika

In short, the financial crises management policies conducted by the Troika can be characterised as orthodox, supply-sided, neo-liberal and authoritative. The orthodox character evolves from orthodox or classical liberal economics, such as conceptualised by Adam Smith and by David Ricardo, advocating deregulated, free markets as the generator of wealth with a low-level interference of the state, during the great industrialisation in the mid-19th century. Orthodox economics witnessed a revival in the mid-20th century in the Anglo-Saxon countries and in West Germany, where the concept of ordo-liberalism had been created, which assigned reactive and corrective but reluctant role to the state in the economy, in order to make sure that economic development and social justice remain coupled when markets failed to do so (Behrend, 2013). Mostly conservative governments of (West) Germany have since then advocated ordo-liberal economics (Brandl & Traxler, 2011; Jabko, 2010). The supply-sided character of both approaches derives from the applicability of 20th century economics, underlining the importance of the supply side of the economy, by relieving capital and companies by investment friendly taxation regimes, which is supposed to create higher levels of wealth through the accumulation and re-investments of profits than more proactive economic policy. Moreover, central bank independence with the primary mean of maintaining price stability is the only sense of existence according to ordo-liberals (Van Esch, 2012). This translated into more deregulation not only in capital markets but also towards deregulation in labour markets, extending the

favourability of economic climate for investors and companies, which should re-enhance the high growth period in the 1950s and 1960s at the end of the 20th century (Simonazzi et al., 2013). This shift is defined as the transformation of *ordo-liberalism* into *neo-liberalism* underlining self-responsibility and financialisation of the international economies, meaning more means tested and eligibility-based welfare states that significantly decreased the role of the state in the economy, labour and financial markets (Kotz, 2008). Further, financialisation and *neo-liberalism* have moved hand in hand as generous and voluminous welfare states have become increasingly difficult to finance by tax based revenues, due to gradually decreasing tax levels and based on the increasing leverage of public finances in terms of debt levels (van der Zwan, 2014). This decreases room to move for national welfare states and leads to a one-way street of welfare state policies, as it seems to be increasingly difficult to stand fiscal retrenchment as a mean of enhancing financial market confidence. Therefore, all kinds of social benefits, most critically unemployment benefits and pensions have been cut throughout phases of fiscal consolidation (Regan, 2012). This has also impacted government consumption, most critically government size and the privatisation of public services, as well government investment. In structurally strong economies, more reluctant fiscal policies regarding the latter aspects can be compensated easily, but not in rather weak ones in the Eurozone periphery. The clue is, that next to austerity, privatisation and deregulation, internal devaluation as the form of *neo-liberal* crisis management in the absence of national monetary sovereignty and the option to conduct monetary devaluation, evolve as a substitute of the latter. This occurs in a much more painful manner for people affected, due to decreasing social benefits and wages, than currency devaluation under national monetary sovereignty (Armingeon & Baccaro, 2012; Myant et al., 2014). On the other hand, this approach evolves from the ideological preferences of the ministers of finance of the net contributing Eurozone MSs to the bailout facilities, thereby imposing conditions in form adherence to austerity and internal devaluation on the PIGS countries, in a top-down order from the supranational level (Behrend, 2013). Signing an MoU for financial assistance means the obligation of the receiving MS (the PIGS countries) to adhere to measures agreed upon with the Troika, among which the COM acts on behalf of the Eurozone ministers of finance (European Parliament, 2014). The Troika controls adherence to the economic adjustment programs, which evolve from the *neo-liberal* political economy of the Eurozone and the core and contributing countries to enforce fiscal discipline by authoritative Troika approaches towards the PIGS countries, in reverse for European solidarity evolving from the bailouts (Bruff, 2013; Blyth, 2013; Hall, 2012). The approach taken by the Troika being characterised by fiscal austerity and internal devaluation is highly orthodox and therefore supply-sided. Moreover, the deregulation and privatisation policies monitored by the Troika and most of all austerity as such are seen as highly *neo-liberal* as deregulation and privatisation is supposed to enact recovery, thereby acting conform upon the demands of financial markets of enhanced confidence in sovereign creditability (Van Apeldoorn, 2014). Therefore, capacity to repay and room to move is achieved by voluntary adjustment, otherwise sovereign bond yields will increase as well will the treat of sovereign default. Fiscal discipline is higher in supply-led MSs, such as IE, than in the Mediterranean of the PIGS countries, based on their demand-led economy and low adjustment capacity, due to their national profiles (Sgherri & Zoli, 2009; Mosley, 2005; Ngai, 2012). The political willingness to enhance fiscal discipline and thereby financial market confidence on the one hand and to further establish more favourable conditions for the private financial sector in both fiscal and private economic terms, derives from the political willingness to conduct measures of austerity and internal devaluation (Hallerberg, 2012; Gros, 2012). As a consequence, the fiscal room to move defined by Mosley (2000; 2005) in times of an SDC, is determined by international creditors and investors.

This approach derives from the supply side policies and austerity conceptualisations of Alessina and Perotti, who see expenditure based austerity as more effective than tax based austerity. The aspect of internal devaluation is seen as necessary to complete the enhanced attractiveness for private investors in the PIGS countries, as decreasing social standards imply as teared down barriers for private capital influx in the economy (Hardiman, 2013). Ideologically, the supply side approach taken by the Troika and core Eurozone MSs, most of all Germany, evolves from the functioning of this model in the core countries of the Eurozone, based on the functioning of the economy and labour markets. This model is

transmitted to the peripheral Eurozone MSs, in order to use the SDC to transform demand-led and debt-fuelled economies into supply-led, export-led and fiscally disciplined ones (De Grauwe, 2012). The orthodox approach of the Troika concerning expenditure based fiscal consolidation is based on two of the most relevant scholarly advocates of austerity, Alessina and Perotti, pledging for a cold shower of drastic and front-loaded fiscal consolidation, rather than gradual adjustments or tax increases. The front-loaded character of harsh austerity based on spending cuts is supposed to restore market confidence regarding the stability of public finances, fiscal discipline to be precise. The degree of political commitment to this cold shower determines the credibility of austerity and therefore, also the confidence of financial markets. With expenditure based fiscal consolidation being the dominant strategy to tackle the SDC in the Eurozone, much less attention has been spent on the aggregate outcomes, such as unemployment, by Eurozone crisis managers, most of all the Troika and the governments of the crediting countries, being opposed to more or less strong opposition in the PIGS countries (Hardiman, 2013).

When it comes to the second dimension of Troika crisis management, namely internal devaluation, this is a broadly discussed topic among scholars. Internal devaluation is characterised by increased responsiveness of wages and prices to economic pressure, that may be based on financial crises. Ultimately, this is supposed to lead to higher external competitiveness and export-led growth (Myant et al., 2016). According to Hardiman (2013), engaging in internal devaluation being furthermore the liberalisation and deregulation of labour markets and state-owned enterprises and a decline in welfare state standards, which is interrelated with fiscal consolidation, is politically difficult. Finally, this harms the political commitment to austerity just mentioned, mostly the in the Mediterranean of the PIGS countries. Moreover, the combination of fiscal consolidation and currency devaluation is not an option to restore the PIGS' countries competitiveness. The latter is one of the stated aims of the Troika in order to stimulate private investment with supply-side economic policy, but as the PIGS countries are bound by the Euro, internal devaluation serves as a substitute for currency devaluation (Hardiman, 2013). Finally, the PIGS countries have to adopt neo-liberal crisis management policies, in order to be eligible to international financial assistance, which only limitedly fits their economic profile and (Schulten & Müller, 2012; Zacun, 2013).

According to the Keynesian demand-side critics of supply-sided neo-liberalism, the supply-side financial crisis management in demand-led economies appears to be contra productive as, the economic structures and the labour market architecture does not work in this context as the basic necessities for attractive investment and export-led growth are absent in the PIGS countries (Matthijs, 2015). At least, this holds for PT, EL and ES as IE is rather supply-led and export oriented. Therefore, supply-side austerity would provoke recessions in demand-led economies, according to Keynesian critics. Moreover, the combination of fiscal austerity and internal devaluation appears to be toxic as public and private consumption as the engines of demand-led growth would be hampered, leading to lower output levels (Blyth, 2013). Consequently, austerity and internal devaluation only work if there are industries and labour markets prerequisites allowing for them. In the case of Germany and its agenda 2010 in the beginning of the 21st century, low interest rates in the Eurozone periphery, among which the PIGS, allowed for debt-fuelled demand-led growth whereas Germany recovered based on high external competitiveness, due to lower wages. At the end of the day, the German current account surplus matches the deficits of the periphery, leading to the conclusion of supply-led and export-oriented growth in the core and debt-based and demand led growth in the periphery prior to the GFC (Boyer, 2012). With the SDC approaching, the room to move allowed by financial markets for the PIGS countries diminished more and more, based on their unsustainable demand-led model. As NEET rates seem to be highly responsive towards Troika based austerity, the statement of demand-side Keynesian critics of the Troika's neo-liberal supply-side policies seem to be justified, as the demand-led and debt-based model of the periphery reacted highly negative to it in real economic terms, due to the unsuitability of financial crisis management (Papadopoulos, 2014; Blyth, 2013). In the respect of improved economic performance and economic prerequisites, the demand-side critics see the NEET rates as a logical consequence of ineffective supply-side financial crisis management. Moreover, as

supply-side policies conducted in demand-side economies appear to miss the target of stabilising budget deficits and enhancing the sustainability of public finances appeared to have partly failed regarding the PIGS countries, most notably EL, the resulting effectiveness only concerns preventing sovereign defaults effectively (OECD, 2016; Boyer, 2012).

Turning from the supply-side criticism of Keynesian economics to the demand side economics, one comes across the term of deficit spending in times of recession while high private and public saving rates would better fit to booming periods. This leads to a counter-cyclical fiscal policy that should be conducted by states when a serious recession has undermined aggregate economic performance. Actually, a range of governments adhered to Keynesian countercyclical fiscal policy in the aftermath of the Lehman credit crunch in 2008, among which Germany, PT and ES. Overall, Keynesian demand-side policies point at the demand dynamism of increasing public investment and consumption generating higher private income and therefore, private consumption. Theoretically, this would lead to a multiplying effect in the economy and enhancing the stability of private and public finances. Subsequently, the boom would serve as period for austerity and debt repayment, in order to keep public finances sound by so called 'deficit spending'. In this way, growth would be more sustainable as well would be public finances, as fiscal surpluses acquired during booms would serve as fiscal stimulus during recessions. This points at a directing task of the state in the economy, meaning that public investment directed towards growth enhancing measures is necessary to create economically sustainable structures that further live upon themselves, if these are absent in the economic profile of a country. In case that a structurally strong country witnesses a recession, the present structures have to be used innovatively, in order to revive output growth. Overall, a high degree of labour supply and demand in terms of skills is required in order to provide the basis for innovative industries and sustainable output growth. Translating the theories of Keynes into Eurozone failures and shortcomings, it is remarkable that the PIGS countries were able to borrow to low interest rates during the great moderation, as yields on sovereign bonds converged to lower German levels, than witnessed before the introduction of the Euro. Due to the comparably high degree of leverage of public finances in the Eurozone, the PIGS countries have been acting pro-cyclically and therefore in opposition to Keynesian economics, in order to finance their debt and demand-led economies. The weak tax base of their economies decreased the effectiveness of automatic stabilisers of their budgets during the boom years and left them increasingly vulnerable when the GFC occurred. Fiscal stimulus packages right after the GFC had evolved turned to be overshadowed by the appearance of the SDC, which due to the contagion of the risk of sovereign default narrowed their fiscal angle again. Finally, the decreasing room to move, evolves from the missed opportunity to engage in fiscal consolidation during the boom years in anticipation of the crises period following it between 2006 and 2013 and from the leveraged public finances that were under-priced during the great moderation but assessed as highly unstable after the beginning of the GFC. According to a Keynesian view, the national profiles should have allowed for more fiscal consolidation during the boom in order to be better prepared for the consequences of the credit crunch.

4. Methodology

Due to the fact that interdependence between output and the fiscal stance evolve quickly, quantitative analysis of data is hardly possible when aiming at understanding the impact of the recent financial crises on youth unemployment. The methodology of this paper is defined by applied research based on the theoretical implications indicators of financial crises and financial crises management have on youth unemployment and NEET rates in particular. Regarding the methodological approach of addressing NEET rates as a dependent variable of aggregate performance, namely output, the following equation by Blanchard et al. (2010) will be used in order to derive the output based on the following factors:

$$Y = c_0 + c_1(Y - T) + G + I$$

In this equation, output (Y) depends on private on private consumption, represented by c_0 (as the basic level of private consumption in an economy) and c_1 (as the marginal propensity to consume, depending on disposable income, which is derived from income (Y) minus taxes (T)). G is government spending while I is investment. In this paper, taxes will be left out of the focus and private consumption will be related to both regulatory indicators having an impact of private income, evolving from social benefits, such as pensions, minimum wages and the EPL index.

On the whole, output will serve as the explanatory factor on top, which is determined by private consumption, government spending and investment. This approach derives from the output dependency established by the existing literature, which derives from the dimensions further identified. Moreover, private consumption is supposed to be influenced by spill-over effects evolving from investment and government consumption, for instance through the remuneration of civil servants. The fiscal, regulatory and investment dimension is supposed to be shaped by financial crisis and financial crisis management, most notably by the economic adjustment imposed by the Troika. Another spill-over effect evolves from changes of the three aforementioned subordinated dimensions on private consumption and the connection. The multi-layer approach used in this paper is therefore identified by output on top, defined by the equation of Blanchard et al. (2010), which is further determined by the explanatory factors of the dimensions identified, which again is shaped by financial crisis management.

Therefore, the indicators supposed to clarify the soaring NEET rates in the PIGS countries between 2006 and 2013 are defined by

- Economic performance (output): real GDP growth, real GDP/capita,
- Public financial dimension (fiscal angle): government consumption, government investment,
- Private financial dimension (investment): hot capital (portfolio investment) vs. fixed capital (FDI)
- Non-financial dimension (regulatory angle): labour cost (tax wedge, ratio of minimum wages to median wages), employment protection legislation (EPL), opportunity cost (net benefit replacement rates)

Ultimately, income related shifts evolving changes in both regulatory and public financial indicators, as government consumption also relates to private spending by public sector wages will be retrieved from consumer confidence index (CCI) levels in order to grasp the impact on private consumption, which is considered as critical in demand led economies. Due to the fact, that G concerns government spending which is composed by government consumption and government investment including government size and public sector wages, government transfers, such as pensions will be covered by the explanatory factors of the regulatory dimension. Therefore, the fiscal dimension has a direct impact on output, while its indirect impact is defined by private consumption, evolving from public sector wages and employment. The same indirect effect evolves from the impact of the regulatory dimension on private consumption. Finally, it will be critical to see whether changes in public sector wages and public employment translate into other CCI levels than regulatory shifts do. According to various economists, aggregate demand is a macroeconomic variable, which strongly correlates negatively with youth unemployment and accounts for fiscal policy changes, among others government spending (Clark & Summers, 1982). Due to the critical role of aggregate demand during the recent period of financial crisis, household disposable income and household final consumption expenditure, in order to grasp whether CCI levels are based on a solid ground regarding the former and actually translate into consumer confidence regarding the latter.

When it comes to investment, the shock evolving from the GFC is expected to translate into lower investment levels in terms of hot and fixed capital and in lower private consumption as one of the direct consequences of the private credit crunch. It will be interesting to uncover the development the

level of investment during the SDC and EZC as an indication of financial market confidence towards the PIGS countries.

The economic analysis will be conducted by a bottom-up approach using the multi-level framework described above. The policies will be linked to evolving values of indicators of the three aforementioned dimensions, which will then be linked to the resulting outcome in output and then to the cyclically following NEET rate in the next year. Further, the direct impact of fiscal, private consumption and investment on output will be discussed, thereby determining which changes have had the biggest impact on output and which changes this reflects regarding their own values. This will lead to conclusions on their effectiveness when explaining NEET rates and towards statements about the dialectic of financial crises and financial crises management with NEET rates as the final outcome of their impact.

In order to draw conclusions on the evolving impact on NEET rates based on the data considered, the national and Troika based policies will be taken into account when analysing movements. This will lead to a comparison between the impact of indicators on NEET rates among the different periods and policies in order to answer the RQ and the SQs. Moreover, it will lead to an evaluation of the interaction of the Troika with the national profiles in terms of economic success regarding NEET rates. Finally, this will be compared among the PIGS countries.

The data collection is of secondary nature, as data has been collected from OECD, Eurostat and the World Bank. Hereunder, the dimensions, explanatory factors and their indicators will be lined out in terms of operationalisation and definitions.

Defining the indicators

Aggregated performance will be operationalised by output, which is supposed to explain the super-cyclical character of YUR and NEET rates in particular (Khrumrov & Lee, 2012; Freeman & Wise, 1982). Defining output is most commonly done by real GDP (Ball et al., 2013). Output will be operationalised by real GDP growth rates, which is often used to measure the applicability of Okun's law (Banerji et al., 2015). Data on real GDP growth rates will be retrieved from the OECD statistics website. The real GDP growth rate is defined by the annual changes in gross value of final goods and services minus the value of imports measured at constant prices (OECD Data, 2016).

The dimension of aggregate performance is one of the most important features of financial crises and will be measures by the explanatory factors of output. According to Blanchard et al. (2010) and a variety of other economists, the recently witnessed period of financial crisis implied as an aggregate demand shock to aggregate performance, which underlines the value of integrating CCI, HDI and HCE levels into the analysis. CCI levels' definition derives from households' plans for major purchases and their economic situation, both currently and their expectations for the immediate future. Opinions compared to a 'normal' state are collected and the difference between positive and negative answers provides a qualitative index on economic conditions (OECD, 2016g). Moreover, HDI is defined by sum of wages and salaries, mixed income, net property income, net current transfers and social benefits other than social transfers in kind, less taxes on income and wealth and social security contributions paid by employees, the self-employed and the unemployed (OECD, 2016). The indicator of HFCE is defined by the market value of all goods and services, including durable products (such as cars, washing machines, and home computers), purchased by households, as a share of GDP (World Bank, 2016).

This approach derives from the fact that both output and household disposable income have witnessed harsh declined during the aforementioned period of financial crises, starting with the GFC in 2008. The GFC has been the origin of the credit crunch phenomenon as a whole, causing both output and HDI to fall drastically in most Western economies. Output shocks will be measured by real GDP

growth rates measuring output performance change over years based on the development of price levels. Data on real GDP growth rates will be retrieved from the OECD, the same holding for HDI levels.

The layer in between characterised by CCI levels is expected to have enormous volatility as well during the period of recent financial crises due to private consumption expenditure. CCI levels function as a layer in between in this research as it captures domestic demand levels as version of aggregate demand in a way that combines private consumption climate and government consumption, allowing one to make statements about the plans of consumers of the PIGS countries, due to the critical importance of domestic demand levels in the PIGS countries. Moreover, CCI levels are able to connect indicators of financial crisis management and output shocks as the ultimate explanation for higher NEET rates.

The private financial dimension and its developments forms the second important feature of the GFC and is conceptualised by the explanatory factor of investment. Investment points at the relevance of hot and fixed capital. The former concerns portfolio investment while fixed capital is defined by long-term interest of which Foreign Direct Investment (FDI) is an example. FDI is supposed to be clearly linked to enhanced economic growth and higher employment (Ramirez, 2006). Driffields & Taylor (2000) point at the generation of high-skilled employment and the reduction of structural unemployment by higher FDI.

As said before, the GFC forms the very origin of the credit crunch phenomenon that characterises the recent period of financial crises, which means that investment is meant to signify the outrages consequences of the GFC in forms of declining transnational financing of the private sector. Thus, the investment angle is operationalised by the relevance of FDI and FPI in the PIGS countries. In this sense, the comparison of the relevance and of the development of both indicators is able to determine financial market confidence to a certain extent. Moreover, investment directly determines output according to Blanchard et al. (2010) and therefore indirectly explains NEET rates. Data on FDI and on FPI are retrieved from the World Bank data base (2016). FDI is defined by the net inflows of investment to acquire a lasting management interest (ten per cent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital and short-term capital and short-term capital as shown in the balance of payments. FDI is measured as a percentage of GDP. FPI on the other hand is defined by portfolio equity net inflows from equity securities other than those recorded as direct investment and including shares, depository receipts and direct purchases in stock markets by foreign investors, measured by current US-Dollar prices (World Bank, 2016). As already stated during the theoretical framework, investment and unemployment highly correlate, with the level of investment and absorption capacity being highly defined by characteristics national profiles. Therefore, the investment angle has a direct impact on output, which then determines the level of NEET rates.

The fiscal angle will be operationalised by government consumption and gross fixed capital formation, with the latter being appropriate in order to measure government investment (Financial Times, 2016a). General government final consumption expenditure covers government purchases of final goods and services produced by the economy and compensations of public employees, which includes government size and public wages. Gross fixed capital formation is composed by the investment in public infrastructure including public transport, health and education. Data on both indicators are measured as a percentage of GDP and are provided by the World Bank (2016a).

Coming to the dimensions of financial crises management, the public finances and regulatory dimension have been highly addressed by the Troika and to a diverging extent, by national governments of the PIGS. It is of very high importance that public finances, being conceptualised by the explanatory factor of the fiscal angle, which translates into the operationalisation of indicators concerning government spending are able to determine output significantly, according to Blanchard et al. (2010). Especially in demand led economies, public spending to enhance the latter serves as an

increasing factor of output. Therefore, gross fixed capital formation as an indicator for government investment, being defined by infrastructural construction in terms of transport, education and health service facilities, is able to enhance demand for labour by increasing output. The same holds for general government final consumption expenditure, which the World Bank (2016) classifies by public expenses towards purchasing of goods and services including public sector employees and their wages. In countries that highly depend on the public sector state-owned enterprises, general government final consumption expenditure is an important determinant of domestic demand. Therefore, the public financial dimension is supposed to have the same output-directed impact on NEET rates as investment, depending on the characteristics of the national profiles. Moreover, it is supposed to have a direct impact on HDI and an indirect impact on CCI levels, due to the inclusion of public sector wages. Both indicators of the public financial dimension are measured as a percentage of GDP.

Regarding the regulatory dimension, the indicators supposed to represent the explanatory factors of employment protection, labour cost and welfare state generosity most sufficiently, are supposed to be EPL, the tax wedge defined by total labour cost minus wages, minimum wages relative to median wages and by opportunity cost, which is measuring earnings while having worked versus earnings while being unemployed. Additionally, pension spending will be covered by the regulatory dimension due to its relevance regarding private income and private consumption.

The regulatory dimension evolved from financial crisis management as it mostly covers the aspect devaluation, while the public financial dimension most importantly covered austerity measures. Nonetheless, the expenditure on pensions and on public transfers are incorporated in the regulatory dimension, due to the conceptualisation of regulatory factors, being opportunity cost, labour cost and EPL (Blanchard et al., 2010). The indicators of the regulatory dimension are supposed to be shaped by financial crisis management policies, most of all internal devaluation. Subsequently, the regulatory changes are supposed to have an impact on private consumption, which is supposed to explain changes in output, next to the fiscal and investment related dimension. Further, opportunity cost are operationalised by net benefit replacement rates, being the difference between net income from work of average workers earning 100 per cent of average wages and the unemployment benefits probably earned in case of unemployment. Thereby, net benefit replacement rates cover indirectly social transfers in terms of unemployment benefits and translate the institutional signalling of incentives to work or not to work (Eurostat, 2016). Depending in the relation between income from work or from unemployment, different signals may evolve when comparing countries and years. Data on opportunity cost are retrieved from the Eurostat website. According to Blanchard (2010), government transfers, which social spending, such as pensions and unemployment benefits indicators actually are, do not add up to government spending when it comes to the composition of output. Nonetheless, opportunity cost have an indirect impact on output by private consumption levels, which are translated into levels of CCI and disposable income, determining private consumption and the multiplying impact of income from employment or social transfers, especially in demand led economies. When it comes to labour cost, this explanatory factor is operationalised by tax wedge and minimum wages relative to median wages. The tax wedge is defined by proportional difference between total cost per employee in terms of taxes and social security contributions and net earnings from employment. Thereby it effectively measures the cost implied to employers and the benefits implied to employees, which makes the tax wedge a suitable measures for incentives to expand employment and to work, due to the impact of income taxes and social security contributions. Data on the tax wedge are retrieved from Eurostat (2016). As low tax wedges are supposed to increase the incentives to employment, this impact will be critically analysed regarding its effectiveness, being highly dependent on the national profile. Moreover, labour cost will be measured by minimum wages relative to median wages, which are further characterised by the level of minimum wages average meaning median wages of an economy. If minimum wages increase their share of median wages of an economy, this means that declining median wages harm private domestic demand by lower HDI and CCI levels, which is meant to result in lower output levels in demand depending economies. On the other side, if minimum wages

are changed, this would have a reverse impact, which requires subsequent analysis of HDI and CCI levels, in order to grasp the general movements in wage levels in the labour market. Data on the relation between minimum and median wages will be retrieved from OECD data website. The last indicator of the regulatory dimension will be EPL, measured by the EPL index. This indicator might have the most direct impact on NEET rates, due to its definition of measuring the strictness of employment regulation in terms of barriers to dismissals and labour market segmentation. As a segmented labour market is a future of modern labour markets anyway, movements in EPL have important implications for young adults, which typically have a high share of temporary contracts and being more vulnerable to unemployment. Therefore, the impact of EPL shifts can be very well compared to shifts in adult unemployment rates, in order to grasp the difference in impact in the already more vulnerable young adults being more frequently employed in temporary contracts and on adults which are more likely to have fixed contracts. Data will be retrieved from the OECD EPL index, which is defined by synthetic indicators of the strictness of regulation on dismissals and the use of temporary contracts (OECD stats, 2016).

The economic analysis will be conducted by a bottom-up approach using the multi-level framework of the theoretical considerations in the following way. The policies will be linked to evolving values of indicators and their net of impact among each other, translating from policy changes into changes in regulatory indicators and fiscal indicators. Hence the impact of their indicators on private consumption and investment as the layers in between will be analysed. Further, the direct impact of fiscal, private consumption and investment on output will be discussed, thereby determining which changes have had the biggest impact on output and which changes this reflects regarding their own values. Subsequently, the resulting output changes based on either of the middle and below layer variables will be discussed and linked back to the underlying policies. This will lead to conclusions on their effectiveness.

In order to draw conclusions on the evolving impact on NEET rates based on the data considered, the national and Troika based policies will be taken into account when analysing movements. This will lead to a comparison between the impact of indicators on NEET rates among the different periods and policies in order to answer the RQ and the SQs. Moreover, it will lead to an evaluation of the interaction of the Troika with the national profiles in terms of economic success regarding NEET rates. Finally, this will be compared among the PIGS countries in order to differentiate in impact that the Troika's economic adjustment programs had on the PIGS.

5. Theoretical framework

The theoretical framework of this paper addresses the theoretical impact of the explanatory factors on NEET rates from the background of financial crises and financial crises management between the years 2006 and 2013. Thereby, it will connect theoretical knowledge gathered in the existing literature with the economic adjustment programs imposed by the Troika on the PIGS countries. Subsequently, the national profiles in terms of economic structure, labour market and employment prerequisites for young adults and the development of financial crises and financial crises management in each of the PIGS countries will be addressed. Finally, hypotheses will be formulated as an interim conclusion in order to check these as the expected outcome when proceeding to the analysis.

Aggregate performance

As aggregate performance relates to macroeconomic shocks in terms of financial crisis, the existing literature establishes high dependency between youth unemployment in general and output. Moreover,

there is a higher growth dependency for youth than for adults, meaning that the main underlying factor of growth in an economy is able to raise YUR and NEET rates significantly.

In general, it is found that Okun's Law holds and that above average growth in GDP is required to decrease youth unemployment. Largely, youth unemployment and GDP appear to move hand in hand with a varying negative relationship. Although it appears to critical in which sectors young adults are employed when it comes to the question to what extent youth unemployment of a country depends on output and aggregate demand, the general picture appears that the higher the contraction in output, the higher the increase in youth unemployment.

Regarding the causes of youth unemployment in the existing literature, there is common ground that economic performance has a major impact and that the young depend to a higher extent on business cycles than adults do and are generally hit harder by recessions (Agnello et al., 2014, Freeman & Wise, 1982; Ryan, 2001). The risen NEET rates during financial crises can be related to the persisting effect of the GFC on the labour market entry chances of the young during later years, most notably in the Mediterranean area, which makes it relevant to compare the impact of the GFC to Troika crisis management (Choudhry et al., 2010; Bruno et al., 2013). Okun's law states that there is a negative short-run relationship between output and unemployment leading Banjerij et al. (2015) to the statement that 50 per cent of increase in youth unemployment during the recent financial crises are explained by decreasing output. When it comes to traditionally vulnerable Eurozone MSs in terms of high youth unemployment, such as EL and ES, output is able to explain 70 per cent of fluctuations in youth unemployment.

Practically, the relationship between output as a measurement of economic performance and youth employment is straight forward, as higher output increases the demand for labour. In times of a boom, the most wanted employees are the young and high qualified whereas during recessions, it is increasingly difficult for them to integrate into the labour market as labour demand slows down. As during the recent period of financial crises, confidence in growth has been diminished, the shock evolving from the financial industry to the real economy in terms of lending to the real economy declined sharply, which implied as a multiplying effect of the aggravated recession (Banerji et al., 2015).

The nature of a market economy requires growth in order to integrate (young) new comers on the labour market. Thus, jobs are scarce and enterprises prefer to keep their original employees in times of economic downturn rather than dare to hire younger, rather unexperienced workers even if they might have had a better education (Curtain, 2001). Nonetheless and despite Okun's Law describing changes in unemployment in relation to changes in output, there is no general formula applying to the relation between output and youth unemployment, as also during the GFC, shocks in output have been diverse among countries, so have shocks in youth unemployment been. From this background, it can be stated that there is no linear relationship between shocks in output and shocks in youth unemployment, which diminishes the reliability of Okun's law, but does not harm the relationship between output and youth unemployment in general (Bell & Banchflower, 2010).

Bruno et al. (2013) find that the recession evolving from the GFC has been persistent and even stronger in 2009 and 2010 in most countries. In the Mediterranean countries, persistence of high NEET rates is stated to be the strongest, although response to changes in output are weaker than in other countries, which points at other factors, most of all institutional variables being to some extent accountable for risen NEET rates. This leads to the statement, that the Mediterranean youth labour markets are rather depending on institutional variables than on economic performance. Nevertheless, the persistent effect of financial crises on labour markets found by Choudhry et al. (2010) is of special interest as the impact evolving from the Troika occurs parallel to the persistency of the recession evolving from the GFC, albeit other variables being more relevant in the Mediterranean countries (Bruno et al., 2013). Despite the findings of Bruno et al. (2013), Choudhry et al. (2012) advocate growth stimulations in order to tackle youth unemployment. Moreover, structural features of national

labour markets diverging among the PIGS countries interact with the vulnerability of risen NEET rates to output, for instance in the case of ES (Sander, 2012). Moreover, the impact of financial crises on YUR is supposed to be long-lasting. This increases the relevance of the RQ and the potential relevance of other factors regarding the continuously risen NEET rates in EL and ES. As an output shock has been witnessed 2008-2009 and 2011, while other factors have been under more constant adjustment, most of all after the Troika became involved, output shocks will not serve as the main cause of increases in NEET rates after 2010. This points at the potentially higher relevance of the other three dimensions, as the output shock in 2011 occurs after austerity and internal devaluation have been enacted in all of the PIGS countries then. Moreover, the declining output levels during the recent period of financial crises, including the major recessions in 2008-2009 and 2011-2012, point at uncertainty shocks that persisted on financial markets but worsened in 2011 and 2012 again after a slight recovery in 2010. These uncertainty shock is stated to have diminished job creation and enhanced unemployment significantly. Therefore, the event of the SDC as such is supposed to have a significant impact on output in the PIGS countries.

Therefore, one expects a highly relevant output shock during the GFC, which appears to be persistent but is crowded out by other variables during the GFC and SDC when it comes to the explanatory notes on youth unemployment. Moreover, the second output shock seems to be highly based on austerity and internal devaluation, based on findings by the existing literature, most of all Bruno et al. (2013). In combination with CCI levels, it will consequently be of high interest, if output shocks derive from decreasing investment, public spending or private consumption when analysing the three sub-periods of financial crises in the PIGS countries.

The fiscal angle

The fiscal angle is of particular relevance as austerity as a form of fiscal consolidation has gained increasing relevance since the beginning of the SDC. Moreover, as demand-led economies require significant fiscal variables in their economy, it is questionable whether the private sector is able to compensate for the cuts in government spending. In particular, the impact of shrinking public spending is not only directly via aggregate demand for goods and services, but also indirectly, as the cutting public wages and government size accounts for losses in private income and savings on the public side at the same time.

Globally, the higher the extent of fiscal tightening has been in a country, the higher its youth unemployment rate is. This is evidence deriving from fiscal policy in OECD countries between 2007 and 2011 (Matsumoto et al., 2012).

Based on the composition of output and the relevance of government spending, which is underlined by the critical importance of government spending in the aggregate demand relation when it comes to the determination of output, government spending is highly relevant in demand-led economies and therefore austerity may lead to higher NEET rates (Blanchard et al, 2010; Myant et al, 2012). Nonetheless, the national economic and labour market profiles may play a role in this respect, depending on the focus of cuts and the resulting impact on NEET rates.

Theoretically, investment as a determinant of output has been more relevant during GFC whereas cuts in government consumption have lead unemployment to rise as a result of fiscal contraction initiated by the Troika (Tagkalakis, 2013). In EL, the same holds for declined gross fixed capital formation as an indicator of public investment (Monastiriotis et al., 2013). Holden & Sparrman (2015) find that there is a negative relationship between government purchases and unemployment rates with an even stronger impact during recessions and higher persistence under fixed than under flexible exchange rates to which the PIGS countries are not an object anymore since they are bound by the Euro-system. Further, shrinking spending on Active Labour Market Policies (ALMP spending), as a part of

government consumption, are seen as a damage to employment (Banerji et al., 2015; Wulfgramm & Fervers, 2015). The Troika has addressed ALMP spending more or less explicitly in the PIGS countries, meaning with divergent extent.

There is high empirical evidence that fiscal consolidations have an enormous impact on output and employment in the short-run, most importantly linked to cuts in government consumption (Romer, 2012). Moreover, there is a certain hysteresis effect on unemployment as when the latter is high, measures that have a negative impact on unemployment may lead to a higher natural rate of unemployment. This points at the either rather structural or cyclical character of NEET rates, as NEET being on high levels before Troika austerity appeared on the political agenda. There is theoretical substance in the literature that this might have been the case in the PIGS countries. In order to keep unemployment rates constant, reduced public employment as a result of fiscal consolidation raises the need for substitutional employers in the private sector, which the latter is often not able to serve as in times of recession. Lower government consumption calls for higher private investment in order to compensate for the decrease in public labour demand. Private investment requires private saving rates, which takes the extent of private saving as given, actually pointing at the propensity of people to save, which again depends on income and makes aggregate demand a constantly returning factor (Blanchard et al., 2010).

This leads Nobel-prize winner Paul Krugman (2012) to the statement that expansionary fiscal policy on the whole in the Eurozone would be needed to restore aggregate demand in order to change the depressive scenario of the PIGS countries into one of growth again, as prior to the GFC. As Pessarides (2013) puts it, measures of fiscal consolidation worked out as an employment-killer starting from 2009, as financial markets forced them to reduce public spending in order to bring debt levels under control. Pessarides (2013) goes even further and directly holds the Troika accountable for the rises in unemployment witnessed by the PIGS countries, due to its direct impact on aggregate demand. The situation is aggravated by the speed in that fiscal austerity has been introduced in the PIGS countries. On the one hand, it is generally found that a large public employment sector is traditionally associated with high unemployment based on international comparison (Feldmann, 2006). On the other hand, this would mean that economies having a large government size would be highly affected by shrinks in public employment, as the private sector appears too weak to provide employment to fired public employees. This can certainly not succeed if there is no counterbalance to fiscal austerity, regarding effective growth and employment enhancing measures (Aiginger et al., 2012). Sander (2012) especially develops the argument that fiscal contraction should not be front-loaded when it comes to its impact on youth unemployment, due to excessive cost for young unemployed in the short term. Adjustment in low-adjustment capacity countries should happen step-by-step in a process of deleveraging, rather than immediately imposing measures that turn out to be too painful for a country's economy. Moreover, Sander (2012) points at the importance of public investment and government consumption concerning infrastructure that is critical regarding youth employment. This is linked to fiscal stimuli that should be conducted by the PIGS countries due to their structural weaknesses, but can not be performed by themselves due to fiscal consolidation, which does not solve their youth unemployment problems. For the PIGS countries, first things come first in that sense that their fiscal consolidation measures demanded by financial markets are the result of high public leverage due to interventions in the private financial sector (IE and ES to a lesser extent), structural weaknesses (PT) and high debt (EL) (Rodrigues, 2013). What matters in terms of the PIGS countries is the relevance of private consumption growth in times of fiscal consolidation, as the Mediterranean of the PIGS countries highly rely on the internal demand, which is indicated by private consumption, among others. Hjelm (2002) finds that this has not been the case during a vast majority periods of fiscal contraction, for instance in PT.

By consequence, the impact of fiscal contraction in the sense of the indicators described above, the fiscal angle is supposed to have a critical impact on NEET rates during the SDC and EZC, but might already kick-in during the GFC, depending on the degree of voluntary austerity.

The investment angle

When it comes to the relevance of investment regarding risen NEET rates in the PIGS countries, the factor of output needs to be considered again, as investment is part of the composition of output (Blanchard et al., 2010). Due to the harsh decline in interbank lending and due to declining lending to the real economy during the GFC, the shock in output that characterised the Great Recession, is supposed to be related to investment (Guillen, 2012, Kahle & Stulz, 2013; Albertazzi & Marchetti, 2010).

Generally spoken, investment and unemployment move hand in hand (Smith & Zoega, 2009). While PT, EL and ES were mostly attracted by foreign portfolio debt securities and bank loans, FDI was very limited in these countries (Merler & Pisani-Ferry, 2012). Scholars argue that hot capital has been critical in the PIGS countries due to the lack of fixed capital and due to the nature of hot capital being mostly loans and bonds from which obligations arose for the domestic markets (Lane, 2012).

In general the model of supply- and demand led economies in terms of location effects seem to be appropriate in order to explain the very basic elements of investment location theory. On the one hand, supply-led economies typically have high rates of investment, typically FDI, while demand-led economies tend to have lower levels of investment but higher FPI levels compared to FDI. The exact reason determining the relevance of FDI and FPI will be explained in the remainder of this section. Nonetheless, at this point it is important to mention that investment location is characterised by supply linkages rather than demand linkages. While demand linkages point at the stimulation of consumption by income levels fuelled by high public and private wages as strong aspects of consumption, which increases output, demand linkages tend to work in rather vulnerable countries with weak economic and labour market profiles. The private and/or public debt-led financing of demand linkages makes demand-led economy work, but vulnerable to shocks. Demand-led concentration of economic activity is based on expenditure shifting, as consumption is concentrated in the region or nation in question. On the other hand, supply linkages aim to attract business by favourable conditions for production and investment, such as labour cost and tax wedges. As supply-linkages work through cost shifting attracting firms and their investment and production capacity, supply linkages are much easier to be achieved, with extent varying among economic profiles. Therefore, the location effect of supply linkages leads to expansion in the number of firms and business concentration, which fosters growth and leads to higher output levels. Supply-linkages of a supply-led country appear to be more favourable for investment, particularly FDI (Ryan, 2011). Overall, not only the firms and investors profit from cost shifting and higher FDI, as output increases due to economic concentration, which leads to a higher performance of labour markets and lower unemployment.

Moreover, Durham (2004) argues that both portfolio and FDI are able to reduce unemployment in urban areas, if directed towards foreign firms. Nonetheless, the absorption capacity of metropolitan areas regarding hot and fixed capital is decisive, which again hints at the economic profile of a country. When it comes to the difference between hot and fixed capital investment, such as FDI and FPI, the volatility of FPI is much higher as FDI concerns long-term projects that aim at building long-term business relationship between investors and subsidiaries. On the one hand, FDI enable investors to take more direct control in day-to-day business, whereas FPI is restricted to share and bond holding. Moreover, there is asymmetric information occurring in cases that FDI investors aim to sell their

investment on the market as potential buyers do not have the same access to information as potential FPI investors have when buying stocks or bonds. In case that FDI projects have to be sold prematurely, prices decrease and make it harder to sell. Therefore, more risky investment is conducted by FPI, due to possible liquidity shocks. Concerning the internal devaluation to which the Troika is striving in the PIGS countries, production cost matter in general and are supposed to attract FDI, as normally, FDI is less attractive in developed countries, mostly the Eurozone, due to high production cost. On the other hand, the problem of asymmetric information is less relevant regarding FPI in the Eurozone due to high transparency (Goldstein & Razin, 2006). This points at the particular aspect addressed by the economic adjustment programs by the Troika, namely statistical transparency in finances (European Commission, 2014). Therefore, the attractiveness to FPI is largely depending on the transparency offered by national agency to investors. Regarding the liquidity needs, investors that require quick profits chose for FPI creating a higher volatility of FPI relative to FDI (Goldstein & Razin, 2012). By consequence, one should expect higher FDI compared to FPI in IE due to the features of an SOE and the reverse in the Mediterranean of the PIGS countries, due to higher investment rates due to risk association. According to Goldstein & Razin (2006), the degree of economic development of a country can be retrieved from the difference between FPI and FDI as high efficiency in developed countries leads to a higher attractiveness for investors with lower capital needs. While in countries with lower efficiency and transparency, higher interest rates are demanded, which increases attractiveness for investors with high capital needs. Therefore, the discrepancy between investors with high capital needs and those with low capital needs is lower in rather developed economies, which enhances the volume of investment and therefore, overall attractiveness to invest (Goldstein & Razin, 2006). Therefore, the core-periphery model in terms of north-south divergence within the Eurozone allows one to make fact-based hypothesis about the development of hot and fixed capital in the PIGS countries and their relevance and effectiveness in terms of higher output and lower NEET rates. As the Mediterranean countries have a higher affinity to debt-based investment, it will be interesting to see whether internal devaluation or austerity have a higher impact on output contraction. Interesting will be to what extent investment has caused the mentioned output shocks and in which relation its impact on output develops vis-à-vis private and public consumption. This mostly holds for determining the success of internal devaluation regarding internal demand and CCI levels and the evolvement of NEET rates. Most critically, the labour cost and EPL are supposed to be in the spotlight, but also fiscal variables. Furthermore, IE is stated to have undergone a period of wage increases during the great moderation but has remained attractive to both kinds of investment (Ryan, 2011).

Investment affected by the regulatory angle, which affects aggregate demand. Prior to financial crises during the great moderation, low interest rates evolving from the Eurozone membership fuelled internal demand by high private and public borrowing (Myant et al., 2012). Therefore, internal demand indirectly affects investment, which has been albeit on debt based investment due to portfolio investment undertaken by the financial institutions of the core and provided to the periphery. In order to earn high returns on investment as in unstable and vulnerable economies, most of all the Mediterranean of the PIGS countries, has been priced with higher interest rates, most of all in the very last years and months prior to the bailouts (Barth et al., 2011). In theory, the internal devaluation undertaken in the PIGS countries enhances investment due to higher income based on lower prices, which leads to higher demand for FPI. Nonetheless, the aspect of a strong production profile is valid regarding the demand level for FDI.

As investment is supposed to contract due to the GFC, the PIGS countries are supposed to witness a diverging shock in investment in 2008, which is more or less sustainable regarding the extent of the SDC in each country. The internal devaluation measures imposed by the Troika are supposed to have diverging impact as well, depending on the economic and labour market profile of the PIGS countries.

Based on the theoretical considerations listed above, it is expectable that IE performs better in terms of investment, but that the shock in terms of declining output due to decreasing investment is higher as well.

The regulatory angle

The non-financial and regulatory dimension of crisis management is often seen as an indicator for external competitiveness and as decisive indicator regarding the attractiveness for private investors. Within the Eurozone, internal devaluation, which best describes the reforms undertaken by the PIGS countries in this respect, can be seen as a substitute for currency devaluation, which the PIGS countries can not conduct anymore since they are bound by the Euro (Armingeon & Baccaro, 2012). Regulatory shifts in the PIGS countries evolving most of all from internal devaluation will be operationalised by opportunity cost defining the generosity of the welfare system and incentives to inactivity. Further, labour cost are supposed to have a link to CCI and therefore, to explain development in NEET rates, most of all in demand-led economies. The indicators to measure opportunity cost will be net benefit replacement rates, whereas the tax wedge and minimum wages relative to median wages will be used in order to cover labour cost. The EPL index of OECD will be used in order to grasp the development of labour market rigidity and its impact on enhanced employment of NEETs. Moreover, government transfers, which are not captured by government spending will be analysed by the regulatory dimension, such as pensions and welfare state benefits (Financial Times, 2016). The latter contribute to opportunity cost, while the former represent an important factor in income and private consumption, due to ageing societies in demographically changing Europe (Natali & Stamati, 2014; Banerji et al., 2015). Pensions will be measured by public spending on pensions as a percentage of GDP and will also be retrieved from Eurostat (Eurostat, 2015).

In order to keep unemployment rates constant, reduced public employment as a result of fiscal consolidation raises the need for substitutional employers in the private sector, which the latter is often not able to serve as in times of recession. Lower government consumption calls for higher private investment in order to compensate for the decrease in public labour demand. Private investment requires private saving rates, which takes the extent of private saving as given, actually pointing at the propensity of people to save, which again depends on income and makes aggregate demand a constantly returning factor (Blanchard et al., 2010).

Regarding the operationalisation of labour cost, the tax wedge being defined as the difference between non-wage cost applying to employers and net earnings of employees as a proportion of total labour cost determine the barriers to employment for young adults and the barriers to expansion in staff faced by employers. Therefore, Banerji et al. (2015) state that lower minimum wages relative to median wages and higher tax wedges tend to decrease youth unemployment. In interaction with output and CCI, this seems a valid point due to enhanced impact of contraction by too high tax wedges, which might prevent employers to higher even less. On the other hand, contraction in output might require employers to think in recessive terms concerning staff size as well, even if the tax wedge is low. An ambivalent. Moreover, there might be a significant impact on aggregate demand, as higher tax wedges imply a more solid basis for enhanced government spending, but on the other hand, Blanchard et al. (2010) clearly state that high tax levels and therefore also high tax wedges decrease aggregate demand concerning its private side. Therefore, higher tax wedges might enhance government spending but decrease private consumption, which leads to the statement that higher tax wedges should decrease CCI levels. Therefore, the argument pointing at high tax wedges is both relevant for supply- and demand-led economies.

Moreover, Banerji et al. (2015) state that lower minimum wages relative to median wages and higher tax wedges tend to decrease youth unemployment. On the opposite, Junankar (2014) finds that although wages of young adults have been fallen more drastically during the GFC, YUR have been rising to a higher extent than adult unemployment rates, which therefore increases the vulnerability of young adults and increases NEET rates. One can conclude from the finding made by Junankar (2014), that the output shock has been too big for decreasing wages being able to compensate for the aggregate youth employment loss. Therefore, lower wages harm aggregate demand CCI levels and thereby might result in output shocks, which is certainly relevant for demand led economies. Additionally, internal devaluation as conducted by the Troika addresses supply-side economies with a strong production profile and high export capacity, in order to stay competitive. If the minimum wage level is too high, this increases aggregate demand and private consumption and therefore leads to a more demand-led economy. On the other side, depending of the either supply or demand-led economy, wage cuts may result in either shocks to aggregate demand and output, which theoretically holds for the Mediterranean of the PIGs countries, or would result in an export and employment boost in supply-oriented economies, which are rather to be found in the core.

According to Breen (2005), rather flexible EPL is able to decrease youth unemployment, under condition that educational signalling and macro-economic conditions are sufficient to integrate young adults to a sufficient extent in the labour market, that YUR and NEET rates remain stable. As one will see, the hypothesis posed by Breen (2005) to work requires labour demand evolving from economic progress and industrial structures to employ young adults. Therefore, flexible EPL is only able to work if the economy demands young adults, which are rather highly qualified in the age cohort of 25 to 29 aged, regarding the national profiles of the PIGS countries. Further, Jimeno & Rodriguez-Palenzuela (2002) find that there is a positive relationship between youth unemployment and EPL, as high YUR may result from rather rigid EPL. Nonetheless, this appears to be ambivalent in times of economic shocks, as output declines and a solid basis for lower NEET rates is evaporated, but which can be tackled by rather rigid EPL due to the fact that the already employed young adults are protected from dismissals, which is confirmed by O'Higgins (2012). In this respect, keeping rather stringent EPL would theoretically prevent uncertainty to consumers and enhance CCI levels, due to a lower fear of dismissals. According to O'Higgins (2012), countries with stronger employment protection witnessed less negative consequences in terms of youth unemployment during financial crises than those with rather loser employment protection. The more flexible employment protection legislation, the more negative the relationship between government purchases and unemployment rates appears to be, especially under fixed exchange rates (Holden & Sparrman, 2015). Moreover, Sander (2012) highlights the critical impact of EPL and labour market flexibility, as more flexible labour market and more liberal EPL does not tend to contribute to decrease in youth unemployment in all labour markets, certainly if the private sector is not inclusive enough regarding increases in employment. The same finding is made by O'Higgins (2012).

In the existing literature, one of the most valid indicators for opportunity cost are net benefit replacement rates (Banerji et al., 2015; van Vliet & Caminada, 2012). According to Eurostat (XX), Net benefits replacement rate is defined as the ratio of net income while out of work (mainly unemployment benefits if unemployed, or means-tested benefits, if on social assistance) divided by net income while in work. A lower net replacement rate is associated with greater incentive to search for and take up a job when unemployed. In the theoretical considerations of Torada & Samanta (2008), the approach that on the one hand generous unemployment benefits imply not only as an incentive to remain unemployed to employees, but also to employers, which have to partially shoulder the financial burden. On the other hand, restrictive unemployment benefits might deter adult employed from taking

dismissals, which prevent young adults from finding work, reflecting larger employment rates in the adult cohort than in the young.

High Opportunity cost evolving from generous unemployment benefit systems are stated to increase youth unemployment. Theoretically, opportunity cost signifies the incentives of labour market policy to (un)employment, pointing at welfare state generosity. High opportunity cost applies to generous welfare states which evolve from low incentives to employment and high incentives to be unemployed, due to generous unemployment benefits. In this way, the indicator of net benefit strongly interacts with government transfers and social spending, as high benefits may increase CCI levels due to a higher propensity to consume for the unemployed, mostly in countries with structurally high (youth) unemployment rates. This might prevent an unemployment or inactivity problem in terms of higher NEET rates from worsening due to high-internal demand, especially when the latter is of high significance. On the other hand, this might turn out to be counterproductive in terms of risen NEET rates as welfare state benefits appear more attractive than employment. In this way, net benefit replacement rates also interact with wage levels, being the other side of the medal. Therefore, the logic of internal devaluation seems to be to cut welfare state benefits in order to enhance incentives to employment but at the same time, keep wages competitive in order to encourage export-led growth. Again, the national production profile and economic outlook are critical when determining the success of this strategy.

Regarding government transfers and the cuts in social expenditure undertaken by the Troika and by national governments before the interventions during the SDC, it is stated that the impact of these measures on private consumption have weakened internal demand and contribute thereby to contracting output levels (Myant et al., 2014). Although benefits and pension levels have been cut already before the Troika appeared in the PIGS countries, it is expected that the highest impact evolves from pension reforms towards stricter eligibility. This decreases opportunity cost and therefore decreases incentives towards early retirement, which in the end, harms the demand-led economic profile of the Mediterranean of the PIGS, but is stated to have had a significant impact on internal demand in the case of IE as well (Hinrichs, 2013).

Regarding the role of aggregate demand concerning internal devaluation and export-led recovery, Myant et al. (2012) state that in theory this works by deflating prices of domestic products by decreasing wages, but economists have been sceptical about it most of all in the Mediterranean of the PIGS countries. As the logic behind internal devaluation is to push down prices through wages in order to increase real money stock and encourage private consumption, the impact of aggregate demand in the form of deflation is supposed to have fuelled CCI levels only limited and therefore have a low capacity to increase output and decrease NEET rates.

All in all, regulatory shifts are expected to have a major impact during the SDC and EZC due to high importance in internal devaluation led by the Troika. As national governments tend to have engaged in internal devaluation to a lesser extent than compared to enforcement by the Troika, the output shock and decrease in CCI levels after 2010 might lead to higher NEET rates, depending on the degree of demand-led status of national profiles and varying with the extent of austerity.

The general situation in the PIGS countries shows a more investment biased economy in IE and for instance, decreasing budget deficits is theoretically more feasible for PT and IE, where the problem of high NEET rates is far less urgent and more of a cyclical nature compared to ES and EL, which face structurally high NEET levels and highly deficit based economic performance, when it comes to increasing the latter (Katos & Katsouli, 2012).

Country profiles

The national profiles of the PIGS countries address the economic structure and the labour market and employment prerequisites for young adults in terms of NEET rates. Further, the development of financial crises at the national level and the hypothesized interaction between the national profiles and financial crises management in terms of expected outcomes in terms of indicators will be highlighted.

PT

General profile

In terms of labour market and economy, PT is described as a typical peripheral MS of the Eurozone, regarding underperformance of NEET rates and youth unemployment in general, but also economic growth. In short, PT has witnessed a period of low economic growth and weak labour market performance during the great moderation in the early 2000s, when the rest of the PIGS countries witnessed a period of strong economic growth (Fernandez-Villaverde et al., 2013). The structural weaknesses of the economic profile of PT are based on a weak production profile, high domestic demand and large current account deficits, which makes the private sector underperforming compared to the Eurozone core and labour markets relying on the public sector (Gros & Alcidi, 2011). Moreover, the tax base of profitable industries and of a growth engine is missing in the case of PT, which weakens the fiscal position of the country compared to the Eurozone core (Baer et al., 2013). The demand-led character of the Portuguese economy makes employment highly relying on the private debt and public spending, with the private economy generating only low levels of compensation for the public burden. Consequently, PT has been under EDP in the middle of the booming years in 2005, when the rest of the PIGS countries enjoyed output growth and solid public finances, at least in ES and IE, while EL faced an EDP in 2004 (Afonso & Strauch, 2006). Moreover, the burden of a debt-financed and highly demand-led economy has been shared with the private sector, as wealth has been financed through international borrowing rather by saving, due to PT's weak national profile (Pedroso, 2014). Consequently, the GFC and its credit crunch phenomenon narrowed the financial angle for the private sector of PT, leading to increasing fiscal commitment in order to address economic imbalances. Therefore, international financial markets nervously observed the public financial path of PT, which witnessed a tremendous aggravation with the announcement of EL regarding the immediate face of a sovereign default, which negatively affected the creditability of IE as well, due to similarly high deficits and increasing public debt levels. Other than in IE, the banking sector and private finances in general have not been hit tremendously by the GFC. Neither has the real estate boom been on the same level, as for instance in ES, which implied significant fiscal commitment provoking a fiscal deficit, which has been witnessed by IE as well (Royo, 2013). The problem of the Portuguese state is much more revenue based than in EL, due to missing tax revenues before and after the GFC. In short, all aspects of a real estate boom and bust, high private and public debt and banking sector leverage witnessed by the rest of the PIGS, apply to PT only to a rather limited extent, at the same time pointing to a much more structural problem in its economic profile (Perreira & Wemans, 2012). Due to the application of the features of a periphery economy in crisis, namely slow economic growth, fiscal and current account deficits, private debt and an overall demand-led character, the vulnerability in fiscal and unemployment terms are logical (Portugal, 2015). Unless PT is a net exporter to ES, which is the fourth biggest economy in the Eurozone, PT still a net importing Eurozone MSs (Pedroso, 2014). This points at a problem of value creation of profitable industries, which would enhance private income and the tax base, instead of the private debt based model fuelling the demand-led economy, resulting in fiscal deficits. Thus, the absorption capacity of investment in the case of PT is rather low, which coincides with low domestic investment (Mira Gordinho, 2013).

The vulnerability of the profile of PT is therefore given, also concerning risen youth unemployment, which is visible by cyclical increase of NEET rates. Unless there is a significant difference in the level of NEET rates between PT and EL, if EL was not part of the Eurozone, the profile of PT would allow

the statement that it was the most peripheral MS of the Eurozone, regarding the characteristics of its national profile. This derives from the mix of a structurally weak economy based on private debt and on leveraged public finances. Therefore, absorption and adjustment capacity are supposed to be rather low in the case of PT, decreasing the robustness to withstand economic shocks.

Labour market, employment, NEETs

Contrarily to ES and EL, the problem of youth unemployment in the case of PT has a rather cyclical character, as increases have been far lower and less steady compared to the two aforementioned countries. Except of IE, PT has the lowest NEET rates among the PIGS countries in 2006. Moreover, NEET rates appear to have increased most during the SDC and EZC, which points at a higher vulnerability to austerity and internal devaluation and less to the output shock based on the recessive effect of the GFC and also to a higher robustness of private consumption. The recession has been significant in PT as well, concerning vulnerable and important sectors, such as construction, but NEET rates could be kept lower than during the years of the SDC and the EZC, which points at lower dependency on real estate and construction but on higher dependency on fiscal and regulatory dimensions, in theory. Due to its traditionally poor economic performance that required the public sector to compensate for the private in terms of employment (Karger, 2014). In 2012, the age cohort of 25 to 29 aged NEETs holding a tertiary degree accounted almost for 20 per cent (Gil, 2013). This finding contributes to the scarring effect of young unemployed, which is stated to be intensively found among NEETs in PT (Cairns, 2014). When looking at the development of youth unemployment in general since the early 2000s, when the stagnation of the Portuguese economy began, rates have been rising steadily, turning youth labour markets into desperation only after 2008. Therefore, one expects the period of recent financial crises to have been an intensifying factor of youth unemployment, most significantly during SDC and EZC. Nevertheless, the cause of vulnerability to financial crises, is to be found in the lack of economic dynamism and low adjustment capacity of PT's profile, according to the existing literature (Gil, 2013). Moreover, a significant share of the employed works under precarious conditions, such as temporary and part-time work. Hence, the aspect of under-protected young workers hits PT's young adults not significantly less than the aspect of not finding employment, accounting together with structural weaknesses and the absence of growth for decreasing probabilities that private employment would expand (Estanque et al., 2013). On the other hand, the welfare state is perceived as generous and labour markets, which is a toxic combination in theory as it hampers attractiveness to invest based on high labour cost, keeping the structural economic prerequisites for this relation (Sinn, 2014). Even if precarious employment and temporary contracts are increasingly used for younger workers, the majority of employees is still embedded in powerful collective bargaining and high EPL, which increases the perceived rigidity of PT's labour market (Estanque et al., 2013). Furthermore, the generosity of social protection undermines the incentives to work for young adults, as their chance to get integrated into a rigid labour market of a structurally labour market is undermined by negative flexibility regarding their employment protection. Consequently, the signalling evolving from the labour market architecture, the economic structure and from educational achievements are very low (Breen, 2005). Moreover, austerity undermines the employment possibilities of the public sector, significantly compensating for the weaknesses of the private sector. As the economic adjustment program for PT imposed by the Troika is highly based on internal devaluation, private consumption is not expected to be enhance and would therefore undermine output growth. The consequences of the austerity-based crisis management of the Troika is stated to have harmed the labour market perspective of the middle class of PT, among which the highly qualified young and university graduates (Glatzer, 2012). Therefore, the economic and labour market profile can be classified as a weak and rigid one, in the sense that the segmented labour market and the structurally weak and demand-led economy fails to provide sustainable employment perspectives for young adults.

Financial crises in PT

The period of financial crises and financial crises management in the case of PT has been characterised by a slight but significant recession due to the GFC, missing tax revenues and an unsuccessful fiscal stimulus program leading to increasingly leveraged public finances (Perdrosó, 2014). The erupting phenomenon on of contagion within the Eurozone, most of all based on the case of EL, lead sovereign bond yields to rise to unsustainable levels and triggered immediate threat of a sovereign default. This event and its contagious energy towards threatening the sovereign creditability of the traditionally leveraged public finances of PT have decreased financial market confidence, translated in downgrading by rating agencies (Constancio, 2012). Suddenly, when EL announced higher than expected deficit levels, financial markets turned their back on PT as well, resulting finally in a full sovereign bailout program amounting 78 billion Euros in spring 2011 and in austerity and internal devaluation to which PT switched only in 2010, after the onset of the SDC (Busch et al., 2013; European Commission, 2014). Compared to IE, political willingness to ensure fiscal discipline to revive financial market confidence in advance to the bailout has been rather low. In the aftermath of the Lehman-shock in 2008, fiscal stimulus programs have not succeeded in reforming the economy towards higher robustness and improved aggregate performance. After all, the expansionary approach towards financial crisis management has been conducted regardless of the narrow domestic fiscal angle and the increasing public sector leverage, also the one of EL (Pedroso, 2014). In the end, PT did not differ enough from the deterring and exemplary case of EL in order to maintain financial market confidence. The downward scenario of downgrading by rating agencies and increasing nervousness on financial markets has been accompanied by too little and too late efforts of fiscal consolidation, in order to prevent this scenario from aggravating (Baer et al., 2013). Only in 2010, when EL already received its first bailout program, the PT government switched towards fiscal consolidation. The resulting sovereign bailout loan program controlled by the Troika and the scenario of financial crisis as such provoked public protests, which were based on unemployed graduate youth and have lead to various phases of government crisis, since the outbreak of the SDC. This is stated to have harmed financial market confidence, as it evolves as a signal of missing political stability and of low political willingness to adhere to austerity and to internal devaluation. Moreover, the rejection of parts of the measures of austerity and internal devaluation that have been enacted by the Troika through PT's constitutional court in 2013 imposed a threat to financial market confidence (Gocaj & Meunier, 2013). Overall, this fuelled the critics of austerity advocates on PT' financial crisis management, although, the country has been praised for its outstanding commitment to adhere to the measures imposed by the Troika, at least by government and parliament. Nonetheless, the rejections by the constitutional court and the protests undermine financial market confidence and the perceived adherence towards Troika financial crisis management. This classification evolves from the difference in approaches compared to IE, which rather embraced than rejected the Troika's involvement in financial crises management and from the fact that PT turned to austerity rather involuntarily while being deterred from the case of EL in 2010. IE on the other side announced measures of fiscal consolidation right after the Lehman collapse in fall 2008 (Monastiriotis et al., 2013; De Grauwe, 2012). Although PT is highly stuck to the economic adjustment program of the Troika after the announcement of the sovereign bailout in 2011, probably in order to correct the missed actions in order to address financial market confidence, and probably deterred from the example of EL, there are indices for the low effectiveness of austerity and internal devaluation. This controversy is enhanced by the statements of the constitutional court and by the protests of the population (Glatzer, 2012).

Expected interaction between indicators, Troika crisis management and NEET rates

Due to the rather cyclical than structural character of NEET rates in PT, the recession evolving from the GFC is supposed to evolve from the shock to investment and private consumption. The national profile of PT indicates a high vulnerability to shocks, but it is questionable whether the GFC should have directly caused higher NEET rates, as they begin to rise only with the beginning of the SDC (Fig.2, NEET rates). As put by many analyses of PT during the recent period of financial crises, the

second wave of recession that occurred from the beginning of the SDC has occurred due to austerity, which characterised fiscal policy from 2010 onwards (Pedroso, 2014). Therefore, the persisting effect of the GFC as put by Bruno et al. (2013) is supposed to be low in the case of PT, as the second output shock during the SDC is supposed to have occurred due to austerity and internal devaluation (Vegh, 2014). All in all, austerity measures and internal devaluation are supposed to have had a more hampering impact on domestic demand than the recession evolving from the GFC, which results in lower output and therefore higher NEET rates during the SDC and EZC.

The fact that domestic demand has been based on external deficits through private lending, made the dry-up of interbank lending, thus also to the Portuguese economy a significant factor in triggering recession. The shock evolving from the Lehman bankruptcy is supposed to be the first shock leading to lower output and therefore contributing to higher NEET rates (Pedroso, 2014). Regarding the causes for the shock on the real economy and internal demand, the investment shock in terms of declining FDI and FPI, with the latter being more important in the case of PT are supposed to have contributed to the declining output. Further, private consumption is supposed to have declined as the engine of private debt based consumption had eroded. Nonetheless, the NEET rates suggest that the public counterbalance regarding aggregate demand has compensated largely for shocks in private consumption, due to fiscal stimulus in 2009. This is expected to be reflected by CCI levels.

In 2010 the switch of fiscal policies from stimulus to austerity, which has been considered as critical regarding the public spending led and demand based profile of PT, is supposed to have hit output significantly, mostly by reducing public sector employment and public sector wages. On the regulatory dimension, PT has been rather inactive regarding economic adjustment and has focused on fiscal consolidation in order to reassure financial markets, turning out to be too little too late. The measures introduced by the Troika mostly addressed savings in government investment, government consumption, public sector employment and wages and pension cuts. These measures are stated to have damaged private consumption and government spending as the two main factors of PT's demand-led economy, that are highly decisive in determining output. Therefore, Troika based austerity is supposed to have a much higher impact due to the scale of austerity and internal devaluation that has been widened in 2011, when economic adjustment began. Regarding the dimension of public finances, the indicators, which are supposed to be most harmful to NEET rates are supposed to be government investment and public employment being cut significantly throughout 2012 and 2013.

Albeit PT had undertaken modifications in EPL towards liberalisation and flexibility, the Troika continued this approach much more decisively. As government transfers, most of all pensions and unemployment benefits have been cut, the combination of weakened EPL and lower social spending points at the way towards more labour market flexibility in order to attract investment. Furthermore, this signifies the strive towards a formation of a demand led economy towards an investment fuelled export led profile. On the one hand, recovery has not been achieved by this approach, on the other hand, its effectiveness is questionable due to weakened demand in main trading partners due to austerity during the SDC and EZC, most notably ES.

Actually, the demand led nature of the economic profile of PT had created a rather generous welfare state prior to financial crisis, which should be translated into higher opportunity cost. This has created the perception of a rigid labour market in the case of PT, most of all for investors. On the other side, the labour market of PT is rather segmented, which increases flexibility and ensures lay-offs due to temporary contracts, among others (Glatzer, 2012). Therefore, modifications in EPL and lower opportunity cost by cuts welfare state expenditure have been stated to have weakened internal demand. Therefore, it will be interesting to analyse whether the impact of fiscal austerity or internal devaluation has been stronger, when it comes to risen NEET rates (Pedroso, 2012).

When it comes to shocks to investment, the SDC is supposed to have a higher impact on FDI and FPI levels, due to loss in financial market confidence evolving from the threat of sovereign default. The risen interest rates in terms of government bond yields are supposed to have spilled over from the

public levels to the private (Trebesch, 2009). This leads to a higher risk of investment and decreases hot and fixed capital investment (Arteta & Hale, 2008). As the sovereign bailout loan program has not fully succeeded to calm down financial markets during the EZC, uncertainty for investors persists. This supposed to be a threat for recovery for the private economy and to have contributed, although not majorly compared to fiscal consolidation, to the higher NEET rates. As PT showed lower political willingness to austerity and more critically internal devaluation than IE, which is based on the degree of change of austerity measures with the beginning of Troika involvement, financial markets amplify and higher uncertainty contributes to lower investment levels (De Grauwe, 2012). Due to internal devaluation conducted by the Troika, it is highly questionable whether investment should be expected to rise, due to the weak national profile in terms of production and the general private economic outlook (Myant et al., 2014). Although the conditions have been made more favourable in terms of lower opportunity cost and less stringent EPL, investment is not supposed to be attracted by the weak profile of PT. On the other hand, internal devaluation is supposed to have caused shocks in CCI levels by lower private income based on cuts in pensions and other government transfers, although labour cost have only slightly been addressed by the Troika (European Commission, 2014).

The front-loaded effect of austerity is supposed to be highly relevant in the case of PT, due to the abrupt switch of fiscal policies, which happened more gradually in ES and IE. Moreover, the regressive effect of distribution of the burden evolving from the Troika programs hit internal demand specifically, as the poor face decreasing income levels, mostly due to internal devaluation in terms of transfer cuts and pensions (Callaen et al., 2011).

Therefore, the main reasons for risen NEET rates in PT are supposed to be found in austerity measures, mostly those ones imposed by the Troika as this significantly threatened output and aggregate demand, which is required by the PT profile to keep NEET rates low. The indicators that are highly addressed by the Troika are government consumption, government investment, government size and public sector wages, with the first and the latter indicator supposed to have the highest impact on risen NEET rates via shocks in output and CCI levels. Regulatory shifts evolve from lower opportunity cost and EPL, with labour cost being a minor aspect of economic adjustment. Overall, it is expected that the SDC has had the most drastic impact on NEET rates in PT. Due to the temporarily decreasing NEET rates in 2009, in the mid of the GFC, the persistency of the output shock of the GFC is supposed to be rather low, clearly pointing at risen NEET rates due to the SDC. The highest shock to internal demand and therefore also output and NEET rates will either evolve from austerity or internal devaluation. A little tendency favours the former.

EL

General profile

The economic profile of EL sends even clearer signals than the one of PT, due to structurally high NEET rates, that rise throughout the recent period of financial crises, most of all during the SDC and EZC. Contrastingly to PT, the great moderation prior to the GFC provided EL with strong growth levels, which have been fuelled by the internal demand and public debt based character of its economy, which can be stated to be an even more significant features of EL's profile. The unsustainability and vulnerability of the Greek economy derives from the dependence on private financial markets by public and private lending, leading to high leverage of public finances in the first instance and private ones in the second (Gros, 2012). Therefore, the drying up financial markets has been a consequence of a GFC and has narrowed the private and public financial stance. On the one hand, this has undermined the growth engine of aggregate performance of the demand fuelled economy of EL, which is more demand-led and (public) debt-based than PT. Consequently, this has undermined the revenue base of EL's budget, regarding taxation of economic activity. Consequently, this has triggered a recession and decreasing public revenue ending up in the announcement of a higher fiscal deficit than expected, which resulted in drastically undermined financial market

confidence (Featherstone, 2011, Lane 2012). Moreover, the Greek economy as well its political economy is characterised by clientelism and oligarchy, which threatens the innovative sector growth of underperforming industries (Lyrintzis, 2011). The unsustainability of EL's economy is therefore rooted in pre-elective promises regarding social and economic policy, which maintains their power position and creates a dependent clientele in the economy and in society as a whole, evolving from the highly-demand led character. In addition, the structural weakness requires a strong government spending base in order to finance the promises of governments (Featherstone, 2011). On the other hand, the vicious circle of high state-dependency and a low tax base increase fiscal deficits and the debt dependency in order to fuel the demand-led growth engine. A narrowed fiscal stance and decreasing financial market confidence in public and private finances may therefore lead to lower aggregate performance (Hall, 2014). Enhanced economic structure and overall economic progress is not in sight, unless more profitable and sustainable industries are created (Blyth, 2013). On the other side, the social infrastructure in terms of welfare state benefits is perceived as a highly generous, which is a result and consequence of public sector leverage. Moreover, the dysfunction of the administration of public finances of EL have contributed significantly to public sector leverage, which has been addressed by the Troika as well. The un-competitiveness of the profile of EL derives from a weak production profile, being visible by current account deficits and low industrial activity (Featherstone, 2011). A difference to PT is that the public sector has been even more leveraged due to its importance to fuel internal demand, which relies to a larger extent on public employment instead of private indebtedness. On the other side, a parallel to PT is that EL has been under EDP in 2004 already, far in advance to the GFC. The vulnerability of the Greek profile caused public debt to soar during the GFC (Hall, 2014; Schuknecht et al., 2011). The weak production profile and the limits of public debt based demand pose high risks to employment, most of all in the private sector, which increases the chance of high NEET rates. Overall, the national profile of EL allows its classification as the most peripheral MS of the Eurozone, due to its structurally weak economy and its enormous exposure to highly debt-load public finances.

Labour market and employment features and NEETs

The picture of EL evolves as a mixture of PT and ES, as EL has structurally high NEET rates that cyclically soar during the SDC and EZC, but get only slightly hit by the GFC. The role of output shocks evolve due to the fact, that the structure of the economic profile of EL is not robust enough to absorb the shock evolving from the GFC and that adjustment capacity to turn around this scenario to recover again is rather low. Therefore, labour market integration gets increasingly difficult when private and public debt financed industries witness retrenchement. This happens gradually during the GFC, but the more significant impact tends to derive from the SDC and EZC, with internal devaluation and austerity diminishing the employment perspectives of young adults. On the one hand, this is theoretically a feature of Troika crisis management (Dietrich, 2012; Tubadji, 2012; Fig.2, NEET rates). On the other hand, it also uncovers the weakness of EL's labour market and employment profile as a result of a demand-led and debt based economy. Therefore, the Greek patient in terms of youth unemployment can be stated to be highly injured, with the medicine provided by the Troika being questionable regarding its suitability to enhance economic performance again (Pollin, 2010; Vegh, 2014). As economic growth has still been positive until 2008, NEET rates have been managed to be kept constant, which can not be stated after the Troika imposed highly front-loaded austerity measures and internal devaluation on EL in 2010 (Papadopoulos, 2014). Moreover, there are aspects that characterise labour markets of EL as rigid when it comes to youth employment, due to high opportunity cost and typically high labour cost. This rigidity has been meant to be tackled by flexibilising the contractual situation for young adults on the labour market and by segmenting the labour market, which turned out to be counterproductive due to still high NEET rates, which indicates that also in vulnerable economic profiles, the most vulnerable are the young (Dietrich, 2013). Nevertheless, these measures being conducted together with austerity and therefore declining public employment, require higher labour demand in the private sector, which is absent due to a weak economic structure and based on the recession (Mody, 2015). Therefore, the low adjustment capacity

in terms of labour markets derives from rigid employment prerequisites, high opportunity cost and a generous welfare state, which does not fit to EL's productivity and competitiveness (Gros, 2014). On the other hand, these indicators have contributed to the public spending based demand fuelling, that provided output growth prior to the crises, which has still been not effective enough in order to combat the structural problem of youth unemployment (Papadopoulos, 2014). Therefore, the mismatch between labour demand and supply in terms of skills, aggregate performance and educational signalling increases and so do NEET rates. In general terms, the economic and labour market profile of EL lacks sustainability in order to decrease NEET rates to lower levels than witnessed during financial crises.

Financial crises in EL

Although the financial crises of EL really started with the announcement of the higher-than-expected budget deficit by the freshly elected PASOK government in late 2009, EL appeared in the headlines due to the student riots in late 2008 already. These were grounded on the weak labour market perspectives for young adults after graduation and on the police shooting of a student (Karamichas, 2009). Further, EL has witnessed the consequences of the GFC to a much lower extent, when it comes to its banking system. Nonetheless, the dependence on international financial markets has been significant, evolving from lower credit funding, which decreased output of the real economy (Pagoulatos & Triantopoulos, 2009). In the preface of the GFC, the great moderation and Eurozone membership provided the PIGS countries with much lower interest rates on government bonds and therefore fuelled the demand-led and debt-based economies of the Eurozone, which teased them to borrow excessively, most critically, EL. This pro-cyclical fiscal behaviour accounted for much of the acquired debt levels of EL (Buiter & Rhabari, 2010). The triggering factor of the SDC in EL and in the Eurozone as a whole has been the aforementioned announcement about EL's budget deficit. Different from the rest of the PIGS countries, public debt levels were the major driving forces behind the cut-off from sovereign borrowing, while this problem occurred together increasing fiscal deficits in PT (De Santis, 2012). To IE and ES, fiscal deficits apply to a much higher extent, and public debt levels to a much lower (OECD, 2016X). As the SDC caught the recently elected government in its first months and based on the abstention of the former government from fiscal consolidation, it seems that the EL's governments whether it was PASOK or its predecessors, did not anticipate an SDC. Therefore, the just elected government reacted to the downgrading by credit agencies and to the increasing nervousness on financial markets by conducting fiscal consolidation, which nonetheless, appeared to be too little too late, as EL received a bailout loan program of 110 billion Euro in May 2010 (Lyrintzis, 2011). There is another decisive factor differentiating EL from the rest of the Eurozone, is the fact that the SDC provoked a banking crisis and not the other way around, such witnessed by IE, and to a lesser extent by PT and ES. (Bitzenis, 2013). Another softening factor has been the much more gradual decrease in output growth during the years 2006 to 2009, which has still been positive during the years 2006 to 2008. Only in 2009 first, EL entered the recession. Therefore, the picture evolving from the NEET rates of EL during the GFC is much more solid than during the SDC (Lane, 2012; OECD, 2016). On the other hand, financial markets did not indirectly react on the national consequences of the GFC due to a troubled banking sector implying as a leverage to public finances, as witnessed by IE, but reacted directly to increasingly unsustainable public debt levels of EL in 2009 and 2010 (Mody & Sandri, 2011). The decline in output during the GFC is supposed to be explained by increasing interest rates, increasing the risk of investment in the economy of EL and by the vulnerability of EL's economic profile to decline in international market confidence and highly vulnerable sectors, such as construction (Grammatikos & Vermeulen, 2012). Nonetheless, the fact that the GFC has not triggered a banking crises in EL, such as witnessed by ES and IE, most of all, did not calm down financial markets in 2009, that started losing confidence and downgrading EL's sovereign creditability step by step, after the same scenario had applied to IE (Argyrou & Kantonikas, 2012). After sovereign bond

yields started to rise, the debt unsustainability of EL was supposed to be dissolved by the first of two full scale bailout programs in spring 2010, with the second one following in summer 2012, amounting to 250 billion Euro approximately in total bailout expenses (European Commission, 2014). Therefore, the willingness to conduct voluntary austerity can be classified as very low in EL, hindering financial market and overall creditor confidence towards EL's sovereign creditability which poses a threat towards financial stability of the Eurozone as a whole (Wyplosz, 2013; Wihlborg et al., 2011). During the SDC and EZC, financial market confidence has been extremely volatile towards EL, based on its high resistance to austerity and internal devaluation when it comes to enhancing financial market confidence. Compared to the rest of the PIGS countries, EL shows rather weak adherence to the economic adjustment program and its sovereign creditability is assessed weaker than most critically, ES, leading to low financial market discipline (Pisani-Ferry, 2012). Nonetheless, the economic and effectiveness is stated to be harmed rather than enhanced by the Troika's financial crises management, the same holding for the provision of public goods and services, the validity of fundamental rights and of standards of living (Sinn, 2015; Sander, 2012; Salomon, 2014; Blyth, 2013). The discussions about a so called Grexit, meaning EL leaving the Eurozone due to its extremely weak national profile and based on its high debt levels, have declined financial market confidence further. Actually, leaving the Eurozone is perceived as a worse alternative compared to Troika financial crisis management, as the currency devaluation faced in case of a return to the drachma would be even more painful and economically harming (D & B, 2012). Compared to the rest of the PIGS countries, EL has been stated to be more demanding when it comes to conditions for financial assistance. On the other side, the measures of expansionary contraction agreed upon have been highly front loaded, which increased the hard and abrupt impact of austerity and internal devaluation have been deemed as highly unpopular in the Greek public. This caused protests which signify an even lower willingness to adjustment and low adjustment capacity to financial markets.

Expected interaction between indicators, Troika crisis management and NEET rates

While the small but gradual output shocks evolving from the GFC are expected to decrease private consumption due to the contractionary impact of the GFC through private income, the second output shock occurring in 2011 has been the consequence of SDC crisis management (OECD, 2011; Karger, 2012). Therefore, one expects the steady increase in NEET rates to be related to decreasing investment and private consumption as a result of the weak economic structure and due to the demand-led character of EL's profile. As the absorption capacity of investment is supposed to be rather low with the same holding for investment levels, the declining impact evolving from declining financial market activity is expected to undermine the leading sectors of real estate, financial services and also tourism, similar to the rest of the PIGS countries. Consequently, except for investment, the shift in indicators will not be significant during the GFC. Before the beginning of the SDC, EL responded to decreasing demand by higher public spending in terms of social transfers, that were able to address the recession in 2009 more effectively than after the Troika had imposed draconian cuts in public spending (Pagoulatos & Triantopoulos, 2009; Hatalis, 2012). Thus, the public sector is hypothesized to partly compensate for the losses evolving from decreasing aggregate performance evolving from the private sector. The Troika continued the just before the initiation of bailout program started austerity by cuts in public employment, public sector wages, government investment and government consumption. These measures are supposed to have had a significant impact on output and internal demand via CCI levels, and translated into the sharp increases in NEET rates after 2010.

This is underlined by eroding social standards and measures of internal devaluation, which have been mostly addressed by the second bailout loan program in 2012 (Matsaganis, 2012). These have been cuts in minimum wages up to 32 per cent, cuts in pensions, social spending and government transfers, as well as significantly eased EPL and lower social contributions (European Commission, 2014). Therefore, it is expected that the shift in opportunity cost, labour cost and EPL has decreased internal demand as well, which should be more directly visible by CCI levels. Nonetheless, it remains unclear

so far if austerity measures or internal devaluation have contributed more to the decrease in output and increase in NEET rates.

The shift from a highly demand led and public debt based economy being characterised as the most peripheral MSs of the Eurozone towards an export-led and fiscally disciplined country has been stated to be painful in terms of welfare (Matsaganis et al., 2015).

In theory, the high public spending ensured private consumption during the GFC, as welfare state benefits were high and compensated for employment losses occurring during the Great Recession. This contributes to the image of welfare state generosity and rigid labour markets, that deterred investors and lead to low economic progress in terms of production profile. Moreover, investment is supposed to be highly biased towards FPI, due to higher risk of investment and low performance regarding the criteria of Goldstein & Razin (2006). This concentration on the public sector increased spending pressure on it, in order to keep output growing via demand and consumption multipliers. Moreover, as investment in both hot and fixed capital is expected to be low in general in EL, with a high discrepancy between low FDI and high FPI, the measures of internal devaluation in particular should attract investors, most of all FDI. Nonetheless, the desired investment export led recovery is even more improbable than in the case of PT, due to the structural weaknesses of EL in both economic and labour market terms, as NEET rates are expected to remain high. Moreover, the criteria established by Goldstein & Razin (2006) point at the increased risk for investors, which is reflected by lower financial market confidence in EL's finances and towards unfavourable conditions not only in terms of a weak production profile but also in terms of structural disadvantages.

Moreover, as EL has been a structurally weak country for investment, the amplification of financial markets should be visible by higher interest rates that spilled over from risen sovereign bond yields. Therefore, the Greek debt crisis is supposed to have triggered a banking crisis as recapitalisation has been necessary at a much higher scale after the beginning of the SDC. This deterred investors and supposed to have had a massive impact on FDI, which is on the other side considered as less important as FPI in the case of EL. Although the decreasing levels in investment might translate into higher NEET rates according to the theory, the weak economic profile of EL would not allow internal devaluation to foster successful investment in terms of recovery. Therefore, although if the high scale of internal devaluation could be considered as successful by higher investment levels, it is questionable whether this is able to reduce NEET rates in EL in general (OECD; Kotios et al., 2011; Pisani-Ferry, 2012).

Therefore, the abrupt change of the national profile of EL towards a more core-like Eurozone MS, the measures imposed by the Troika kicked-in at least even harshly than in the case of PT, as public employment and internal demand have been even more important in the Greek profile. By consequence, high levels of public spending could avoid soaring NEET rates in 2009 due to the effect of internal demand, but have been unable to stop the tremendous increases in 2011 deriving from the contracting effect of austerity. Regarding the other years under economic adjustment a similar picture evolves, with the public financial variables playing a major role, in theory (Blyth, 2013; Vegh, 2014). Moreover, as internal devaluation has been conducted sharply by decreasing minimum wages, softened EPL and lower opportunity and labour cost in general, aggregate demand and therefore output as well have decreased based on private spending. This should be visible by lower CCI levels.

Finally, it is expected that all measures of austerity and internal devaluation have had a tremendous direct or indirect impact on output of EL and thereby increased NEET rates significantly. Moreover, it is expected that aggregate demand and CCI levels have been significantly weakened by Troika based austerity. Therefore, it will be of high merit for the paper if the analysis of indicators is clearly able to disentangle the impact of the fiscal angle from the impact of the regulatory on risen NEET rates. The impact of the GFC and of investment angle are supposed to be much less significant, but a very strong bias towards FPI vis-à-vis FDI is expected

General profile

The economic and labour market profile of IE can be characterised as the least peripheral of the PIGS countries, due to its classification of an SOE and a high degree of financialisation. This contributed to high output growth, low unemployment and sound public finances during the great moderation. Since its enormous recovery started in the 1990s, the phenomenon of a fast growing and top performing economy of IE has been called the Celtic Tiger. Due to high activity in the financial industry and related industries, such as real estate and construction, the boom prior to the bust generated a high degree of wealth and prosperity and a functioning labour market with low NEET rates (Raza et al., 2014; Kitchin et al., 2012). Contrastingly to the demand-led and debt based profiles of the Mediterranean of the PIGS countries, IE has been the case of an supply-side and export-led economy that performed at core levels in terms of Eurozone MSs. Therefore, the Irish economy generated steadily increasing levels of income, full employment and a functioning labour market for young adults. The weakness of IE's profile derives from the high degree of financialisation of its economy, that made the private financial sector highly relevant in its production profile and its economy dependent on it (Hall, 2014). Moreover, as the boom has been financed merely by international credit, events on global financial markets, most significantly in the US, had a high impact on IE's economy. Therefore, the burst of the real estate boom witnessed by the US and the one witnessed domestically implied as a domino effect to IE's public finances and the real economy and thus, young NEETs. The overnight turnaround of IE's economic and labour market profile from a success to depression dramatically changed IE's position in the Eurozone. After all, IE's economy has been performing strongly and has been one of the most impressive growth stories prior to the GFC, but the initiation of the GFC had tremendous consequences for the stability of its banking system, which is dependent on high interbank lending from abroad, mostly overseas. The connection of the financial and the real estate industry implied as a domino effect, that uncovered the vulnerability of IE's profile to the global financial markets (Dellapiane & Hardiman, 2012; Conefrey & Fitzgerald, 2010). Therefore, investment is supposed to play a much more significant role in IE compared to the rest of the PIGS countries, due to more favourable conditions for investors based on the stronger economic profile and a competitive advantage, enhancing the absorption capacity to investment. On the other hand, the GFC and its consequences uncovered the negative aspects of high financialisation by too high financial market dependency. Therefore, the low production diversification has been an advantage for IE during the great moderation, which turned into a shortcoming since the outbreak of financial crisis (Brazys & Hardiman, 2015; Stockhammer, 2012).

Labour market features, employment prerequisites and NEETs

As in the case of PT and contrarily to ES and EL, the nature of NEET rates is cyclical rather than structural, which is confirmed by the increases witnessed until 2011 (OECD, own graph). The reasons for risen (2006-2011) and decreasing (2012-2013) NEET rates in IE is supposed to be found in the impact that the output shock of the GFC and the approaching burst of the housing bubble has had. According to scholars, IE would have faced NEET rates at the levels of ES and EL if mass emigration of young NEETs would not have eased the impact of the GFC (Papadopoulos, 2014). From this statement, the conclusion derives that the drying up effect on financial markets hit the real economy of prospering sectors, such as construction, which spilled over to the social cohesion and social composition of IE (Eichhorst et al., 2013). On the other hand, the supply-led character and the strong concentration on the prospering financial industry and affiliated branches, such as real estate, managed to keep NEET rates low, labour markets effective and standards of living high. Like most Anglo-saxon states, labour markets are characterised as flexible, enhancing investors attractiveness and low barriers to entry for young adults, being protected from lay-offs by steady growth (Bruno et al., 2013; Hall, 2014; Scarpetta et al., 2010; Gibson & McKenzie, 2011; Papadopoulos, 2014).

Moreover, 25 to 29 aged NEETs witnessed decreases in rates during the EZC, which points at successful financial crises management, to a certain extent (Robbins & Lapsley, 2014). As a typical labour market mismatch between the skills supplied by young adults and those demanded by the production profile took place with the recessive impact of declining output and higher vulnerability of the young, the increase in NEET rates in IE is extremely logic during the GFC and SDC. On the other hand, the decreasing NEET rates point at the success of, most likely, internal devaluation as a fuelling factor for investment, most notably FDI. Moreover, structural improvements going beyond labour supply and demand should be able to explain the recession and the recovery, based on financial crises management. Nonetheless, the aspect of emigration is not to be underestimated when addressing the improved numbers during the EZC. The skill-mismatch between labour demand and supply is supposed to be rather high in the case of IE, due to the concentration of the economic profile on the financial industry and on real estate, which shaped its labour market and therefore also its educational system (Scarpetta & Sonnet, 2012).

Therefore, the output shock occurring by the GFC is supposed to be an aggregate demand shock, secondly, due to risen unemployment and decreases in income. The economic shocks that have been witnessed by IE appear to be tremendous in 2008 and 2009, but the second shock has been far less tremendous in 2012 (Lane, 2011; Whelan, 2014; see Fig.12, real GDP growth). From the background of the second shock, it will turn out to be critical, whether national measures of austerity and to a lesser extent internal devaluation have triggered a continuous demand shock or whether the Troika has kept output low by fiscal consolidation (Robbins & Lapsley, 2014). Most critically, cuts in pensions as an indicator of regulatory dimension occurs. Compared to PT and EL, the level of austerity is rather low, due to high voluntary commitment by IE and due to the less demand led character of IE's economic and labour market profile (Whelan, 2014; Papadopoulos, 2014). Nonetheless, as the SDC of IE has been similarly severe the Troika programs most of all point at financial market confidence, which is supposed to be regained by investment attracting measures in order to restore IE as a safe haven for investment. Furthermore, it is critical to point at the cyclical character of increases in NEET rates, which is similar to PT and differs from EL. On the other side, the NEET rates are stated to be even higher if emigration would not have significantly eased the burden. Otherwise, NEET rates in IE could have reached the levels witnessed by EL and ES, according to scholars (Glynn et al., 2013).

Financial crises IE

As stated above, IE has been the EU MS that has been most heavily exposed to the consequences of the GFC, due to a domestic real estate boom that has been based on international credit, rendering Irish banks highly vulnerable to economic shocks. As the Irish banking system is considered as the motor of IE's economy and appeared highly leveraged to the overseas creditors, the domestic implications of the bust of the domestic and US-housing boom have been tremendously recessive (Conefrey & Firtzgerald, 2012).

The boom in construction has been significantly higher compared to PT prior to the GFC, due to levels in real estate financing that have been similar only in ES and higher only in the US (Whelan, 2014). The significant difference in national profiles compared to the Mediterranean countries, mostly EL and PT and the evolving divergence in terms of the consequences of the different periods of financial crises witnessed by IE lead to a diverging process of financial crises management among IE and the Mediterranean countries. Therefore, IE has been one of the most highly committed EU MSs to stabilise its financial sector by nationalisations and bailouts, in order to restore confidence in its banks and to prevent more severe consequences for its real economy, which have been inevitable nonetheless given the declines in economic activity. On the other hand, as income declined and internal demand declined, public finances became highly leveraged due to the large financial sector stabilisation program. As a surprising consequence compared to the rest of the PIGS countries, IE engaged in fiscal consolidation very much voluntarily, the same holding for internal devaluation due to the cut in

pensions. This highly distinguishes IE from the rest of the PIGS countries, but again, the sovereign bailout for EL and the similarities among PT, IE and EL in terms of public leverage and debt sustainability evolving from sovereign bond yields, cut IE off from sovereign borrowing as well (Armingeon & Baccaro, 2012; Hardiman & Regan, 2013). Finally, triggered by the contagion evolving from the case of EL, IE reached the cut-off point from sovereign borrowing from the markets and asked for a full sovereign bailout program in late 2010, which has been granted in spring 2011, amounting up to 85 billion Euro (European Commission, 2014). Another major difference to EL and PT is that IE had a strong commitment to austerity from the beginning of its financial crises in 2008 and lower political and civil resistance to it than the rest of the PIGS countries, which is stated to have contributed to a longer period of financial markets confidence (Fraser et al., 2013).

Regarding austerity and internal devaluation in the short run, the impact might not be much different from the witnessed impact by the rest of the PIGS countries, with a growth harming impact during the SDC, which might fulfil its purpose of increasing economic performance in the medium term and thereby leading to a decline in NEET rates again. This hypothesis evolves from the stronger production profile of IE and from the high adjustment capacity after the bust of the housing bubble in IE in 2006 (Sinn, 2014). On the other side, the financial services and investment based profile of IE seemed to fit the orthodox financial crisis management of IE's government, leading to smoother process back into increasing financial market confidence (Hardiman & Dellepiane, 2012). Nonetheless, IE's aggregate performance remains undermined due to the relatively one-sided focus on financial services and its vulnerability to the GFC (Whelan, 2014).

Moreover, the situation of IE appears to much clearer and transparent which is underlined by the sequencing in downgrading of its sovereign creditability and steadily rising government bond yields. Logically, the bailout for IE even seems to be unnecessary regarding the fact that IE also embraced internal devaluation in order to revive its investment attractiveness, as IE could live in itself when dealing with the tremendous consequences of its financial crises. On the other hand, the stability of the Eurozone and of the global financial system as whole has been at stake in early 2011, which is signified by three full scale sovereign bailout loan programs, that were supposed to stabilise the global financial system significantly. In this context, the bailout for IE is to be understood as a rescue mechanism for its troubled private sector as well, in order to relieve the leveraged public finances of IE. Further, this has signalled much more political willingness and embracement of the Troika, than PT and EL, but being characterised much more in mutual understanding about the policy implications and the signalling brought about by it. Regarding the implementation of the bailout program, it is stated that compliance of IE has been high, albeit austerity measures and internal devaluation have been reaching much further than previously conducted by IE (De Grauwe & Ji, 2013; Robbins & Lapsley, 2014; Hardiman & Regan, 2013; Murphy, 2014).

Expected interaction between indicators, Troika crisis management and NEET rates

Significantly diverging from EL and PT, the output shock witnessed by IE in 2008 as a consequence of the GFC has been much more significant than a small downturn in recovery in 2012, which leads to the hypothesis that declining private consumption and an expected shock in investment have lead to declining NEET rates due to the GFC. On the other hand, nationally conducted measures of austerity and internal devaluation, impacting public employment, public wages and labour cost and opportunity cost might have contributed to the risen NEET rates due to their impact on aggregate demand and private consumption (Hardiman & Regan, 2013). Therefore, it will be important to check the existing literature in this question, based on the fact that it is not known what is more relevant in this respect. The output shocks in 2008 and 2009 are supposed to evolve for decreasing investment levels, which have fuelled the highly financialised economy of IE, leading to a spill-over impact of the credit crunch in the financial industry to related sectors, such as construction. Therefore, the output shock occurring by the GFC is supposed to be a demand shock, secondly, due to risen unemployment and decreases in

income (Kahle & Stulz, 2013). The economic shocks that have been witnessed by IE appear to be tremendous in 2008 and 2009, but the second shock has been far less tremendous in 2012, due to the re-strengthened economic profile of IE (Whelan, 2014; see Fig.12; real GDP growth).

When it comes to the question whether persistency of the bigger impact of the GFC has caused NEET rates to rise during the SDC, it will be relevant to compare this with the impact of national and Troika based austerity measures and internal devaluation as they are supposed to have had an increasing impact after the GFC until 2012. Another big question about the case of IE is the impact of national crisis management compared to Troika imposed measures, as the risen NEET rates are associated with austerity in the literature (Regan, 2014).

On the national side, most critically, cuts in pensions as an indicator of regulatory dimension occur. Moreover, public employment, public sector wages and private sector wages are expected to have had a declining impact on output and on CCI levels, which may therefore translate into higher NEET rates. Moreover, government transfers have been cut significantly, which shifts attention to the regulatory and to the fiscal angle (Hardiman & Regan, 2013).

Regarding the impact of Troika measures, the significance is expected to rise, due to decreasing government investment and government consumption, which has been accompanied by further decreases in all of the latter variables, mostly pensions, labour cost and public employment. On the one hand the volume of austerity is hardly comparable compared to PT and EL, but on the other side, public sector wage and employment cuts and the degree of internal devaluation are (Whelan, 2014). Therefore, austerity and internal devaluation might have harmed the economic recovery and fiscal position further, due to the spill-over effect to internal demand and private consumption, which caused NEET rates further to rise (Regan, 2014).

Nonetheless, as the SDC of IE has been similarly severe the Troika programs most of all point at financial market confidence, which is supposed to be regained by investment attracting measures in order to restore IE as a safe haven for investment (Regan, 2014). Furthermore, it is critical to point at the cyclical character of increases in NEET rates, which is similar to PT and differs from EL (OECD, own graph).

On the other hand, the difference among national profiles becomes clear when looking at the potential impact of investment, which is much higher in IE due to higher absorption and adjustment capacity. Hence, the measures of internal devaluation may have contributed to an investment led recovery due to a regain investor's confidence, which may have increased output in the end and have decreased NEET rates (De Grauwe, 2013a). For the moment, this leaves the intermediary level of CCI levels out of sight. This evolves from the supply led character of IE's profile and favourable conditions for investment in the real economy, pointing at FDI. Moreover, regulatory shifts are significant regarding opportunity cost and EPL, but are rather moderate in the case of labour cost.

What distinguishes IE from the rest of the PIGS countries, is that fixed capital in terms of FDI is considered as more important than FPI as an indicator of hot capital, as firms, most of all the financial industry, has been attracted to settlement in IE (Regan, 2014; FBrazys & Regan, 2015). Therefore, the slight recovery of IE is supposed to be fuelled by higher FDI.

Finally, one may expect an interesting case analysis regarding IE, as investment is traditionally relevant in a supply-based and export led economy, occurring with a tremendous shock in the financial sector that decreased output during the GFC. On the other hand, there is evidence that austerity and internal devaluation have weakened internal demand and private consumption significantly, leading to lower output levels and a threat to lower NEET rates (Murphy, 2014). It will be critical to see whether Troika based austerity or voluntary fiscal consolidation before have had a higher impact on NEET rates. The regulatory shifts are expected to play a role as well, which will be interesting to compare to the fiscal shocks. Moreover, it will be interesting to see whether declining NEET rates during the EZC are investment led and regulatory shifts in terms of internal devaluation therefore have had (the

desired) impact, or not. The impact of the Troika is expected to be especially relevant regarding government size, public wages, whereas opportunity cost seem to be highly relevant regarding the regulatory shift (Murphy, 2014). It will be critical to assess whether investment and internal devaluation have caused the short recovery in output and CCI levels and which indicator thereby most contributed to decreasing NEET rates. On the one hand, this would be probable, due to the higher expected effectiveness of expansionary contraction imposed by the Troika, which evolves from the stronger economic profile of IE compared to the rest of the PIGS, leading to higher investment absorption capacity and higher attractiveness to investment, which is able to increase output at the end (Whelan, 2014).

ES

General profile

The economic profile of ES appears to be similar to the rest of the PIGS countries, with a mix of the most crisis symptoms witnessed by the full-scale bailout countries. On the one hand, ES shares the fiscal commitment required to tackle the consequences of the bust of the real estate bubble, which has been the second one on the national level behind the US, with IE. Therefore, its banking sector has been highly important during the great moderation as it fuelled the construction boom by private credit. Another characteristic shared with IE is the dependency on international financial markets. On the other hand, private sector leverage including non-financial corporations and private households evolves from low domestic saving rates, which is shared by PT, although occurring on a much higher level. The extremely demand-led character applies to EL as well, but similar to IE, public finances have been sound until the GFC hit ES' economy, pointing at systemically relevant banking and private sector leverage due to the GFC (Dellepiane & Hardiman, 2012).

Consequently, the economic profile of ES appears to be highly debt load regarding private finances, which increased the vulnerability towards shocks evolving from declining interbank lending, leading to private sector leverage and recession in the real economy. The bias towards real estate and related industries is bigger than in the case of IE, which required a higher fiscal commitment to address the evolving threats to the Spanish economy and wealth on the whole (Carballo-Cruz, 2011). Due to the fact that ES is the biggest economy of the PIGS countries, public finances have been leveraged less drastically, albeit its structural economic profile appears to be more vulnerable to financial shocks due to its private debt based and demand led character, which undermined ES' fiscal sustainability (Dellepiane & Hardiman, 2012). Moreover, the structurally high NEET rates derive from structural weaknesses in its industrial profile, which is concentrated on financial services, real estate, construction, tourism, retail and agriculture, which fails to meet the labour supply in terms of total labour demand. Therefore, the growth and the degree of affiliation of real estate and construction to international-credit based financial services accounted majorly for the vulnerability to recession and cyclically increasing NEET rates, which have been structurally high before the GFC (Carballo-Cruz, 2011; Rocha Sanchez, 2012). Hence, the classification of a demand-led, private debt based and structurally externally weak economy derives, as current account deficits have been significant and private saving implied as too weak in order to meet the capital needs of a demand led economy. The vulnerability of the profile of ES derives from the dependence on international financial markets to finance the private debt load demand-dependency, which appeared to be undermining the soundness of formerly stable public finances (Schulten & Müller, 2012; Royo, 2015). The latter consequence meant a shift towards fiscal consolidation, which is supposed to further have undermined aggregate performance of ES, due to its shock to aggregate demand, overall decreasing the employment prerequisites for young adults one again (Black, 2014).

When looking at NEET rates in ES, it strikes to the eye that there is a gradual and steady increase starting in 2008. Before, NEET rates have been decreasing until 2007, which signifies the great moderation that took place during the first decade of the new millennium. The structural nature of youth unemployment in terms of NEET rates becomes visible due to the fact that NEET rates start high and increase steadily, always remaining higher than the rates of PT and IE during the whole reference period, only being surpassed by EL with the beginning of the SDC. The cyclical increases become clearly visible during the GFC (2009) and during the EZC, which are the periods when ES is most heavily affected by financial crises. In 2009 and 2010 ES even passes EL in terms of NEET rates, which is a reversed scenario regarding the rest of the years considered. Therefore, youth unemployment and low labour market integrity of 25 to 29 aged NEETs can be stated to be a structural problem in the case of ES, that aggravated cyclically during the GFC and the SDC (see Fig.2, NEET rates).

The Spanish labour market is traditionally seen as one of the weakest and most rigid ones in the Eurozone on the one hand. On the other hand, it appears to be highly segmented due to a high share of temporary and part-time contracts. There is a high volatility when it comes to unemployment rates compared to other Eurozone economies (Rocha Sanchez, 2012). According to Garcia Perez & Vall Castello (2015), the rather precarious conditions on labour markets evolving from temporary and part-time work, most significantly for the young, have contributed to the scenario of soaring youth unemployment rates, shifting the regulatory dimension of financial crises management into the spotlight. Consequently, the Spanish young appear to be extremely vulnerable to recessions in terms of labour market decline (Rocha Sanchez, 2012). The instability of Spanish youth labour markets is also quite significant in EU comparisons, the long-run impacts for those employed under temporary contracts lead to a situation enhancing the scarring effect. The share of jobs lost by 25 to 29 aged employed in temporary contracts amounts up to 45 per cent and the share of temporary contracts in ES has declined during the boom prior to the financial crises and has risen steadily after 2007. Traditionally, this is due to a bad activation potential of labour market policies, especially regarding training, which would enhance the young people's employment chances. Moreover, young peoples disconnection to employment, education and training is quite high in ES, making it difficult of inactive youth to find the way back on track, or more specifically, to employment (Eichhorst & Neder, 2014).

Another striking finding made by the existing literature is the sand-clock-like picture evolving from the skill-mismatch between labour demand and labour supply, as the majority of young adults in ES is either highly-qualified due to tertiary education, leading to the issue of over-qualification as the economic profile of ES is not able to absorb the skills provided to them. On the other hand, this structure of educational skills points at the under-qualification of low skilled young adults, that are not qualified enough to get jobs they apply for, either because aggregate performance and sectoral growth, most notably in construction is not strong enough to include them. Thirdly, it might be that the overqualified part of young adults gets the jobs supposed to be occupied by medium or lower qualified young adults, leading to a loose-loose situation for over-, underqualified, industry and state-founded education. Consequently, an educational middle class is missing on the youth labour market of ES, being caused by the structural shortcomings of the economy and educational deficits (Dolado et al., 2013). Overall, the situation of young adults in ES serves as a driving force for emigration and brain drain.

Another aspect enhancing the inefficiency of ES' labour markets is the aspect of labour market rigidity and welfare state generosity, which is high in ES due to the fact that social spending has been high while labour market segmentation has increased since the great moderation. The latter aspect applies more to young workers than to their adult counterparts, which are more frequently object to intensive collective bargaining and EPL, due to their contractual situation. Therefore, the call for labour market flexibility has touched the young highly, resulting in part-time and temporary contracts increasing the probability of lay-offs in the segment. Due to welfare state generosity, which is a feature of the

political economy of ES due to electoral promises of governments, many young adults profited from generous social benefits instead of staying employed. Therefore, the institutional architecture of the labour market of ES highly missed the aspect of activating potential that came up since the GFC.

Financial crisis in ES

The interest about ES as Troika program country arises from the fact that it has highly been affected by the GFC, due to significantly risen NEET rates in 2009, growing up to rates that have only been shared by EL during the EZC. During the great moderation, ES witnessed a credit boom due to its Eurozone membership and was able to borrow to lower interest rates than before. What distinguishes ES from EL and PT is that the private sector made much higher use of cheap credit than the public sector did, which is reflected by compliance to the Maastricht criteria by ES' government before 2009 and a real estate boom (Lane, 2012). Investment in real estate has only been higher in IE prior to financial crises, leading to a growing importance of the construction sector in its production profile (Taylor, 2009). Moreover, the private financial sector witnessed a deregulatory shift during the Great Moderation, which enhanced its value for the real economy, most of all mortgage credit and construction. Consequently, private households and the private financial sector appeared to be highly leveraged when the boom suddenly turned into a bust, which spilled over to construction. Therefore, the GFC hit the most important pillars of ES' economy, namely real estate credit and thus financial services, private lending and construction, which resulted in sharp recession (Duca et al., 2010). By consequence the evolving recession implied a major shock to output and employment, decreasing the labour market chances of employment of a vulnerable group in the labour market that is traditionally underperforming and got affected by financial crisis. The implications on youth unemployment in terms of NEET rates evolve clearly, as ES young graduates witness a phase of over-qualification due to the jobs available, with jobs in sectors hit hardest by the recession not available (Lastra-Anadon, 2011). One consequence of the credit and demand-led economy, which becomes visible when looking at current account deficits and unit labour cost, has been the shock on aggregate demand that worsened the recession (Stockhammer et al., 2009; Hein & Tarassow, 2009). When tackling the enormous consequences of the recession, ES, unlike IE, first engaged in expansionary fiscal policy in order to artificially boost weakened aggregate demand. This changed highly during the SDC when EL announced the necessity of international financial assistance in order to prevent sovereign default. This increased uncertainty on financial markets concerning ES, due to structural similarities with ES (Dellepiane & Hardiman, 2012). In particular, the highly-leveraged private households had a negative impact on aggregate demand which lead to an increase in unemployment (Jauch & Watzka, 2012).

Finally and similarly to the scenario faced by IE, ES requested financial assistance in terms of banking recapitalisation from the ESM in summer 2012. On the other hand, ES only just managed to avoid a fiscal cliff as the rest of the PIGS countries, as the rescue measures for the private sector, like in the case of IE, significantly contributed to the weakened fiscal position of ES. This became visible with rising government bond yields spreads vis-à-vis Germany, according to the ECB (2010). After the beginning of the GFC, the demand- and private credit-led period of economic growth, the beginning of the SDC with the first bailout for EL and ES' low external competitiveness in terms of current account deficits, meant a significant fear of contagion to ES, which has been omnipresent. After 2010, financial markets reacted increasingly nervous on decreased sovereign creditability of ES, based on the risk of contagion and the turnaround witnessed by ES' public finances (Lane, 2012). The perception of ES of being a rigid economy with low adjustment capacity which is typical for the Eurozone's periphery, has weakened the confidence of financial markets, although adjustment measures have been conducted in 2011 (Etxezarreta et al., 2011). As a result ES engaged in austerity in late 2009 for the first time, which has been enhanced due to the government change in 2011. In general, austerity in the case of ES has a much less voluntary character than witnessed by IE. The

omnipresent fear of contagion due to structural similarities to IE and EL in the sense of economic and labour market profiles translated the demand of austerity made by financial markets to ES' government. Therefore, the austerity conducted by ES is of a much more preventive character, being deterred from the consequences faced by the rest of the PIGS countries. Especially during the EZC, when ES turned majorly into the focus of international financial markets together with IT, the demand for austerity increased. On the other hand, and despite of being enacted rather late and evolving from the deterring picture evolving from the Troika's engagement in the full scale bailouts of the rest of the PIGS countries, ES engaged in fiscal consolidation voluntarily. The commitment to fiscal discipline can be classified as high compared to EL and PT, grounded on a public debt break and the prioritisation of interest rate repayments to sovereign creditors. Nonetheless, the adjustment capacity is hindered by rigidities in the economic and regulatory profile of ES, which is why IE shows a higher extent of voluntary commitment to fiscal consolidation.

The unset of the national private financial sector posed a danger to ES's sovereign solvency when the bailout of Bankia appeared on the agenda in spring 2012. At this point, public finances at general and provincial level in ES, had witnessed solid public finances and fiscal discipline turning into highly leverage. This derives from expansionary fiscal policy as a reaction to the shock in internal demand and from stabilisation measures for the private sector. Therefore, the government based stabilisation measures for the private financial sector in the case of ES is ranked higher than those of PT, Italy and France, based on commitment to GDP ratios (Alter & Schüler, 2012).

The relevance of ES for the Eurozone as such derives from the fact that it is the fourth largest economy of the single currency area (12 per cent of total Eurozone GDP), and its population is twice the amount of the rest of the PIGS countries taken together. Moreover, the contagious potential evolving from the ES for the rest of the Eurozone is much higher than the one evolving from the rest of the IGS countries, due to its economic size and based on the critical importance of financial corporations for the Spanish economy. Therefore, the relevance of ES for the Eurozone as a whole grew with the threatening sovereign default arousing from fiscal commitment to private sector imbalances, which threatened the creditability of ES and the sustainability of its debt. Therefore, the introduction of the ESM and the announcement of the ECB's OMT program is highly relevant for ES. Due to the significant size of ES' economy for the Eurozone, SQ3 appears to be relevant for the private credit fuelled economy of ES.

Expected interaction between indicators, Troika crisis management and NEET rates

Due to the fact that there have been two major shocks in output in the case of ES, the first being during the GFC, which is supposed to derive from declining private consumption, visible in CCI levels. Further, ES has witnessed downturns in 2011-2012 when fiscal contraction, based on national measures and then accompanied by the eligibility terms to international financial assistance demanded by the Troika. As credit based financing of the real estate boom collapsed, investment is supposed to play a significant role during the GFC, albeit being expected to have lower levels of impact compared to IE, due to the higher importance of internal demand. The second downturn in output is supposed to evolve from the impact of weakened aggregate demand and once again private consumption, which is supposed to evolve from austerity measures.

The crisis management policies, both enacted by the ES' government and by the Troika have pointed to regulatory shifts on the labour market and eased employment protection legislation and down grading collective bargaining. On the other side, the high shift towards temporary employment, mostly among youth, and the high labour market flexibilisation are stated to have caused youth unemployment to rise to a dramatic extent (Scarpetta et al., 2010).

While pushing ES towards preventive austerity has resulted in reductions of public sector employment and public sector wages in 2009 and 2010, the Troika further imposed cuts in pensions and other

government transfers, EPL and labour cost, which has been started by ES' government in 2011. Although Troika imposed measures cutting government investment and consumption in order to ensure fiscal discipline, the main focus has been on regulatory shifts. The latter were supposed to address the labour market weaknesses evolving from high opportunity and labour cost as well as rigid EPL, in order to transform the economy of ES into a rather supply-led and export oriented profile. Actually, this shift away from demand-led growth towards enhanced external competitiveness appears to be less drastic than in the cases of PT and EL. Nonetheless, it is not expected to have been successful, as the labour demand for young adults seems not to have been tackled sufficiently, due to the critical importance of government spending and private consumption in output. These main pillars of ES' economy are supposed to have been damaged to such an extent that output a decreasing CCI levels translate into rising NEET rates.

Most interest evolves from the question of the persistency of the shock implied by the GFC and whether Troika-based measures of austerity and internal devaluation can be considered as more harmful to the profile of ES than the previously introduced national ones. The fact that the character of the bailout for ES in terms of banking recapitalisation is a rather soft one due to financial assistance for the private financial sector only compared to a full sovereign bailout is relevant when answering SQ 2 and 3. These point at the suitability of Troika crisis management to the financial imbalances in the Eurozone as a whole.

When it comes to the austerity policies and internal devaluation in ES, the most important changes have been observed in public sector wages and employment and in public health care, education and social benefit provision (Conde-Ruiz & Marin, 2012). Regarding the overall wage level, the Troika imposed a six per cent reduction on ES in order to enhance competitiveness. This and austerity measures in terms of softened EPL, lowering opportunity cost, public employment and public sector wages are stated to not have contributed to a solution of the financial crisis witnessed by ES, as the outlook of the Spanish economy was further depressed by measures harming internal demand (Liu, 2013). The consequences of the austerity measures conducted in 2012 in particular have decreased output and internal demand by decreasing income of public employees (Tremlett, 2013).

Finally, the reason why NEET rates are high at all in the case of ES is to be found in the structural weaknesses of the labour market which relies on growth in cyclically vulnerable sectors, such as construction and financial services. The demand-led economy makes in highly relying on private credit, which appears vulnerable to disposable income and overall economic climate. Apparently, ES has a more rigid labour market than IE and PT, which results in structurally higher NEET rates and lower adjustment capacity. The rigidity in terms of generous social benefits, high degree of segmentation and the high tax wedge have been a mature problem of ES' labour markets. On the other hand, high EPL is stated to have protected NEET rates of young adults from rising further (Bentolila et al., 2012). The Troika acts as a layer on top in the case of ES, due to the fact that ES only required a banking recapitalisation program and not a full sovereign bailout. Moreover, ES, although engaging in austerity more or less voluntarily, albeit set on high pressure by financial markets and by Eurozone core MSs, has not addressed its youth unemployment problem in the meanwhile. Preventing a sovereign bailout has been prioritised on the political agenda, with the conducted austerity harming internal demand and therefore a critical source of economic growth in ES. Actually, the nature of fiscal consolidation does not differ from the measures conducted by the rest of the PIGS countries, which would point at an equally negative effect of these measures on NEET rates. Nonetheless, eligibility to financial assistance remains on strict conditionality, which signifies the relevance of troika based austerity (Pavolini et al., 2014). The shifts evolving from the Troika based shifts in regulatory respects appear most significant, due to the weak labour market outlook of ES since the outbreak of the GFC (Schulten & Müller, 2012). These shifts are stated to not have addressed the Spanish youth unemployment problem sufficiently, which reflected by the NEET rates faced by young adults in ES.

Summarising, the GFC is supposed to be accompanied by declines in investment and private consumption, triggering a recession, which is supposed to be less sustainable than in the case of IE but more compared to PT and EL. Further, austerity is supposed to have harmed aggregate demand, which is supposed to derive from decreasing public consumption and public investment, decreasing output overall and increasing NEET rates. On the other hand, labour market rigidities in terms of high opportunity cost and EPL are supposed to have harmed employment prerequisites of young adults during the GFC, based on the bias of lay-offs. Nonetheless, the measures of internal devaluation appear as a toxic combination with austerity, as domestic demand is decreased further, which finally undermines output growth. Although the EZC is meant to enact recovery, uncertainty about ES' sovereign solvency and banking sector undermines investors attractiveness, which is why output shrinks further. In short, all of the four explanatory factors are supposed to be highly relevant in the case of ES and due to the more equally occurring problem of a structurally weak and vulnerable economy and of the persistent impact of the GFC, which is not cured by Troika crisis management.

6. Economic analysis

Economic analysis PT

The US-subprime mortgage crisis (2006-2007) and the GFC (2008-2009)

During the US-subprime mortgage crisis 2006 and 2007, which did not have the tremendous impact on the real economy as the GFC had after Lehman Brothers collapsed, NEET rates have been around 15 per cent in the case of PT. The 0.6 increase in 2007 occurred according to the economic adjustment period of one year as output grew more in 2007 than in 2006, which translated in a decrease of 0.4 per cent in 2008, even though the US-subprime mortgage crisis already impacted the Portuguese economy due to declining but still positive output growth in terms of real GDP (see Fig.2 NEET rates, Fig. 12, real GDP growth). These developments are rooted in declining CCI levels after 2007, with the declining climate already translating into lower willingness to consume regarding private domestic demand. Moreover, household disposable declined slightly in 2008, but the strong growth in 2007 carried over in second highest level of HFCE being at the second highest level during the whole reference period in 2008 (see Fig.13, CCI; Fig.15, HFCE). When speaking about investment during the wakening years of the GFC, it appears that, as expected FPI is on a much higher level than FDI in PT, both walking hand in hand with the output growth levels, suggesting a small but significant impact on output and therefore on NEET rates as well. On the other hand, FDI levels are relatively low after 2006, which signifies the approaching GFC, as confidence of financial markets in structurally weak economies, such as PT is weakened. On the other hand, FPI reaches its peak in 2008, which can be explained by high returns on investment in riskier countries concerning investment. Consequently, the high FPI might be explained by the relatively high output growth levels in 2007. Nonetheless, it may be concluded that risen FPI levels did not contribute to very high output growth, based on 0.2 per cent in risen real GDP growth (see Fig.19 FPI; see Fig.18, FDI; Fig.12, real GDP growth). This number is therefore more likely to be based on lower private consumption levels, deriving from lower household disposable income. Turning to the public financial dimension, which is supposed to be highly critical in PT' profile due to its impact on aggregate demand, the impact of private consumption appears to be even more underlined. Based on stagnating and decreasing government consumption and government investment in 2007, respectively, and increases in 2008, the increasing real GDP growth rate in 2007 and the decline in 2008, are more related to indicators of private consumption which are supposed to have been rather related to investment than to fiscal variables speaking about the multiplier effect (see Fig. 16, government consumption; Fig.17, government investment). Ultimately, the evolving NEET rates might therefore be linked to regulatory variables as well. When in it comes to opportunity cost, PT has quite high rates, that stagnate when comparing 2006 to 2007 but slightly decrease in 2008, when NEET rates decline as well. The indicator of labour cost, being represented by tax wedge and minimum wages relative to median wages show the same picture, but the increasing minimum wage

relative to median wage rate in 2008 occurs with a slightly decreasing tax wedge from 2006 to 2008. This signifies the higher average wage level, which is coherent with increasing private consumption in 2007 and 2008, translating into risen output in 2007 and adjusting NEET rates in 2008. Regarding EPL index and pension expenditure, both indicators increased by 0.1 points and per cent of GDP, respectively, during the years to 2006 to 2010. Therefore, the impact of these two factors supposed very limited (see Fig.20, opportunity cost; Fig.22, tax wedge; Fig.23, minimum wage; Fig.21, EPL; Fig.24 pension expenditure, Fig. 15, HFCE).

The GFC (2008-2009)

During the GFC and most notably in 2009, NEET rates decreased less than in 2008 but still decreased, which is remarkable compared to IE and ES, that got hit much harder by the GFC in early stages, as output growth in PT also only declined by 0.4 per cent (see Fig.2, NEET rates). The increase in private consumption expenditure can therefore be classified as a carry over from 2008 (see Fig. 15, HFCE). Nonetheless, the consequences of the GFC has been witnessed by PT as well, most critically by the slide into recession by around three per cent of real GDP (see Fig.12, real GDP growth). Consequently, and CCI levels tumbled even more than in 2008. On the other hand, household disposable income rose to its top-level during the reference period. Nonetheless, household final consumption expenditure indicates a drastic impact of the GFC on private consumption, being indicated by CCI (see Fig.13, CCI; Fig.14, HDI). Higher HDI might have been based on again risen labour cost higher pensions expenditure (see Fig.14, HDI; Fig.22; tax wedge; Fig.13, minimum wages; Fig.24; pensions). On the other hand, it is important to consider the impact of fiscal indicators with government investment moving in the same directions, meaning a decrease. On the other hand, government consumption is increasing, pointing at a stabilising impact on output levels and private income. Nevertheless, the declining government investment is still reflected by a decrease in HFCE and in CCI levels, which seems to be critical in the Portuguese economy (see Fig.17, government investment; Fig.16, government consumption; Fig.14, HDI, Fig.15, HFCE; Fig.13, CCI). When it comes to investment, it evolves that FPI, after having peaked in 2008, has fallen in 2009, due to increasing uncertainty regarding PT's economy, the same holding for FDI (see Fig.19, FPI; Fig.18, FDI). Therefore, the output shock in 2009 can be clearly assigned to decreasing government and private investment, which translate into a harsh decrease in private consumption via multiplying effects. Therefore, the crisis as such had a harsh impact on private consumption through these indicators.

The SDC

As mentioned in the national profile of PT, the government conducted expansionary fiscal policy in 2009 in order to stimulate output. This translated to output growth almost back to pre-crisis levels around two per cent of real GDP in 2010 and into higher CCI levels (see Fig.12, real GDP growth; Fig.13, CCI levels). Ultimately, the stimulus failed to boost HDI, which was still under the impression of the recent recession (see Fig.14, HDI). Nonetheless, the increase in output can be derived from risen HFCE, which is based on risen levels of FDI (see Fig.15, HFCE; Fig.18, FDI). On the opposite the expectations that the stimulus package should translate into higher government investment and consumption, this has not occurred. The boost to private consumption derived from a slight increase in pension expenditure and from a decrease in opportunity cost (see Fig.17, government investment, Fig.16, government consumption; Fig.24, pension spending; Fig.20, opportunity cost). This has been a very weak base for success due to risen NEET levels as a persistent effect from the GFC and the weak structural prerequisites for effective and employment generating growth in Portugal (Pedroso, 2014; see Fig.2, NEET rates).

Due to the austere policy measures to fight PT's sovereign debt crisis in 2011, the policies imposed by the government and by the Troika pushed the country further into recession leading to two consecutive years of risen NEET rates. In 2011, NEET rates climbed by almost three per cent, albeit positive growth in 2010 (see Fig.2, NEET rates). The damage to private income that evolved from the GFC is

only then witnessed by the country, leading to an effective persistency of the GFC (see Fig.14, HDI; Fig.13, CCI). The combination between persisting damage to the economy and the austerity measures, most significantly government consumption and government investment, undermined output performance. The first austerity measures in the case of PT were conducted in 2010, in order to address peaked deficit and risen government debt levels. The measures conducted addressed 3.4 per cent of total public expenditure and were composed by large public sector wage cuts and pension freezes for 2011. Moreover, social spending should be cut by 25 per cent in total in 2011. This implies a tremendous impact on government consumption and opportunity cost, which respond by another decrease regarding the former and lower levels of the latter, resulting in negative output growth (see Fig.16; government consumption; Fig.17, government investment; Fig.12, real GDP growth). The measures conducted translated into sharp decrease in HDI and a fall of CCI levels to the lowest level witnessed during the reference period (see Fig.14, HDI; Fig.13, CCI). This may be partially explained by the decrease in government consumption and government investment, due to the multiplying effect. Regarding investment, the measures conducted resulted in higher FDI than 2010 but lower FPI, indicating the high risk classification for PT's economy making hot capital investment highly unattractive (see Fig.18, FDI; Fig.19, FPI). Moreover, the announcement of the full scale sovereign bailout in spring 2011 is supposed to have a significant impact on economic climate, due to record low CCI and FPI levels. On the other hand, the regulatory dimension's indicators kept constant in 2011, except for risen pension expenditure and higher tax wedges, that may be linked to the cuts in public sector wages (see Fig.22, tax wedge). Therefore, there is a break in impact between 2010 and 2011, because although growth has been positive in 2010, NEET rates have sharply increased in 2011, pointing at an accelerated impact of the front-loaded austerity measures announced in 2011 that oppressed the impact of the stimulus program in 2009 (Pedroso, 2014).

The EZC (2012-2013)

Based on the policies conducted during the SDC, NEET rates have only been slightly rising in 2012 (see Fig.2, NEET rates).

The decline in output that has been caused by austerity measures imposed by PT and by the uncertainty fostering climate evolving from the SDC, which were accompanied by Troika imposed measures of austerity and internal devaluation. In the respect of fiscal consolidation, cuts in public sector employment and wages and health care expenditure, mentioning the most significant ones, translated into a decrease in government consumption expenditure to record low levels in 2012 regarding the reference period (see Fig.16, government consumption). Moreover, government investment has also been cut by the Troika, decreasing it much further (see Fig.17, government investment). Due to the fact, that HDI increased, as did HPFCE, it is more likely, that the decrease in output to record low levels has been caused by much lower government spending, due to the aforementioned measures (see Fig.14, HDI; Fig.15, HPFCE; Fig.12, real GDP growth). This observation is strengthened by slightly risen FPI and highly risen FDI levels, which climbed up to record high levels (see Fig.18, FDI, Fig.19, FPI). Therefore, the decreasing impact on output can be assigned to fiscal consolidation. When assessing the effectiveness of internal devaluation regarding risen investment levels, it is observed that EPL levels decreased, as well did the tax wedge, while minimum wages relative to median wages increased pointing at lower median wages, so labour cost decreased, as well did opportunity cost (see Fig.21, EPL; Fig.22, tax wedge, Fig.23, minimum wages, Fig.20, opportunity cost). Therefore, the measures of internal devaluation have been effective in the sense of increasing investment levels, but due to the tumbling output levels, this did not compensate for the sharp fiscal consolidation. On the other hand, the pension freeze conducted by the Troika, lead to a minimum increase in pension expenditure relative to GDP, due to declining real GDP (see Fig.24, pension spending; Fig.12, real GDP growth). On the opposite, there have been reforms regarding government transfers and wage moderation that explain the declining opportunity cost, the same holding for moderations of EPL. Therefore, internal devaluation can be considered has effective in terms of FDI, not so much regarding FPI. Regarding the impact of internal devaluation on private

consumption, the opposite effect than expected is observed in 2012, meaning higher HPFCE and HDI (see Fig.15, HFCE; Fig.14, HDI). Nonetheless, the absorption capacity of risen investment and more competitive regulatory indicators did not compensate for the effect of fiscal consolidation. This translates into significantly risen NEET rates in 2013, when levels climbed up to the highest level witnessed during the reference period (21.65 per cent) (see Fig.2, NEET). During 2013 as the last year considered, fiscal consolidation has been continued by cuts in public sector employment and wages, as well as cuts in education and health care. Moreover, public investment has been cut, as well as government transfers (European Commission, 2014). This translated into lower gross fixed capital formation, but general government final consumption expenditure has been increased, although remaining far below the level of 2011, which signifies the front-loaded character of fiscal consolidation (see Fig.17, government investment; Fig.16, government consumption). Opportunity cost further declined, which does hold for minimum wages relative to median wages but no for the tax wedge, pointing at higher wages in nominal terms. EPL index has fallen again, which does not hold for pension expenditure relative to GDP (see Fig.20, opportunity cost; Fig.23, minimum wages; Fig.22, tax wedge; Fig.21, EPL). These developments of the regulatory dimension occur with increasing FPI levels up to pre-SDC levels and with lowered FDI levels, signifying the relaxing economic climate but unfavourable conditions for fixed capital investment, decreasing the effectiveness of internal devaluation again (see Fig.18, FDI; Fig.19, FPI levels). The risen wages translated into higher disposable income and CCI levels that climbed up to 2011 levels again. Nonetheless, the declining impact of 2012 evolving from CCI levels carried over in declining private consumption expenditure, which is expressed in negative real GDP growth (see Fig.14, HDI; Fig.13, CCI; Fig.15, HFCE; Fig.12, real GDP growth). In 2013, low effectiveness of increases in HDI and FPI as well as declining FDI and cuts in government expenditure signify lower output, that gives a poor perspective for NEET rates. Nonetheless, the effects of the SDC on PT during 2010 until 2012 were indicating to be the most depressing with NEET rates increasing due to recession that was triggered by fiscal consolidation (see Fig.14, HDI; Fig.19, FPI; Fig.18, FDI; Fig.2, NEET rates). The effectiveness of internal devaluation remains mediocre, as prerequisites for investment improved according to the theoretical model of supply-side economics in the meantime of Troika crisis management, which has actually not been sustainable. Finally, the weak economic and labour market profile of PT was not able to cope with the drastic impact of fiscal consolidation and did not have the required absorption capacity in order to profit from strengthened prerequisites for investment leading to risen NEET rates. Effectively, the impact of the Troika did not differ much from the persistent one of the GFC and nationally imposed financial crisis management, but nonetheless, the Troika contributed significantly to the fact that output shrank and young adults increasingly faced depressing labour market circumstances.

Economic analysis IE

The US-subprime mortgage crisis (2006-2007) and the GFC (2008-2009)

Regarding the NEET rates of IE, the pre-crisis period shows lowest rates in 2006 and 2007 among the PIGS countries. The increases witnessed in 2007 and 2008 are rather slight, compared to the drastic increase that followed in 2009 and the years after (see Fig.2, NEET rates). Looking at output growth, the recession shocked IE directly in 2008, aggravating in 2009. Regarding the decline in 2008, that stopped the high growth rates witnessed prior to the GFC, HFCE peaked in 2008 and fell in 2009, which is supposed to be a major shock in the components of output (see Fig.12, real GDP growth; Fig.15, HFCE). Government investment peaked in 2006 and declined subsequently and gradually until 2010, while government consumption peaked in 2009 after gradual increases beforehand (see Fig.17, government investment; Fig.16, government consumption). The two indicators of investment show enormous decreases in 2008, most of all FPI, which peaked in 2006. They both but most critically FDI increased in 2009 again to levels of 2006, indicating that the shock in 2008 has been largely driven by investment, with FDI decreasing by almost half and net FPI falling under zero (see Fig.19, FPI;

Fig.18, FDI). Therefore, the shock in 2009 has been much more driven by private consumption and public investment, signifying that investment was not able to compensate for the losses in the latter variables. Due to the drastic impact of FPI, hot capital seems to be more relevant in the case of IE than fixed capital, although FDI is on a much larger scale than in the rest of the PIGS countries. When it comes to HDI, the decrease in 2008 has been rather slight compared to the one witnessed in 2009, signifying the reliance of IE's profile on the financial industry and related sectors due to the vulnerability of IE's profile to the GFC. CCI levels indicate that during the US-subprime mortgage crisis and during the GFC, economic climate has gradually been depressed due to the harsh impact of the GFC on IE and its profile, which the record low of 2009 during the reference period demonstrates (see Fig.13, CCI; Fig.14, HDI).

Besides of having engaged in enormous stabilisation measures of its private financial sector, IE's government engaged in financial crisis management right from the outbreak of the GFC in autumn 2008. The first fiscal consolidation measures were introduced in 2008 and concerned cuts in government investment. This signifies the impact of the government investment in the decline in output in 2008, although the shock in FPI has been much more significant (see Fig.17, government investment; Fig.12, real GDP). Regarding the regulatory dimension, EPL, opportunity cost and pension expenditures relative to GDP remained relatively stable until 2008, only pension expenditure relative to GDP increased by one per cent in 2008 compared to 2006. The same holds for labour cost, which appear rather stable right after the beginning of the GFC in 2008 (see Fig.21, EPL; Fig.20, opportunity cost; Fig.24, pension spending; Fig.22, tax wedge; Fig.23, minimum wages). Therefore, the increases in NEET rates until 2008, appeared much more directly compared to the other PIGS countries regarding the adjustment effect from output, being based on investment. This becomes extremely visible in 2009, when NEET rates increase the most regarding the reference period and real GDP decreases the most (see Fig.2, NEET rates, Fig.12, real GDP growth). Consequently, the policy measures conducted voluntarily by IE starting in 2009 appear to be extremely relevant, as NEET rates rose further in 2010 and output increased only very slightly at the same time. Moreover, given the degree to which IE has been hit by the GFC points at a higher persistency regarding this impact compared to the other PIGS countries and is highly interesting to be analysed vis-à-vis austerity measures (see Fig.2, NEET rates, Fig.12, real GDP growth).

In 2009, significant cuts in the public sector have been made based on cuts in public sector wages (Hardiman & Regan, 2013). The significance of this effect turned out to be witnessed in 2010, only, due to risen government consumption in 2009. Moreover, government transfers in terms of welfare benefits have been cut, which surprisingly translates into higher opportunity cost due to the decreasing wage level in the overall economy, signifying the risen lay-offs due to the consequences of the GFC (see Fig.16, government consumption, Fig.12, real GDP growth; Fig.20, opportunity cost). Moreover, this translates into lower HFCE and lower HDI, making the shock on output one that evolves from the impact of austerity measures on government spending and private consumption (Fig.15, HFCE; Fig.14, HDI). Therefore, the combination of the investment shock in 2008 and austerity in 2009 lead to the tremendous increase in NEET rates, as the carry-over of the investment shock and the decline in private and government consumption account for the decrease in output in 2009 (Papadopoulos, 2014).

The SDC

In 2010, public employment and wages have been cut further, with the Croke Park agreement establishing a four year wage freeze for civil servants. This significantly decreased government consumption back to the level of 2008. Again, cuts in welfare state expenditure have been made, accompanied by significant cuts in private sector wages on a progressive basis (Hardiman & Regan, 2013). This translated into higher tax wedges, lower minimum to median wages and lower opportunity cost. Pensions have been left untouched after reforms in 2009, which lead to a slight increase relative to GDP (see Fig.22, tax wedge; Fig.23, minimum wages; Fig.20, opportunity cost, Fig.24, pension spending; Fig.16, government consumption). By consequence, HDI decreased again, while CCI levels

were rising again, due to the relaxed economic climate in IE as the financial sector had been stabilised throughout 2009 and 2010. This led to higher HFCE, almost reaching the peak levels in 2009 again. Therefore, private consumption is one of the components of GDP that contributed to positive output growth (see Fig.14, HDI; Fig.13, CCI; Fig.15, HFCE; Fig.12, real GDP growth). When it comes to investment, FDI declined again, although internal devaluation brought about lower opportunity cost and wage levels. On the opposite, this had a positive impact on FPI, which increased almost back to 2006 levels. Therefore, private consumption and investment compensated for the decreases in public investment, due to slightly positive real GDP growth in 2010. On the other hand, this did not prevent NEET rates from further rising, as the private sector had already been significantly weakened by the GFC and public finances in terms of government consumption as well (see Fig.18, FDI; Fig.19, FPI; Fig.12, real GDP growth; Fig.2, NEET rates). The latter declined for the first time in the reference period and as government investment declined for the last time by the gradual extent of the years before (see Fig.17, government investment).

In 2011, the bailout program for IE started in spring, which meant the strengthening of austerity measures and of internal devaluation. In terms of fiscal consolidation, government consumption has been decreased by further public wage cuts and dismissals in the public sector, combined with a reduction of government consumption in goods and services. This has been combined with the Croke Park agreement and massive cuts in government capital expenditure (European Commission, 2014). Regarding government investment, austerity has been continued by the Troika, albeit to a lower lower extent, translating into lower decreases in government investment than during the period between 2007 and 2010 (see Fig.17, government investment). As a result, government final consumption expenditure decreased further, but as output grew again significantly since 2007, the proportional reduction compared to 2010 has been slightly lower. Moreover, civil servants' pensions and the long-term pension burden have been reduced significantly, leading pension spending relative to GDP decrease, which is also due to risen output. Moreover, social expenditure has been reduced in general, leading to significantly lower opportunity cost in 2011 (see Fig.17, government investment; Fig.12, real GDP growth; Fig.24, pension spending; Fig.20, opportunity cost). When it comes to labour cost, the nominal hourly level of minimum wages has been reduced by one Euro and a widening of scope of inability to pay clause to employees has been introduced. This led tax wedges and minimum wages relative to median wages to decline very slightly, which again should be a boost to investment (see Fig.23, minimum wages; Fig.22, tax wedge). On the opposite, FPI and FDI levels declined in 2011, which leads to the statement that the re-boost to investment evolving from 2010 implied as a growth enhancing factor to IE as all other variables contracted more or less (see Fig.19, FPI; Fig.18, FDI). Finally, the carryover has not become effective in terms of NEET rates, which peaked in 2011, signifying that the profile of IE has not recovered from the persisting effect of the GFC and the impact of national austerity, leading to a lower public contribution of government consumption and government investment to the economy (see Fig.2, NEET rates).

The EZC (2012-2013)

The year 2012 is characterised as the first year of recovery in terms of NEET rates, signifying the belated effectiveness of the output recovery in 2011 (see Fig.2, NEET rates; Fig.12, real GDP growth). In terms of financial crises management, government consumption has been reduced further, deriving from public sector employment and wage cuts under the Croke Park agreement and from capital expenditure cuts, that translate into very slightly decreasing government consumption expenditure in overall terms. On the other hand, government investment as a share of GDP increased again, as did real GDP growth (see Fig.16, government consumption). Moreover, public and private sector pensions have been modified and service pension age has been increased. In addition, social expenditure has been decreased and a carryover from public to private sector is expected to derive from the cuts in public sector wages during the years of financial crises management (European Commission, 2014). Nonetheless, pension expenditure increased relative to GDP, while opportunity cost decreased further, the same holding for the tax wedge. This indicates that as well welfare benefits as wage levels have

decreased, with minimum wages relative to median wages remaining constant although minimum wages decreased by one Euro based on hourly wages, based on the policies in 2011. On the other hand, EPL has increased for the first time in the reference period, although this has not been addressed by the Troika (see Fig.24, pension spending; Fig.22, tax wedge; Fig.23, minimum wages, Fig.20, opportunity cost). The impact of these regulatory shifts on investment have been positive, as highly important FPI increased slightly. Moreover, FDI has increased highly which derives from the decrease in wages that boosted IE's competitiveness. Regarding income, the reforms have had a slightly positive impact, which is reflected by slightly enhancing CCI levels. Nevertheless, HFCE decreased after a significant increase in 2011 (see Fig.18, FDI; Fig.13, CCI levels; Fig.15, HFCE, Fig.17, FPI). Therefore, the only very slightly increase in output derives from weaker private consumption, which may be based on decreasing wage levels due to lower HDI to which lower government consumption contributes as well (see Fig.12, real GDP growth, Fig.14, HDI). The fact that FPI rises only to a low extent is a symbol for the weak recovery in output in 2012. Therefore, FDI, which witnesses a higher increase than FPI, is more important in the Irish profile and is therefore able to enhance a slight recovery. Nonetheless, the evolving picture from IE and the year 2012 tells that government investment as well has contributed to the slightly growing output (see Fig.18, FDI, Fig.19, FPI; Fig.12, real GDP growth; Fig.17, government investment).

In terms of NEET rates, this means a slight recovery in 2013 as well, when the levels of 2011 have reached again. To this, the contribution of output growth in 2012 and 2013, which returns to the significantly positive levels of 2011, is only very limited as HFCE, government spending and FPI decrease or only slightly rise in the case of FDI. Nonetheless, carry overs from earlier years that indicate a certain recovery period seem to provide a solid basis for enhance real GDP growth (see Fig.2, NEET rates; Fig.12, real GDP growth; Fig.15, HFCE; Fig.19, FPI). Regarding the measures enacted in 2013, the aforementioned policies are repeated regarding lower government consumption expenditure based on savings in health care, reduction in welfare expenditure and adjustment of public sector pensions. By consequence, pension expenditure relative to GDP declines slightly, which is rather assigned to an increase in output, whereas opportunity cost and EPL levels stay stable, the same holding for wages, but not for the tax wedge, which increases further. Regarding the effect of these measures on investment FDI rises significantly and FPI slightly, while CCI levels increase significantly almost to pre-crisis height levels (see Fig.16, government consumption; Fig.24, pension expenditure; Fig.20, opportunity cost; Fig.21, EPL; Fig.22, tax wedge, Fig.23, CCI levels). Moreover, government investment declines back to levels of 2011, meaning that the cutbacks have an impact on aggregate performance, the same holding for FDI (see Fig.17, government investment; Fig.18, FDI; Fig.12, real GDP growth). The rise in output is therefore based on higher investment, as government and private consumption stay rather stable. This makes measures of internal devaluation effective in the sense that IE approached output levels prior to the SDC again. On the other side, the labour market absorption capacity in order to reintegrate young adults in employment has not been able to revive NEET levels witnessed before the crisis, which remains a weakness of IE's profile but an outlier regarding the rest of the PIGS countries.

Finally, one has to state that NEET rates in IE developed highly negatively due to the enormous impact of the GFC on investment, most notably FDI and on private consumption. This effect has been strengthened by austerity until 2011, after which the recovery process that had already started in 2010 became evident and lead to decreasing NEET rates. Therefore, the impact of the Troika on NEET rates has been rather limited compared to the rest of the PIGS countries, as the structures for low NEET rates have been destroyed earlier by the GFC, making the Troika an accelerator of a persistent problem.

The US-subprime mortgage crisis (2006-2007) and the GFC (2008-2009)

The level of NEET rates is the highest among the PIGS countries in 2006 and it largely remain the highest due to an enormous cyclical increase leading to a doubling of NEET rates in 2013, vis-à-vis 2006 levels (see Fig.2, NEET rates).

Although EL has been hit by a lower extent by the GFC than the rest of the PIGS countries, output growth rates turned out to be extremely vulnerable towards the shock evolving from it. Between 2006 and 2011, output performance of EL has been constantly decreasing, reaching a negative output growth of nine per cent in 2011. Since 2008 and the rest of the reference period, output growth has been negative (see Fig.12, real GDP growth). In the years 2006 and 2007, HDI declined, whereas CCI levels indicated economic improvement, which is also reflected by higher HPCE. Although government investment and government consumption in increased in 2007, output growth has been negative (see Fig.14, HDI, Fig.13, CCI; Fig.15, HFCE). As FDI has been declining in 2007, the weaker output growth is expected to be based on this indicator. Moreover, EPL has been high and constant in the case of EL, the same holding for the tax wedge, which signifies the rigidity of EL's labour market. Opportunity cost on the other hand have been rising, as well as pension expenditure relative to GDP (see Fig.18, FDI; Fig.21, EPL; Fig.22, tax wedge; Fig.20, opportunity cost; Fig.24, pension spending). Therefore, it can be concluded that slightly decreasing NEET rates in 2007 are a result of high output growth in 2006, which is hit by lower FDI and occurs with weaker regulatory outlook, that result in even lower NEET rates in 2008. In the latter year, the Greek economy shrinks for the first time in the reference period, albeit to a small extent. As a result, CCI levels decrease significantly, which is reflected by a decrease in HDI, but not by increases in HFCE, which increases largely compared to 2007 levels. Public investment on the other hand decreases back to 2006 levels, being a second indicator, which is reflecting a decrease in output. Government consumption on the other hand increases slightly, while investment shows a diverse picture. Further, FDI increases, while FPI decreases to the lowest level the reference period, which means that economic climate in EL has been characterised by high uncertainty in 2008. Therefore, the decrease in FPI and in government investment are the most important factors that contribute to the decline in FDI (see Fig.13, CCI; Fig.17, government investment; Fig.16, government consumption; Fig.19, FPI). Other indicators of the regulatory angle show that pensions have gone up, as well have opportunity cost, the level of minimum wages relative to median wages, but decreasing tax wedges, signifying lower social contributions, while EPL index has been remaining constant (see Fig.24, pensions spending; Fig.21. opportunity cost; Fig.23. minimum wages; Fig.21, EPL). Therefore, one can conclude that output in EL in 2008 has been driven by lower FPI and government investment.

In 2009, this translated into risen NEET rates originating from 2008, which has been the lowest level of NEET rates during the reference period. Output growth in 2009 in EL declined significantly, which derives from lower increases in HFCE, further declining government investment and from declining FDI, while FPI rose again (see Fig.2, NEET rates; Fig.12, real GDP growth, Fig.15, HFCE, Fig.17, government investment; Fig.18, FDI, Fig.19, FPI). Although the wage level has been kept constant compared to 2008, opportunity cost have risen significantly, signalling higher incentives to remain unemployed. Pension expenditure relative to GDP has declined in 2009, signifying the decreasing impact of the decline in output. Consequently, CCI levels decreased further signifying the vulnerable state of EL's profile (see Fig.20, opportunity cost; Fig.24, pension expenditure). Therefore, the decrease in investment is a logical consequence in a country, that is exposed highly due to the GFC, which has not the same direct impact on its financial system as in IE or ES, but witnesses a weakened perspective and sustainability in terms of e.g. investment. Consequently, private and government investment hit output of EL sharply in 2009, although government consumption peaked compared to the rest of the reference period (see Fig.16, government consumption).

Despite an enormously weak outlook concerning budget balance and general government deficit in 2009 already, EL engaged in austerity only after 2010, which signifies low political willingness and low voluntary efforts to fiscal consolidation in order to pay back the amounts of debt that have been accumulated during the GFC and before. As a very simple consequence of the GFC and the output shock in 2009, NEET rates rose again. Nonetheless, focusing on NEET rates alone, makes it extremely interesting to compare the period of national failure between 2006 and 2009 to the period of Troika crisis management (see Fig.2, NEET rates). In 2010, EL's output growth rate declined by more than five per cent compared to 2009. With the engagement of the Troika in EL starting in May 2010, public employment and public sector wages have been cut significantly, resulting in a sharp decline of government consumption expenditure, while government investment has been decreased significantly. Further, pensions have been decreased and the statutory minimum retirement age has been among others, which signify parts of the tremendous cuts in pensions expenditure. Furthermore, solidarity allowances have been abolished, resulting in an almost 50 per cent reduction in opportunity cost. In addition, wage setting in the private sector is stated to be reformed, among others by lower minimum wages and sub-minimum wages for the young, which leads tax wedge and minimum wages relative to median wages to fall slightly. Lastly, EPL is stated to be flexibilised significantly (European Commission, 2014; see Fig.16, government consumption; Fig.17, government investment; Fig.12, real GDP growth). Besides that, dramatic decreases in government spending, the measures just mentioned resulted in even lower FDI, due to the uncertainty around EL in 2010, reaching bottom line levels compared to the rest of the reference period. Moreover, FPI declined as well, but not to the same extent as FDI. Therefore, the measures of internal devaluation can not be assessed as effective due to the overwhelming impact of uncertainty around EL's sovereign budgetary problems. Moreover, CCI levels decreased again, after having been recovered slightly in 2009. Nonetheless, the measures conducted directly resulted in a tremendous decrease of household disposable income, which does not affect HFCE to a large extent as private consumption remains rising. Therefore, the large decrease in output witnessed by EL in 2010 are mostly assigned to fiscal austerity and partly to investment, most of all FDI (see Fig.15, HFCE; Fig.13, CCI; Fig.18, FDI; Fig.19, FPI).

As a consequence NEET rates, rose sharply in 2011, making EL the country of the second lowest NEET rates in 2010 among the PIGS countries to the country with the highest ones (see Fig.2, NEET rates). Further, the Troika imposed the following measures to be adhered during 2011 on EL. A one billion cut in government investment, resulting in another sharp decrease in gross fixed capital formation. Regarding the measures on the indicator of government consumption, consolidations range from health care, pharmaceutical expenditure, intermediate government consumption, to the standard retrenchment of public employment and public sector wages (European Commission, 2014). All in all, these measures result in lower government final consumption expenditure, which is slightly lower than the reductions in 2010. Regarding pensions, measures of restriction have been enforced, as well as reductions in the highest pension levels and freezes in base pensions. Nonetheless, pension expenditure as a percentage of GDP has increased in 2011, which results in declining HDI levels, that declined with the same rate as in 2010, namely around ten per cent. Consequently, the increase in HFCE has been flatter than in the years before (see Fig.16, government consumption; Fig.24, pension spending; Fig.15, HFCE; Fig.14; HDI). Moreover, social benefits, family allowances and unemployment benefits have been reduced, while minimum wages are still meant to be reduced in 2011. Effectively, opportunity cost increased again, as well as tax wedges and minimum wages relative to median wages, resembling lower wages, albeit social spending has been decreased, which signifies the race to the bottom in the regulatory respect, characterising internal devaluation. Moreover, EPL has been modified in order to ease collective dismissals, which decreases the EPL index significantly in 2011 after this measure had been announced in 2010 (see Fig.20, opportunity cost; Fig.22; tax wedges; Fig.23, minimum wages; Fig.21, EPL). Finally, the measures of internal devaluation can be stated to have enhanced investment, as FDI increased again, the same holds for FPI, albeit on a lower level. HFCE increased flatter than in previous years, due to constantly decreasing household disposable income and extremely lowered CCI levels. Therefore, the result of

austerity and internal devaluation in EL for 2011 has been a negative real GDP growth rate of nine per cent (see Fig.16, FDI; Fig.17, FPI; Fig.15, HFCE; Fig.13, CCI; Fig.12, Real GDP growth).

Consequently, NEET rates rose by 7.15 per cent in 2012, which is the biggest increase of all of the PIGS countries during the reference period (see Fig.2, NEET rates). The fiscal consolidation measures and internal devaluation imposed in 2012 by the Troika, are summarised by reductions in public investment, public sector wage cuts and reductions in public sector employment, reductions in health care expenditure (European Commission, 2014). These resulted in a further decrease in public investment but nearly stable government consumption, as parts of the measures that were planned for 2012 have already been executed in 2011, except for savings in health care (see Fig.17, government investment, Fig.16, government consumption). Moreover, further austerity measures address reductions in pension funding, for instance disability pensions. Therefore, pensions as a percentage of GDP have increased significantly, but output has been shrinking by another 7.3 per cent (European Commission, 2012; see Fig.24, pensions spending, Fig.12, real GDP growth). Therefore, the diminishing impact on output is much more significant than the reductions of pension funding, only aiming to reduce government total spending. Further, spending to inhabitants of remote areas as a matter of social spending has been reduced, among others. This translated in higher opportunity cost, as wages have been reduced further by the introduction of the new minimum wages and reductions in social contributions. Overall, unit labour cost have been reduced by 15 per cent in 2012, which occurred with the abolishment of tenure contracts as a measure to further flexibilise EPL (European Commission, 2012). This resulted in stagnating HFCE, due to decreasing HDI, although reductions were slightly more moderate than in 2010 and 2011. CCI levels started to catch-up again, albeit remaining low. Investment levels increased further regarding FDI, while FPI did as well but to a lesser extent. Therefore, internal devaluation has been somewhat effective due to risen FDI, which may have lead output growth levels to decrease as hard as in 2011, as private consumption stagnated to the same extent as did government consumption, while government investment decreased further (see Fig.15, HFCE; Fig.14, HDI; Fig.13, CCI; Fig.18, FDI; Fig.19, FPI).

Ultimately, the decline in output in 2012 meant risen NEET rates in 2013 above 40 per cent (see Fig.2, NEET rates). In terms of reforms imposed by the Troika, these concern lay-offs in health care, a labour mobility scheme for civil servants, reduction in expenditure on education and reduction in public sector wages (European Commission, 2014). By consequence, government final consumption expenditure decreased below the level of 2007. There were no significant measures imposed regarding government investment, but government investment has been reduced to the lowest levels in the reference period (see Fig.17, government investment). Moreover, stricter pension rules have been enforced with the beginning of 2013 and pension saving of around five billion Euros have been announced. In addition, more than 260 million have been cut regarding social sending, mostly assigned to welfare state benefits. Social contributions have been reduced by 3.9 per cent on average, which surprisingly translates into risen wages as tax wedge has decreased slightly as did minimum wages relative to median wages (European Commission, 2014). This is due to the decrease in social security contributions, which decreases the tax wedge, but does not so regarding opportunity cost (see Fig.22, tax wedge; Fig.20, opportunity cost). On the other hand, wages declined due to an increase in minimum wages relative to median wages. By consequence, FDI increased further, which evolves from lower EPL index levels, as well did FPI, both to a significant extent (see Fig.23 minimum wages; Fig.18, FDI; Fig.21, EPL; Fig.19, FPI). Moreover household disposable income decreased to the lowest extent since the beginning of the SDC. This translated into higher household final consumption expenditure as a share of GDP, whereas government consumption decreased heavily and government investment did slightly (see Fig.15, HFCE; Fig.16, government consumption; Fig.17, government investment). Therefore, the conducted measures resulted in a decrease in output that is below the level of 2009, which evolves mainly from the hard decrease in government consumption. Nonetheless, this has a medium impact on private income in a way that private consumption and investment compensate

for this loss, but not to an extent, which could prevent permanent recession (see Fig.12, real GDP growth).

Finally, one has to state that EL conducted austerity and internal devaluation that reached beyond the means of its profile to recover and is therefore assessed to have highly lead to the witnessed increases in NEET rates. Most critical appears government investment during both SDC and EZC, as well as EPL merely during the EZC and opportunity cost during the SDC.

Economic analysis ES

The subprime mortgage crisis (2006-2007) and the GFC (2008-2009)

Looking at NEET rates in the case of ES, it strikes to the eye that rates are the second highest ones compared to EL, which leads to the definition of a structural problem, that has been accompanied by structural increases throughout the reference period (see Fig.2, NEET rates).

During the first years of the recent period of financial crisis, NEET rates decreased in 2007 while an increase has been witnessed in 2008. Correspondingly, real GDP growth rates have been positive until 2008, when NEET rates increased again nonetheless (see Fig.2, NEET rates, Fig.12, real GDP growth). During this period, CCI levels have been high as well translating into levels of HDI that rose until 2009. On the other hand, HFCE decreased gradually between 2006 and 2008, whereas government consumption increased both in 2007 and 2008, with a steeper angle in 2008 (see Fig.13 CCI levels; Fig.14, HDI; Fig.15, HFCE; Fig.16, government consumption). Investment levels increased highly in 2007, while in 2008 already, a decrease has been faced, albeit a small one. FPI has been more volatile, with a steep increase in 2007 and a sharper decrease in 2008, which signals the weakening perspective for ES' economy. FDI as a more powerful indicator for the structure of an economy increased until 2008, while witnessing a dramatic decrease down to the lowest level during the reference period (see Fig.19, FPI; Fig.18, FDI). Regarding the regulatory angle, it appears that EPL has been constant until 2010, which mostly holds for the high opportunity cost as well. This leads to the classification of ES as a rather rigid labour market, whose weak performance is grounded on a generous welfare state (see Fig.21, EPL; Fig.20, opportunity cost). Further, pensions expenditure has been increasing gradually, while labour cost decreased slightly (see Fig.24, pension spending; Fig.23, minimum wages; Fig.22, tax wedge). On the whole, investment volatility and decreasing private consumption and lower levels of government investment may serve as explanation for lower output growth and volatile NEET rates. The increase of NEET rates to almost 24 per cent coming from 18 per cent is therefore the result of decreasing private consumption, investment and government investment (see Fig.2, NEET rates).

In 2009, when it becomes clear that the crisis has hit ES, government investment declines further and sharper, whereas government consumption increases heavily regarding its share of GDP. Moreover FDI and declines to one per cent of GDP, which is the lowest level witnessed by ES during the reference period. FPI increases again, but does not reach the levels of 2007 (see Fig.17 government investment; Fig.16, government consumption; Fig.18, FDI; Fig.19, FPI). In terms of the regulatory dimension, it strikes to the eye that opportunity cost have decreased and pension spending as a share of GDP has increased. Ultimately, the GFC resulted in the lowest CCI levels during the reference period, which is reflected by the lowest level of HFCE, although HDI peaked in 2009 (see Fig.20, opportunity cost; Fig.13, CCI; Fig.15, HFCE; Fig.14, HDI). Therefore, the decrease in output of 3.6 per cent of real GDP derives from the high loss in HDI, which translates into the tremendous decrease in HFCE. On the other hand, the losses in government investment account for the decrease in output.

Therefore, NEET rates in 2010 increase further towards almost 28 per cent, showing the weakness of the economy of ES and the dependency on aggregate demand and private investment. In 2010, output remains on the level of 2009, as ES adopts the first austerity measures, due to a reduction of public

wages by five percent and plans to raise retirement ages by two years (see Fig.2, NEET rates; Fig.12, real GDP growth). These measures translate into slight increases of pensions as a share of GDP and towards constant government consumption while government investment decreases further but less sharply compared to 2009 (see Fig.24 pensions pending; Fig.16, government consumption, Fig.17, government investment). Regarding the regulatory indicators, it strikes to the eye that minimum wages relative to median wages are lower than before the GFC. Moreover, the tax wedge increases as well, indicating that the wage level has fallen (see Fig.23, minimum wages; Fig.22, tax wedge). In terms of investment, FPI decreases to lower levels than in 2008 whereas FDI as a share increases again not necessarily showing that there is a better outlook for the Spanish economy, occurring with the fact that ES has not yet engaged in significant internal devaluation. In terms of income, HDI income reaches the lowest level so far, although CCI levels get almost back to levels of 2008. Ultimately, HFCE again, which together with increasing FDI keeps output constant, as there is a reduction in government investment and an stagnation regarding government consumption (see Fig.18, FDI; Fig.19, FPI; Fig.14, HDI; Fig.13, CCI; Fig.15, HFCE).

Although ES' economy is balanced in 2010, NEET rates logically increased slightly to almost 29 per cent in 2011, when the government introduces more austerity in terms of pensions expenditure, social spending, EPL and wage setting (see Fig.2, NEET rates; Black, 2014). These measures translated into lower opportunity cost being first below 60 during the reference period and lower EPL levels (see Fig.20, opportunity cost; Fig.21, EPL). Further, the measures conducted resulted in lower government investment and constant government consumption. Although shifts in the regulatory dimension would favour higher investment levels, FDI declined, whereas FPI increased again (see Fig.17, government investment; Fig.16, government consumption; Fig.18, FDI; Fig.19, FPI). In terms of private consumption, CCI levels increased slightly, indicating that the economic climate in ES was about to relax again. When it comes to HDI, decreasing numbers were lower than in 2010, leading HFCE to increase further. Finally, output growth declined by one per cent of real GDP, which mostly derives from decreasing FDI and lower government expenditure (see Fig.13, CCI; Fig.14, HDI; Fig.15, HFCE; Fig.12, real GDP growth).

Therefore, NEET rates rise further in 2012 up to 31.55 per cent, deriving from the ineffective measures of internal devaluation in 2011, which only lead to a boost in FPI, which was too weak to compensate for fiscal austerity (see Fig.2, NEET rates; Fig.19, FPI). Nonetheless, 2012 marks the beginning of the EZC and of the Troika program for financial assistance for banking recapitalisation in the case of ES. Therefore, ES adopted austerity measures in terms of public wages, government investment and pensions. Moreover, social spending is decreased, the same holds for wages and EPL index (European Commission, 2014). These measures have resulted in another decrease in gross fixed capital formation, decrease in government final consumption expenditure, whereas the indicators of the regulatory dimension have been kept constant. This is a remarkable finding based on significant measures of internal devaluation. Regarding the levels of FPI, these measures seem to be nonetheless effective as FPI increased again, the same holding for FDI, reaching pre-SDC levels again (see Fig.17, government investment; Fig.16, government consumption; Fig.19, FPI; Fig.18, FDI). Concerning private consumption, CCI levels indicate higher uncertainty in the economic status quo of ES, which is reflected by the lowest level in HDI. Nonetheless, levels of HFCE peaked in 2012 as a share of GDP. This is only relatively surprising, as GDP decreases again in 2012, and therefore private consumption has not been growing to the extent reflected by the data (see Fig.13, CCI; Fig.14, HDI; Fig.15, HFCE; Fig.12, real GDP growth). Therefore, internal devaluation has only had limited effectiveness and was not able to compensate for the contraction in government spending.

As a result of this, NEET rates increased by more than three per cent in 2013 (see Fig.2, NEET rates). In the last year of the reference period, the Troika required ES to conduct austerity measures, which have been shifts in pension regulations concerning increases in general retirement age, early retirement age and full benefit of reference wages based on higher amount of contributory years (European Commission, 2014). This translated into an increase of pension expenditure compared to GDP levels

and lower opportunity cost. Moreover, EPL index decreased, while the tax wedge kept constant and minimum wages relative to median wages kept constant and the tax wedge increased (see Fig.24, pension spending; Fig.20, opportunity cost; Fig.21, EPL; Fig.2, tax wedge; Fig.23, minimum wages;). In terms of private consumption, this translated into higher CCI levels, although HDI decreased further, resulting in lower HFCE as a percentage of GDP (see Fig.13, CCI; Fig.14, HDI; Fig.15, HFCE). The fiscal indicators considered decrease to a lower extent than in the previous years, while FDI increases further and FPI stagnates. Therefore, the resulting 1.7 per cent fall in real GDP is assigned to a large extent to private consumption and government consumption which is a result of austerity and internal devaluation (see Fig.17, government investment; Fig.16, government consumption; Fig.18, FDI; Fig.19, FPI; Fig.12, real GDP growth).

On the whole, it can be concluded that the Troika has a minor impact on ES as it only continues a policy of fiscal contraction and more decisive internal devaluation that leads NEET rates to rise. The latter occurred largely due to the GFC and the weakness of the profile of ES. Therefore, ES has been hit significantly by the GFC, but also by the resulting impact of austerity on private consumption, with Troika lead financial crisis management playing only a minor role in this process, due to the rather soft character of the banking recapitalisation program.

Findings

The findings from the economic analysis on the applicability of economic theory on financial crises and financial crises management, in terms of the dimension of aggregate performance and private consumption on top and the fiscal, regulatory and invest angle as the explanatory factors of aggregate performance in terms of output allow one to answer the RQ and SQs. First, the analysis has shown that financial crises highly interact with the national profile of a highly financialised and SOE (IE) and structurally weak and demand-led economies (Mediterranean of the PIGS countries) regarding the resulting economic features of recession and NEET rates of young adults. Moreover, financial crises management and the national profile shape the resulting economic development increasingly, which can most clearly be grasped from the cases of ES and EL, witnessing cyclically increasing NEET rates that account for the structural problem of youth unemployment. Regarding EL, the Troika has played a highly significant role in order to create this outcome, being either consciously or unconsciously provoked. The factors appearing most critically are government investment regarding the fiscal angle and opportunity cost and EPL regarding the regulatory dimension, leading to the conclusion that the economic adjustment programs of the Troika analysed here did not fit the national profile of EL. In the case of ES, the Troika did not have the same disruptive impact, but austerity and internal devaluation can be defined as harming policies for recovery. Most of all, fiscal austerity fostered recession in ES, whereas internal devaluation undermined private consumption to a certain extent, leading to its ineffectiveness. PT on the other hand highly resembles EL in its national profile, with the Troika highly emphasising internal devaluation in order to correct the twin deficits of current account and fiscal deficits by creating more sustainable and stronger economic growth, which is not achieved during the reference period and leads NEET rates to rise cyclically. Concerning PT, the most decisive impact evolves from government consumption regarding the fiscal dimension and from decreasing EPL, pension expenditure and opportunity cost. These indicators show the significance of internal devaluation, that on the one hand has been effective in slightly increasing FDI as a share of GDP, but on the other hand did not enhance economic recovery, leading to the conclusion that it has been ineffective as it did not compensate for the losses in government spending and private consumption. Last but surely not least, IE faced the special characteristics of a strong economic profile that has been highly undermined by its exposure to the GFC, paving the way into the SDC. Due to its higher competitiveness, it were only the measures of fiscal austerity, that hindered faster recovery, as opposed to the rest of the PIGS, investment was able to compensate for the losses in government spending and private consumption during the EZC. As there has been a slight recovery during the EZC, it appeared

to be significant enough to slightly reverse the scenario of cyclically highly risen NEET rates, that were exposed to the structural vulnerability of IE to the GFC and missing stabilising fiscal policy. Consequently, IE's national profile can be classified as more vulnerable to the GFC than the rest of the PIGS, leading to high vulnerability to the SDC as well, but as more competitive and robust than the Mediterranean of the PIGS countries. This is due to higher adjustment capacity based on lower fiscal dependency and lower demand exposure than the Mediterranean of the PIGS, pointing at the higher competitiveness of a rather supply-led national profile.

Therefore, the RQ and SQ can be answered in the following manner. Based on the multi-layer approach of output as the independent variable on top, explained by private consumption, government consumption and investment helped to explain the risen NEET rates in all of the PIGS countries. Unless the limited reliability of applied research compared to empirical research, the chosen indicators of the fiscal, regulatory and investment dimension fitted the witnessed developments of aggregate performance and NEET rates to a high extent. Regarding SQ1, one can say that private consumption and investment witnessed declines in all of the PIGS due to the GFC, enabling one to understand risen NEET rates most of all in IE and ES. When it comes to the changing impact of the Troika on aggregate performance and thus NEET rates in the PIGS, the changing impact evolves from austerity, which is negative in all of the full scale sovereign bailout programs, which is highly negative. Also in ES, the switch to austerity appears to be depressing for the employment chances of young adults. Overall, internal devaluation turns out to be moderately effective in PT, EL and ES when it comes to enhanced external competitiveness and attraction to investment, which is nonetheless not able to compensate for the recessive effect of fiscal and regulatory shifts on the multipliers of government and private consumption. This derives from the weak economic and demand-led national profiles of the latter countries, while in the case of IE, internal devaluation turns out to be effective due to significant increases in investment compensated for the recessive impact of austerity. Finally, SQ3 addressing the issue whether the EZC and the announcement of the ESM and the ECB's commitment to Eurozone stability did change scenario, applies only to IE, while the rest of the PIGS appears structurally too weak to absorb the widening investment. Another diverging aspect evolves from a somewhat lower extent of the fiscal angle evolving from the announcement of the ECB, due to the prioritisation of fiscal consolidation in terms of financial market confidence, concerning the Mediterranean countries of the PIGS.

7. Conclusion

This paper has analysed the impact of Troika national and Troika lead measures of fiscal austerity and internal devaluation on NEET rates of 25 to 29 aged adults in the PIGS countries during the GFC, SDC and EZC of the recent period of financial crises. Thereby it has highlighted the different facets of the dialectic between financial crises and financial crises management in the Eurozone and has analysed the interaction between crisis management policies and the national profiles and indicators of financial crisis and financial crisis management.

It appears, that austerity and internal devaluation increase NEET rates through the impact of indicators on the components of output and the spill-over effect on private consumption. After one year of adjustment period, NEET rates have risen in all of the PIGS countries more or less constantly, with IE being an exception due to slight recovery during the EZC. In general, internal devaluation has been effective regarding enhanced investment as a share of GDP in all of the PIGS countries. Nonetheless, investment has not been effective enough to provide a solid ground for recovery in the Mediterranean of the PIGS countries, deriving from the stronger impact of austerity on government and private consumption, which diminishes the potential to decrease NEET rates again.

In terms of the RQ, the chosen approach of applied research and a multi-level impact analysis of aggregate performance and fiscal, investment and regulatory dimensions as its explanatory factors and

the spill-over variable of private consumption in between serves well to understand the phenomenon risen NEET rates as a feature of financial crises to a high extent. Therefore, the chosen methodological model has been appropriate in order to uncover the factors increasing NEET rates during financial crisis in general, thereby effectively highlighting how financial crisis and financial crisis management interact in terms of the examined dimensions. Nonetheless, the shortfalls of applied research in terms of limited reliability compared to empirical research point at further research to be conducted, in order to definitely explain the risen NEET rates and to address relevant labour market related variables, such as educational signalling or the effectiveness of activation policies, as well. The research focus of this paper did not allow for doing so, but this does not undermine the relevance of the variables just mentioned. Another limitation of the explanatory power concerns the aspect of disentangling the impact of Troika financial crisis management from the impact that the GFC had on NEET rates in the PIGS countries, as a definite conclusion cannot be derived. Although the research conducted clearly point at a high relevance of Troika lead austerity and internal devaluation in the context of the research focus. Moreover, the theories of supply- and demand side economics, VoC and the critical importance of national structures in terms of economic, labour market and employment profiles and the macroeconomic divergence of the Eurozone appear to be extremely relevant, when analysing the NEET rates in the PIGS countries. This is grounded on the fact that the PIGS countries as case studies of the signalling between national level fiscal policy and financial market confidence, with NEET rates being a final product of the dynamics of the global financial system, enable one to grasp the overwhelming relevance of fiscal discipline as prerequisite of financial market confidence and therefore sovereign creditability. Thus, the financial crisis management of the Troika fitted the demands of international creditors and international financial markets, namely the ministers of finance of the net contributing (core) Eurozone MSs and of financial corporations, but not the national profiles of economic and labour market structures, translating into higher NEET rates. This conclusion holds for the PIGS countries, with the restriction that IE differs in the character of its national profile from the rest, which became visible during the EZC. By consequence, the conclusion derives that IE has been similarly vulnerable to the unifying credit crunch phenomenon of financial crises applying to the GFC and the SDC, but it demonstrated higher adjustment capacity due to the character of its national profile diverging from the Mediterranean countries of the PIGS.

Regarding the social and scientific relevance, one comes across the argument that the relevance of sustainability of resources is not limited to natural resources, thinking of renewable and fossil energy production to maintain standard of living during a period of climate change. The same attitude to sustainability of resources applies to human resources as well, pointing at the economic, social and political cost of a lost generation of young, partly highly skilled young adults that end up without employment perspectives in the PIGS countries. Gradually, policy makers on the national and Eurozone level contribute to increasing cost of youth unemployment and risen NEET rates by ignoring or denying the impact of financial crises management on the social problem of youth unemployment.

Sustainability is also the breaking issue of this problem of financial crisis in the Eurozone and its feature of dramatic levels of NEET rates and YUR. The unsustainable composition of the Eurozone increased either private or public sector leverage in the Mediterranean of the PIGS countries, with low interest rates fuelling unsustainable demand-led economies that appeared highly vulnerable to the consequences of financial crisis, ending up in the SDC. IE allowed its financial corporations to create a real estate bubble based on high banking sector leverage, on which the enormous boom in aggregate performance has all been based, similar to ES. This points at an aspect to be addressed when aiming at solving the unsustainability problem of the global financial system, as financial stability is currently threatened by the disproportionate and unreasonable size and relevance of the financial industries, creating speculative bubbles that undermine the sustainability of aggregate performance and of aggregate wealth. Moreover, the status quo of the global financial system threatens fiscal room to move, deriving from fiscal commitment to prevent the failure of systemically relevant financial corporations and from fiscal commitment to sustain financial market confidence vis-à-vis financial corporations, leading to a vicious circle of global financial instability. In short, as long as there is an

undersupply of financial stability effectively decreasing the imbalances in the global financial system, room to move in fiscal terms according to the conceptualisation of Mosley (2000) will remain very low, mostly for the PIGS.

Further, this points at the decreasing debt dependency of national economic profiles in the Eurozone periphery, leading to the conclusion that profitable industries in the PIGS in order to decrease debt-based financing of demand-led economies and to balance the dependency within the Eurozone, shortly speaking between core and periphery. Therefore, a former fiscal union would have to be created at Eurozone in level in order to allow for public investment in the creation of profitable industries based on the prerequisites faced by the PIGS countries in terms of national and human resources, underlining the importance of a skill-match between labour supply and demand. With the bailout facilities of the Eurozone (EFSF, EFSM and ESM) and the Treaty modifications, permanent fiscal transfers have been made possible. The main aspect hindering an effective solution of the problem of global financial instability evolves from the fact that these mechanism only address repayment of sovereign liabilities in order to increase financial market confidence and to prevent sovereign defaults, but not the structural shortcomings of the Eurozone. The latter ones derive from the Euro as a straitjacket for the PIGS preventing them from currency devaluation and forcing them to engage in internal devaluation instead, which has not been effective in increasing their external competitiveness as it simply does not fit their demand-led economies, with the exception of IE. The question whether the Eurozone should be sized down to the northern core MSs, leaving out the southern periphery in order to address this particular shortcoming of the Eurozone concerning the PIGS and other peripheral MSs, can be answered twofold. First, the PIGS leaving the Eurozone would have dramatic economic and financial consequences in terms of exchange rate devaluation and outflow of investors capital, drying up their economies. Moreover, leaving the Eurozone would imply a significant haircut in order to prevent sovereign default, as it would become increasingly difficult to repay debt with highly devaluating currencies. On the other side and pointing at a second aspect preventing Eurozone leaders from advocating a spilt-up of the Eurozone is that the size of the haircut and the decrease of the Eurozone a single currency area would imply large banking sector losses and increase their leverage, shifting financial crisis from the SDC back to a banking crisis. This would be painful for both Eurozone core and periphery as core financial corporations had highly engaged in lending to periphery governments and banks and would finally trigger a much more combined financial crises composed of an SDC and a banking crisis, applying both to the same credit crunch phenomenon again.

The third and the last aspect of solving the problem of unsustainability of the global financial system is Eurozone-specific and of a political nature, as the current political economy might hinder an effective fiscal union from being created. First, the model of an effective fiscal union on Eurozone level would imply fiscal commitment of the core to finance structural improvements of the national economic profiles of the periphery and enable these MSs to catch-up to the core. Secondly, the core has to be politically willing to accept higher external competitiveness and therefore also higher export capacity of the periphery, which only works if domestic demand in the core is strengthened in order to apply as customers for the periphery. This is necessary to enhance the export capacity of the periphery while at the same time maintaining internal demand at a level that fosters output growth. Even though this model points at increasing production diversification among the Eurozone MSs in order to maintain internal demand and export-capacity at a more balanced level regarding the MSs, most of all Germany have opposed abstention of internal devaluation as a crisis management policy. As the legacy of conducted internal devaluation is to enhance private investment, the structurally weak economic profiles of the PIGS countries require investment that is directed towards production diversification and a competitive advantage exploited by national specialisation as a source of attracting investment. Attracting investment by internal devaluation is remains ineffective if there are no industries to profitable invest in, such as witnessed by the Mediterranean of the PIGS. To sum up, cross-country production diversification based on an effectively designed fiscal union can be theoretically able to resolve the Eurozone's competitiveness problem in terms of core-and periphery and to address the unsustainability of the global financial system, by directing financial corporations to

more sustainability in terms of investment. This points at stronger banking sector regulation and supervision and at a higher relevance of investors and creditors responsibility in financial legislation at Eurozone level.

At the very end of the chain, this would increase the employment chances of young adults across the Eurozone, upon condition that effective education-to-work transition is enshrined in labour market architectures. Therefore, decreasing NEET rates substantially and providing as solid basis for youth employment is a matter of adjusting national profiles by means of a fiscal union. In order to achieve the latter, the political economy of the Eurozone has to change dramatically, pointing most of all at the smooth relationship between financial corporations and governments and at power politics among Eurozone governments, ranging from Germany to Greece at the end of the poles. Regarding the perspectives of young adults in the PIGS countries, this points not only to economic and social sustainability, but at political sustainability as well, as popular and public support for governing parties during financial crisis management and has been undermined by left and right wing parties in three of the main Eurozone MSs involved, Germany, ES and EL. In all of these countries, populist parties on the right as well as on the left highly gained popular support for their extreme position of splitting-up or abandoning the Euro, which would have dramatic macroeconomic consequences for the Eurozone as a whole. Therefore, there is a high need to engage in a debate on the design of an effective fiscal union on Eurozone level, as the current orthodox and neo-liberal financial crisis management of austerity and internal devaluation is not working based on too low investment levels in the PIGS countries. With an effective fiscal union, economic progress can be achieved at the national level and at the Eurozone level as whole, in order to enhance economic sustainability and employment prerequisites for young adults. This theoretically holds upon the condition of abandoning neoliberal power politics by Eurozone leaders in the core as well as in the periphery.

8. Bibliography

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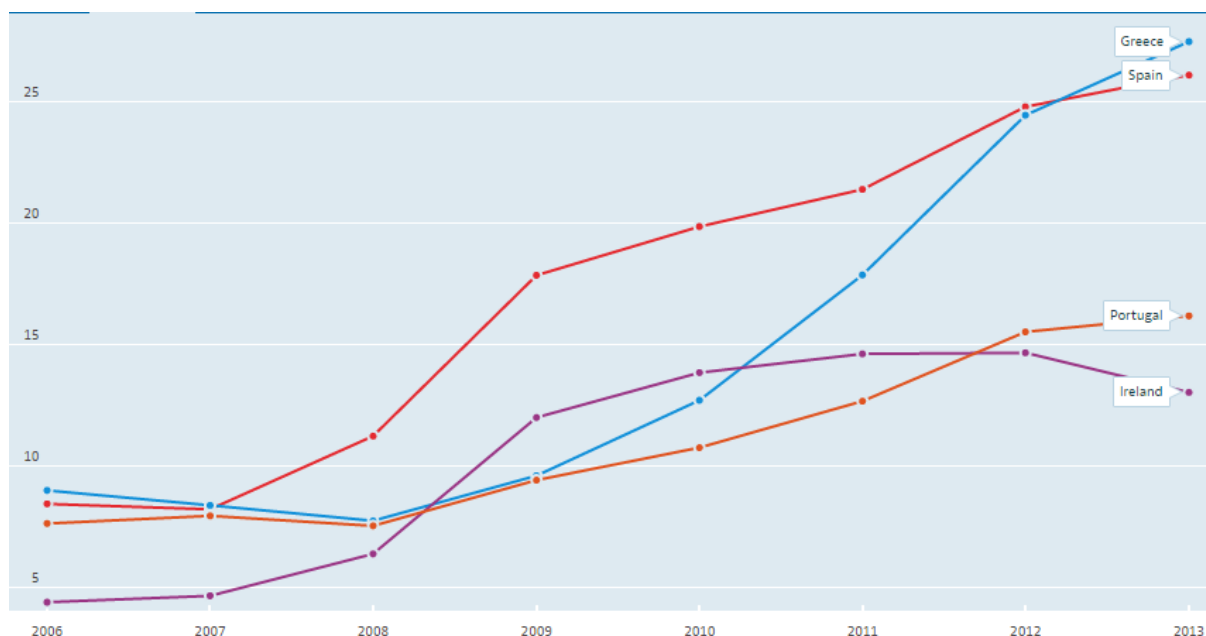
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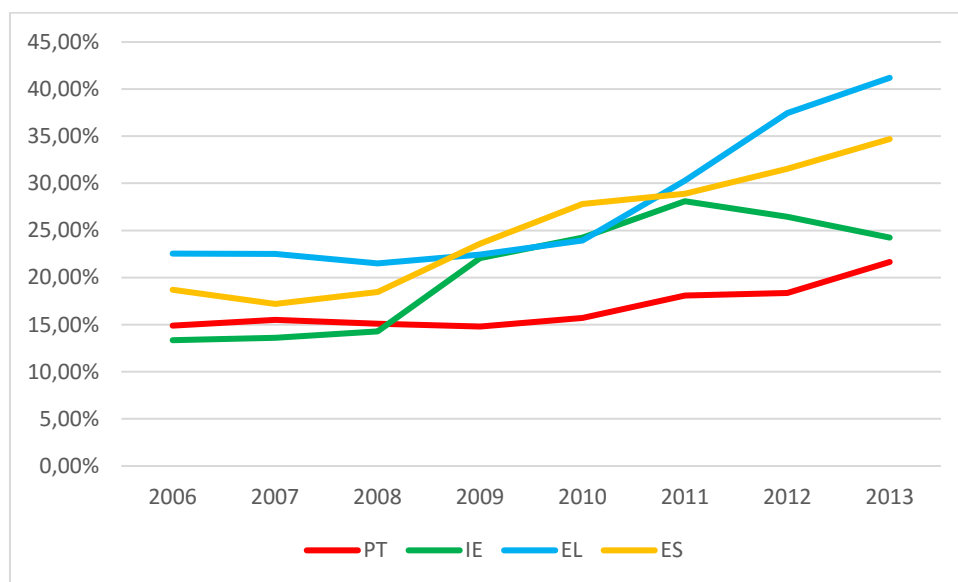
9. Appendix – Figures and Tables

Fig. 1: Total unemployment as a percentage of labour force, PIGS countries and all OECD countries, 2006-2013, (OECD, 2016a)



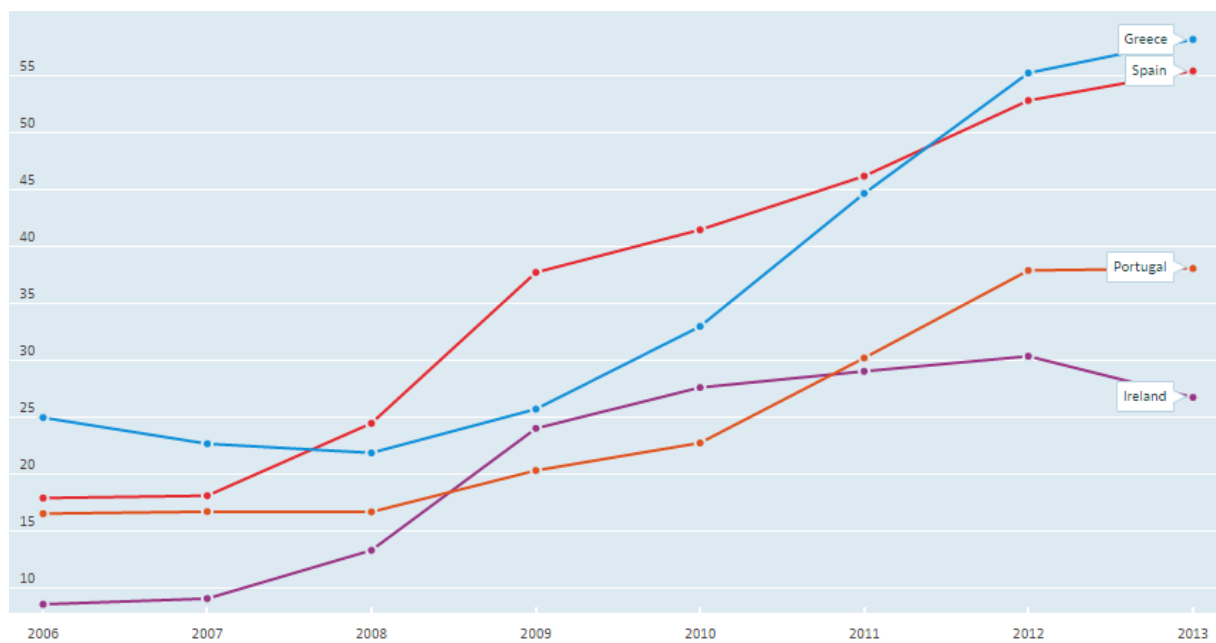
Source: OECD data (2016a). Unemployment rate. OECD Data. Retrieved 08 July 2016, from <https://data.oecd.org/unemp/unemployment-rate.htm>

Fig.2, NEET rates, 25-29 aged, PIGS countries, 2006-2013, percentage of age cohort



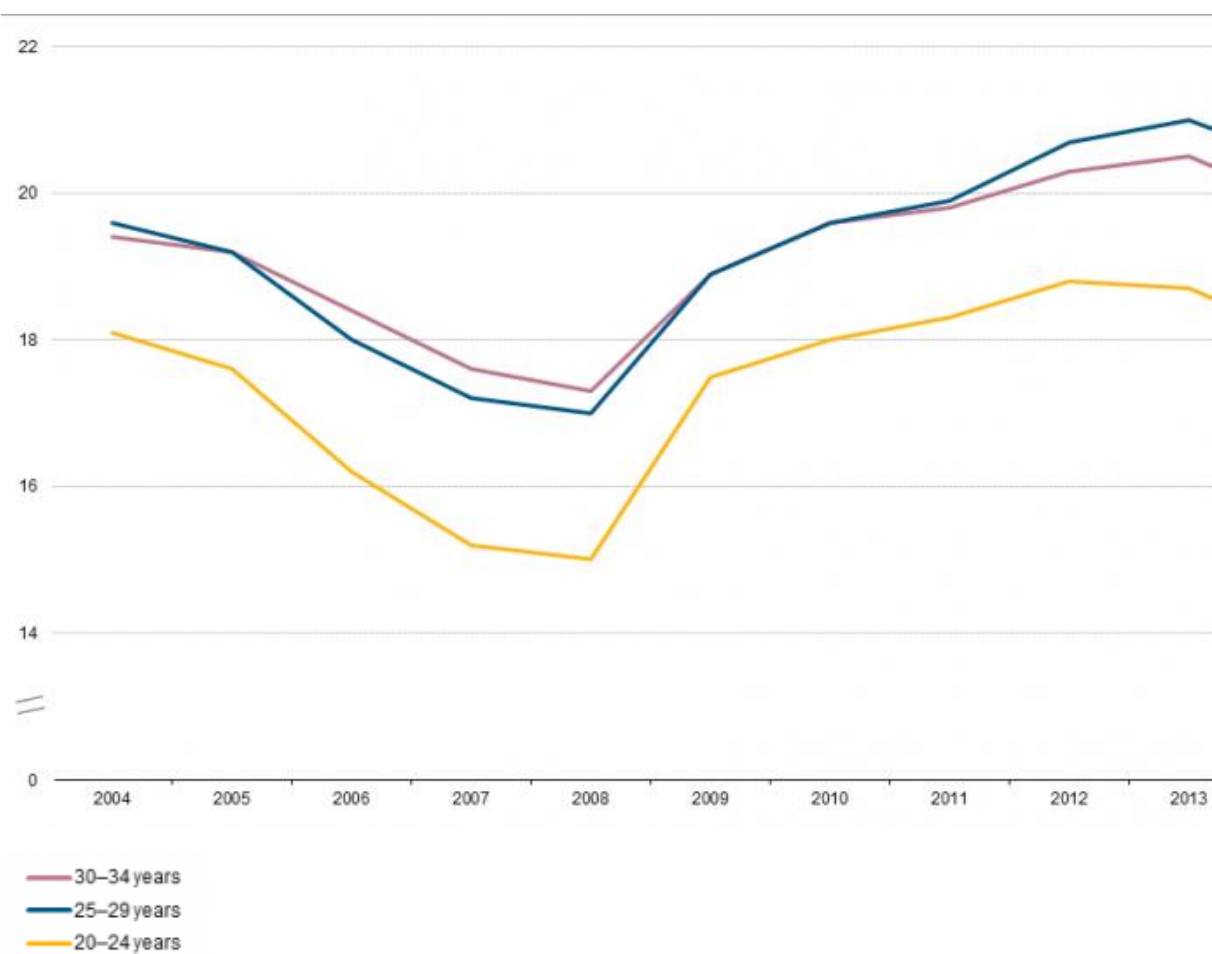
Source: OECD stats (2015). Education: Percentage of young people in education, in employment and Not in Education, Employment or Training (NEETs). Retrieved 15 January, 2016, from <http://stats.oecd.org/#>

Fig. 3: Youth Unemployment rate, percentage of total youth labour force, 15-24 aged, PIGS countries, 2006-2013



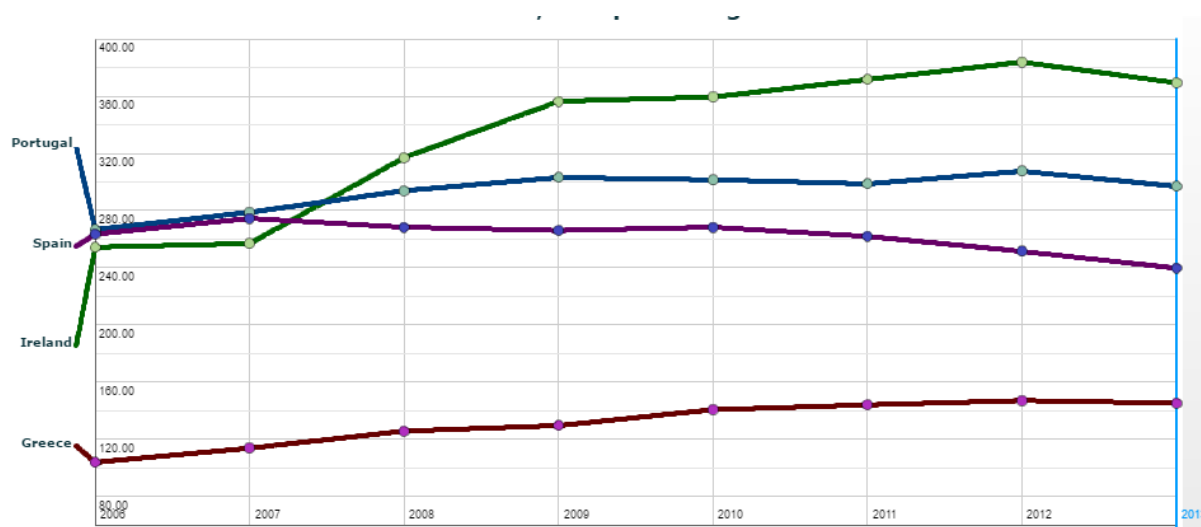
Source: OECD data (2016b). Youth unemployment rate. Retrieved 08 July 2016, from <https://data.oecd.org/unemp/youth-unemployment-rate.htm#indicator-chart>

Fig.4, NEET rates, 3 age groups, EU 28, 2004-2013, per cent of age group



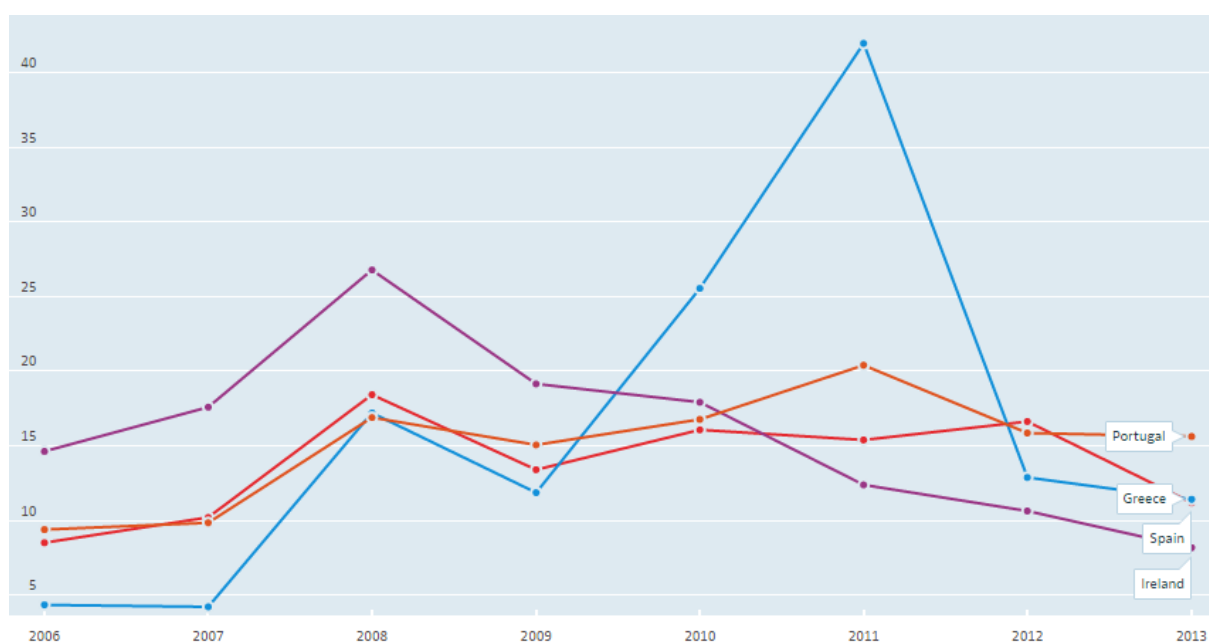
Source: Eurostat (2015). NEET rates, three age groups. Retrieved 08 July 2016, from [http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Share_of_young_people_neither_in_employment_nor_in_education_and_training,_by_age,_EU-28,_2004%E2%80%932013_\(%C2%B9\)\(%25\)edu15.png](http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Share_of_young_people_neither_in_employment_nor_in_education_and_training,_by_age,_EU-28,_2004%E2%80%932013_(%C2%B9)(%25)edu15.png)

Fig.5, Private sector debt, PIGS countries, 2006-2013, percentage of GDP



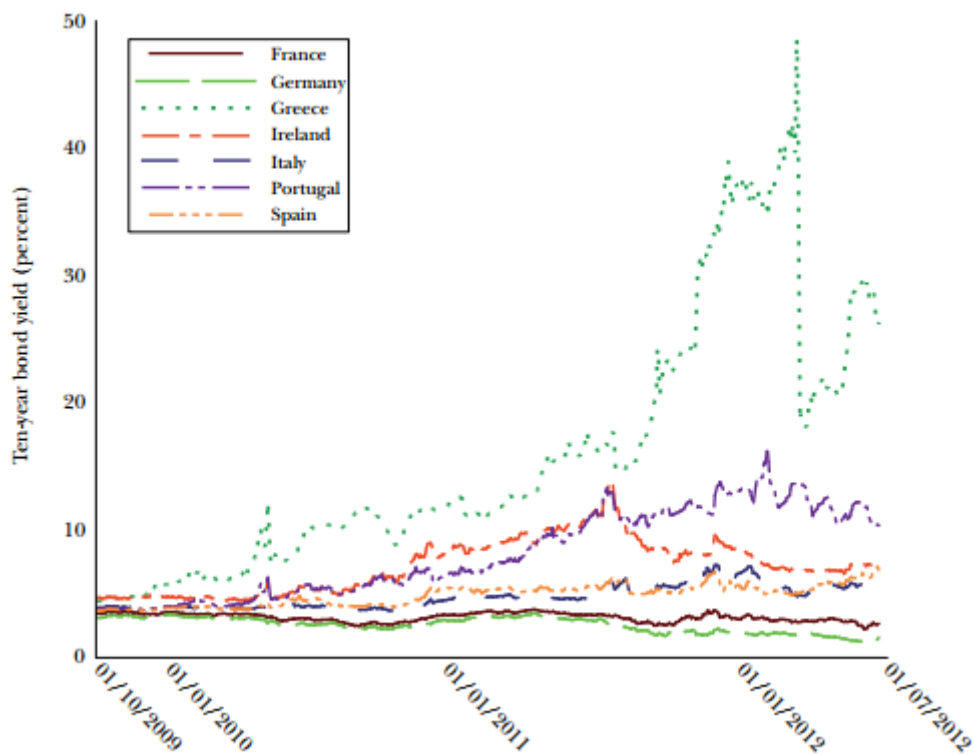
Source: OECD stats (2016). Financial indicators – Stocks: private sector debt. Retrieved 08 July 2016, from <http://stats.oecd.org/index.aspx?queryid=34814#>

Fig.6, Banking sector leverage, PIGS countries, 2006-2013, percentage of net value added



Source: OECD data (2016c). Banking sector leverage. Retrieved 08 July, 2016, from <https://data.oecd.org/corporate/banking-sector-leverage.htm>

Fig.7, Ten year government bond yield spreads, PIGS, Germany, France, Italy, October 2009- June 2012



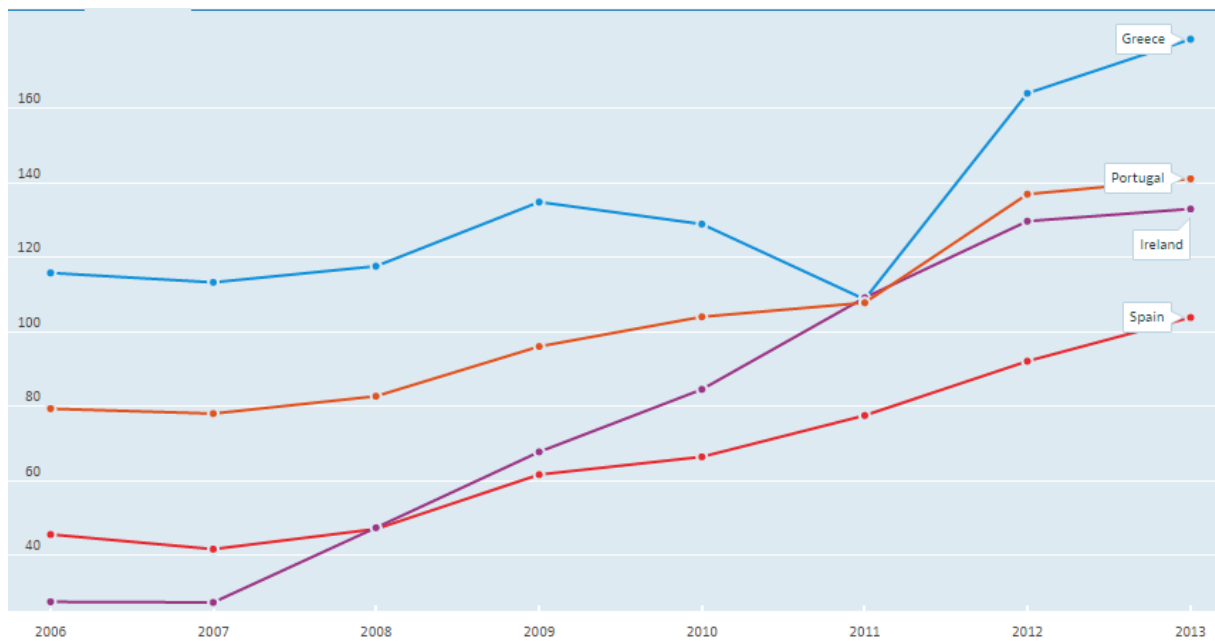
Source: Lane (2012).

<http://docserver.ingentaconnect.com/deliver/connect/aea/08953309/v26n3/s3.pdf?expires=1472382079&id=88483701&titleid=6117&accname=TWENTE+UNIVERSITY&checksum=EF03DB5CA332B4800AE2409B96AF94F6>

■ SPAIN 10-YEAR GOV DEBT YIELD % 1.114
 ■ ITALY 10-YEAR GOV DEBT YIELD % 1.241

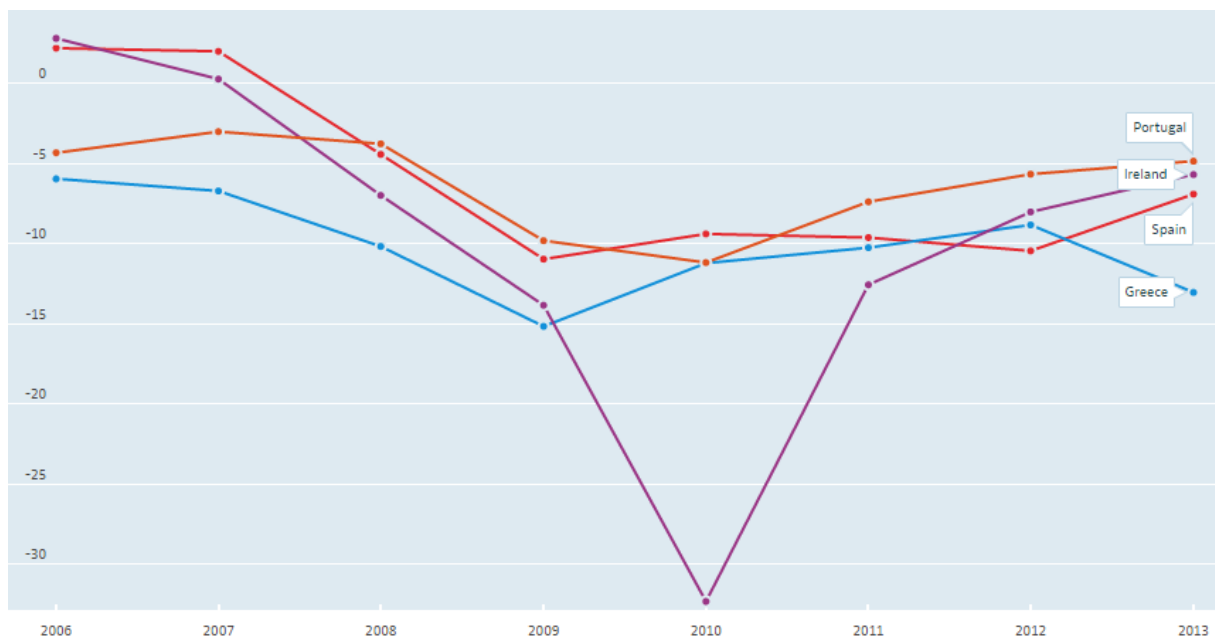
The chart displays the 10-year government debt yields for Spain and Italy from September 2012 to June 2016. The Y-axis represents the yield percentage, ranging from 1.000 to 7.000. The X-axis shows the timeline with labels for Sep 2012, Dec, Mar, Jun 2013, Sep, Dec, Mar, Jun 2014, Sep, Dec, Mar, Jun 2015, Sep, Dec, Mar, Jun 2016. Both yields show a general downward trend, with Spain's yield ending at 1.114% and Italy's at 1.241%.

Fig.9, General government debt, PIGS countries, 2006-2013, percentage of GDP



Source: OECD data (2016d). General government debt. Retrieved 08 July, 2016, <https://data.oecd.org/gga/general-government-debt.htm>

Fig.10, General government deficit, PIGS countries, 2006-2013, percentage of GDP



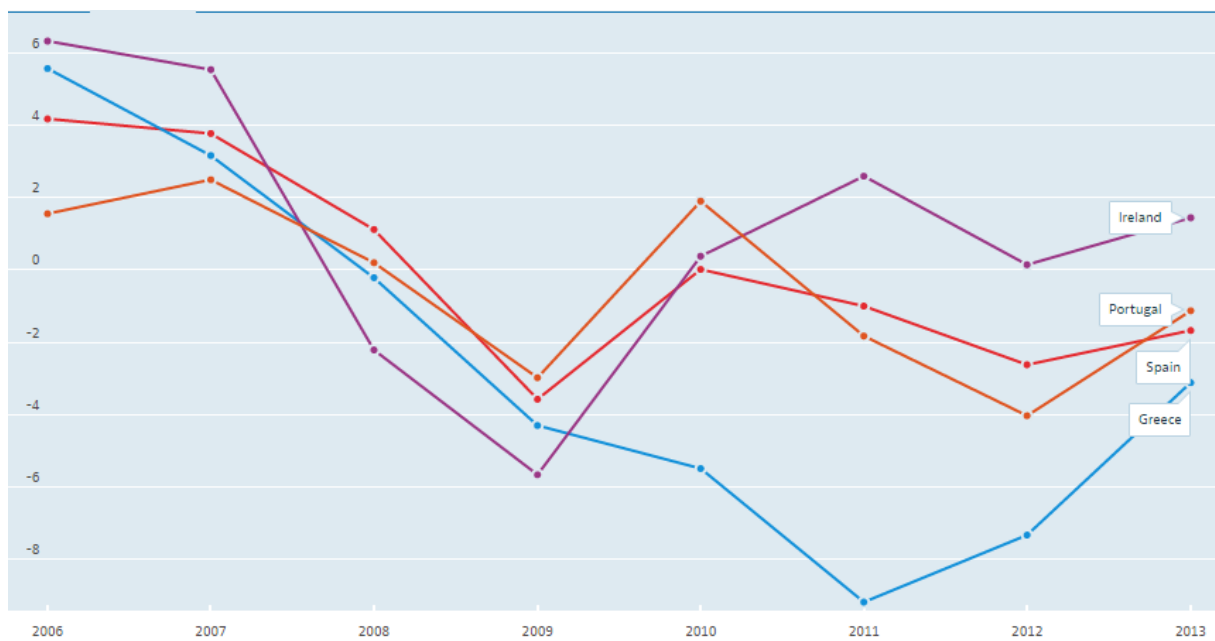
Source: OECD data (2016e). General government deficit. Retrieved 08 July, 2016, from <https://data.oecd.org/gga/general-government-deficit.htm#indicator-chart>

Fig.11, Blue Banana, model for core and periphery in Europe



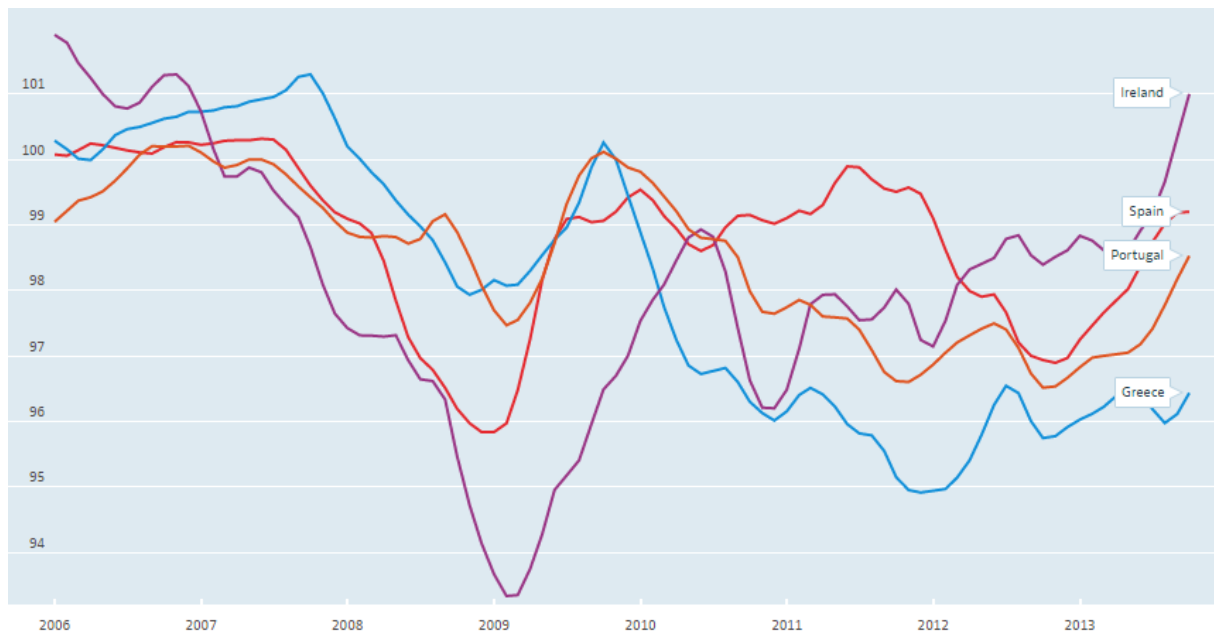
Source: Diercke (2016). Geographic models of European economy. Retrieved 08 July, 2016, from <http://www.diercke.com/kartenansicht.xtp?artId=978-3-14-100790-9&stichwort=sunbelt&fs=1>

Fig.12, Real GDP forecast, PIGS countries, 2006-2013, annual growth rate (%)



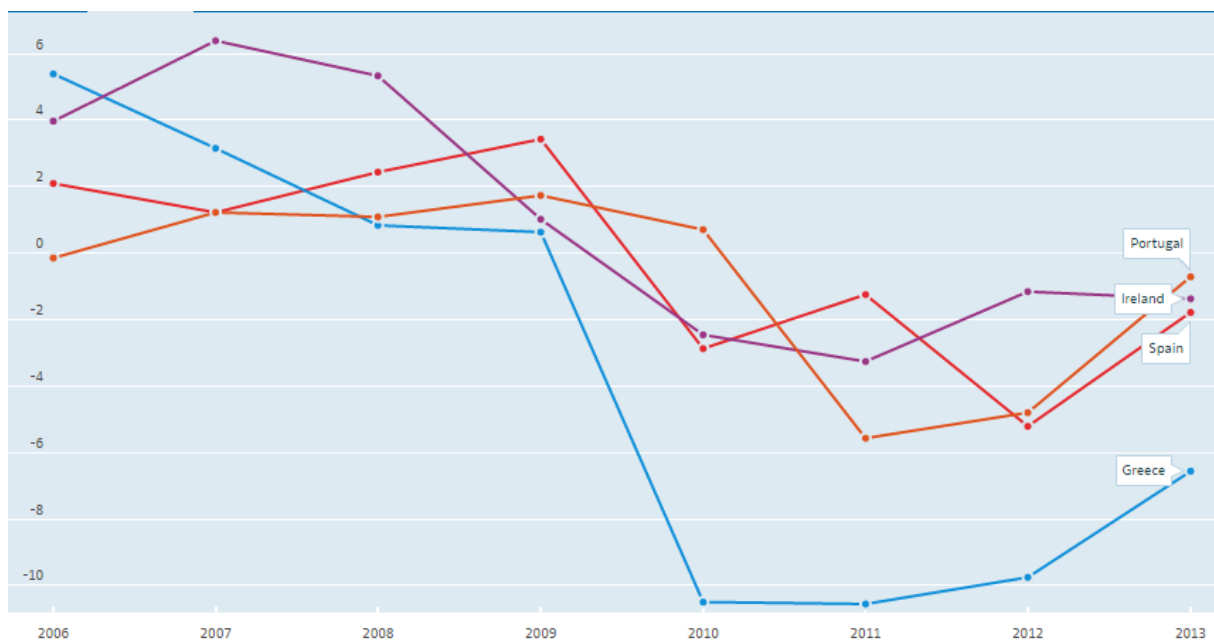
Source: OECD data (2016f). Real GDP forecast. Retrieved 08 July, 2016, from <https://data.oecd.org/gdp/real-gdp-forecast.htm>

Fig. 13, CCI, Consumer confidence index, PIGS countries, 2006-2013, Amplitude adjusted



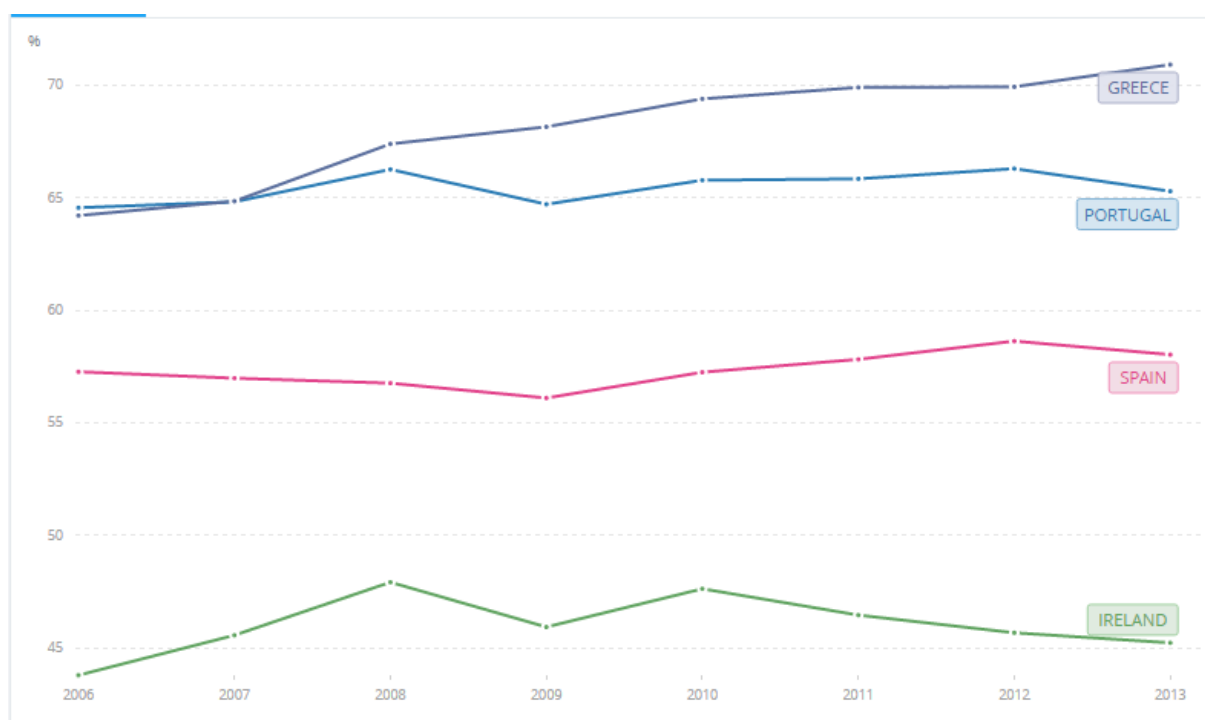
Source: OECD data (2016g). Consumer Confidence Index (CCI). Retrieved 08 July, 2016, from <https://data.oecd.org/leadind/consumer-confidence-index-cci.htm>

Fig.14, HDI, Household Disposable Income, PIGS countries, 2006-2013, Net, annual growth rate (%)



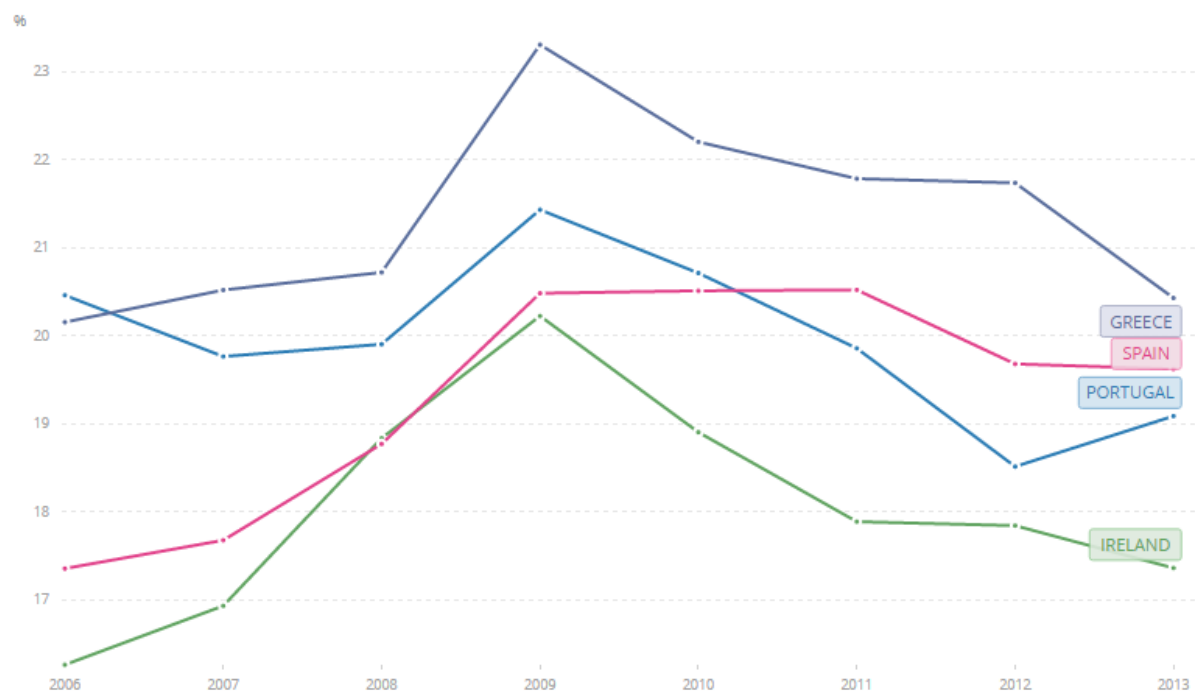
Source: OECD data (2016h). Household Disposable Income (HDI). Retrieved 08 July, 2016, from <https://data.oecd.org/hha/household-disposable-income.htm>

Fig.15, HFCE, Household Final Consumption Expenditure, PIGS countries, 2006-2013, percentage of GDP



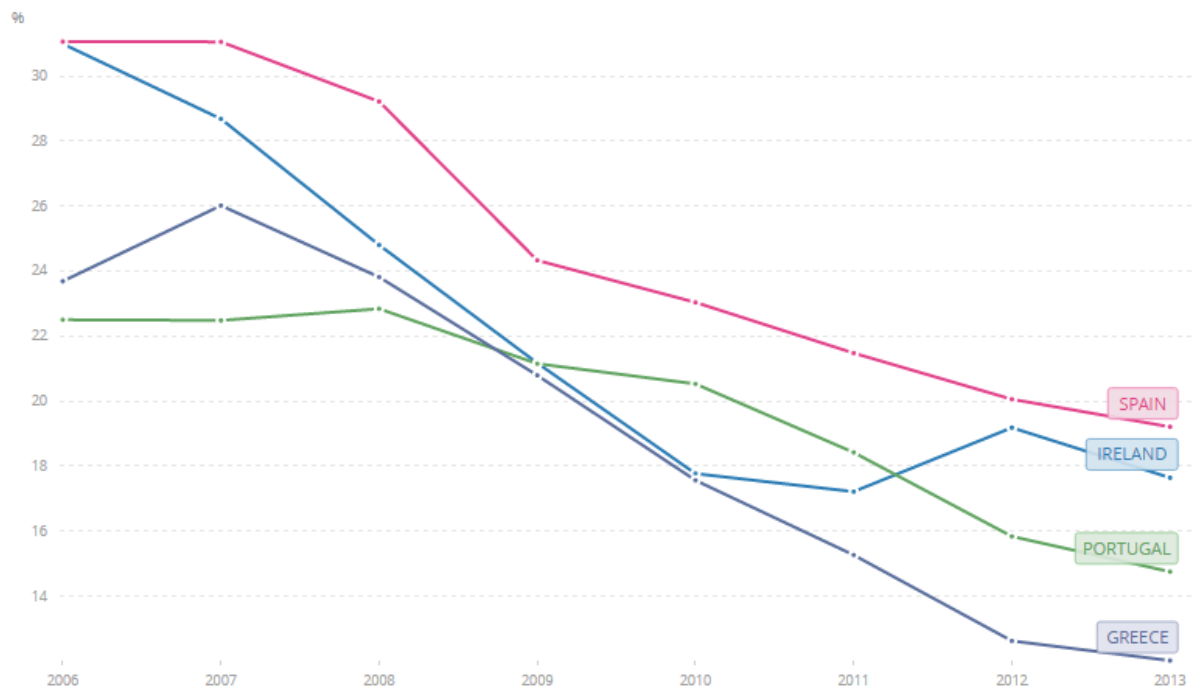
Source: World Bank (2016a). Household final consumption expenditure. Retrieved, 08 July, 2016, from <http://data.worldbank.org/indicator/NE.CON.PETC.ZS?end=2013&locations=PT-IE-GR-ES&start=2006>

Fig.16, Government consumption, General government final consumption expenditure, PIGS countries, 2006-2013, percentage of GDP



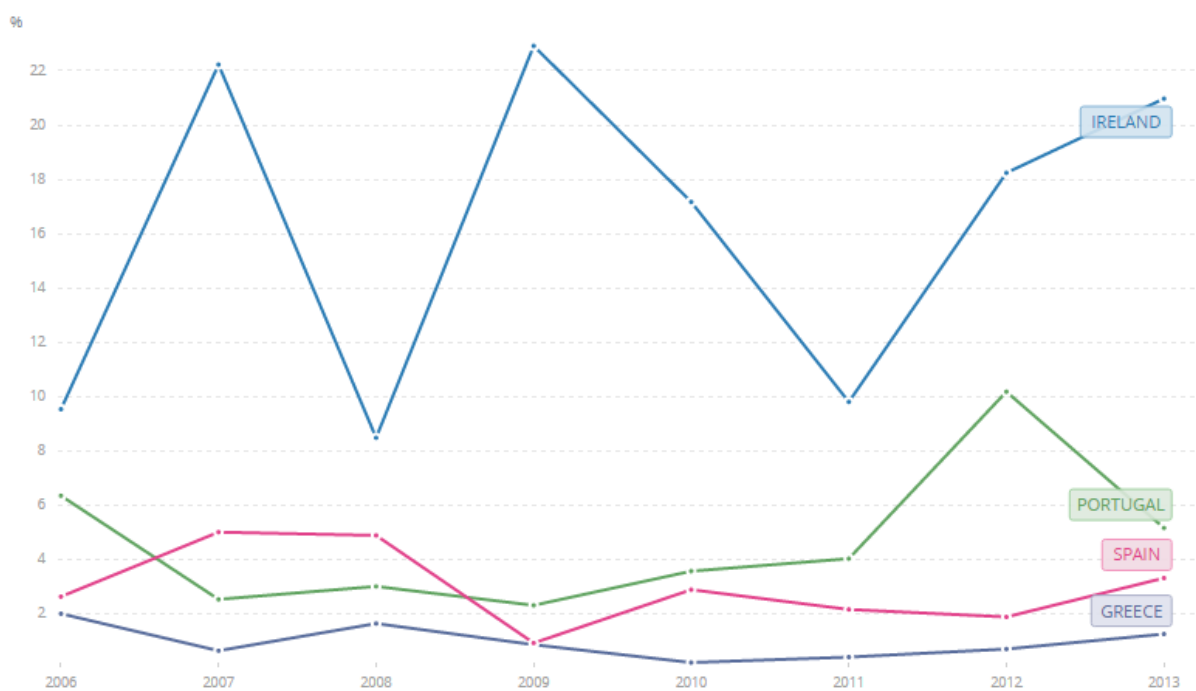
Source: World Bank (2016b). General government final consumption expenditure. Retrieved 08 July, 2016, from <http://data.worldbank.org/indicator/NE.CON.GOVZ.ZS?end=2013&locations=PT-IE-GR-ES&start=2006>

Fig.17, Government investment, Gross fixed capital formation, PIGS countries, 2006-2013, percentage of GDP



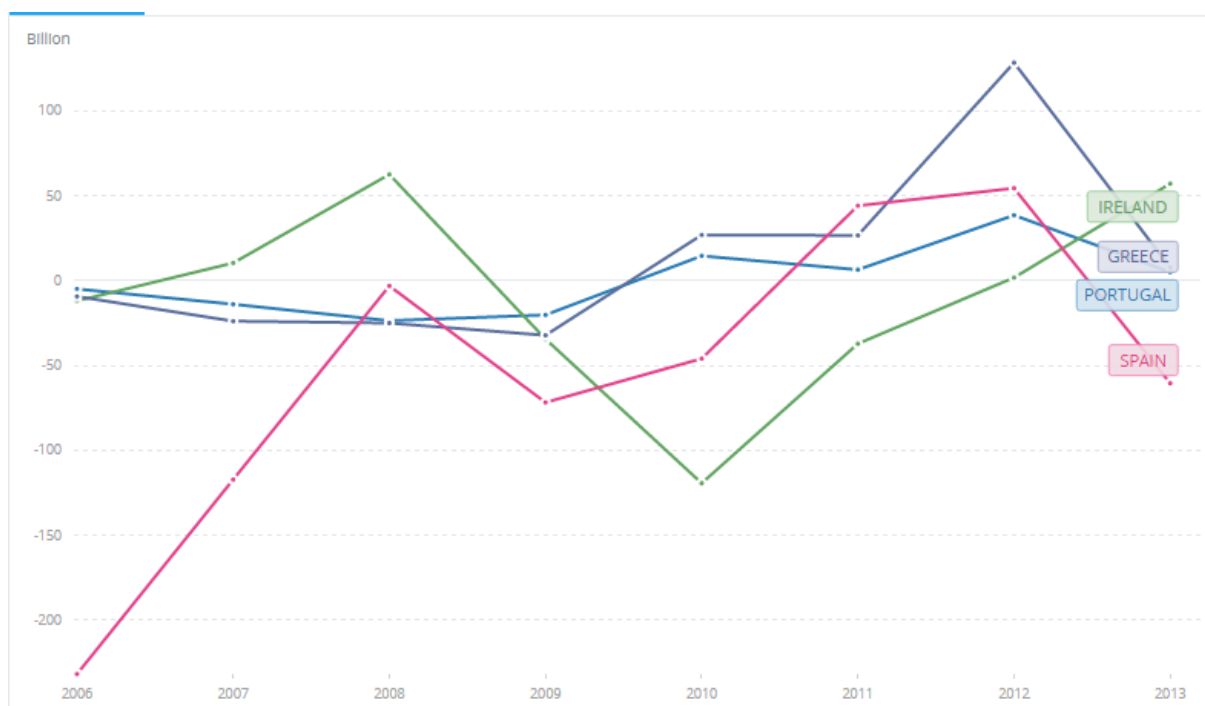
Source: World Bank (2016c). Gross fixed capital formation. Retrieved, 08 July, 2016, from <http://data.worldbank.org/indicator/NE.GDI.FTOT.ZS?end=2013&locations=IE-PT-GR-ES&start=2006>

Fig.18, FDI, Foreign Direct Investment, PIGS countries, 2006-2013, percentage of GDP



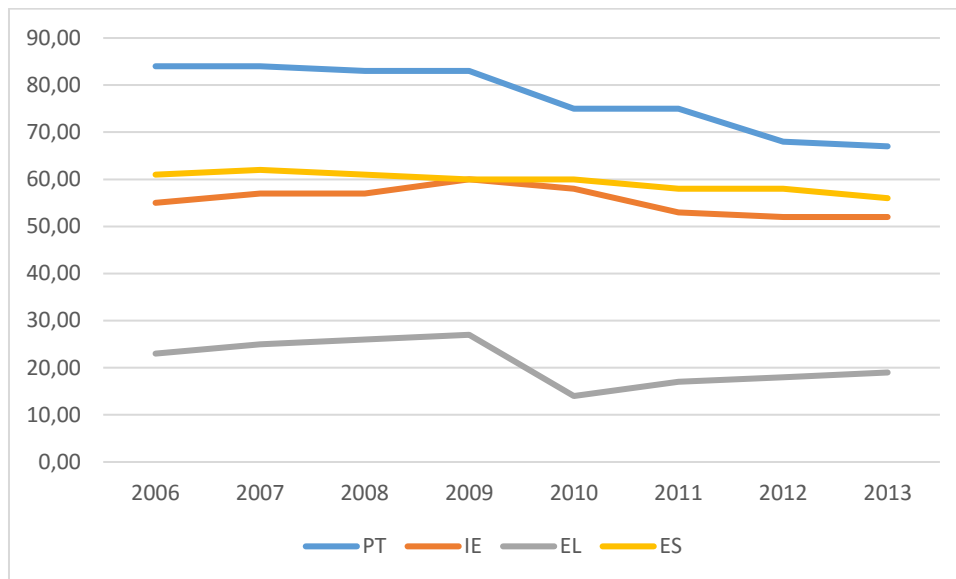
Source: World Bank (2016d). Foreign Direct Investment. Retrieved 08 July, 2016, from <http://data.worldbank.org/indicator/BX.KLT.DINV.WD.GD.ZS?end=2013&locations=IE-PT-GR-ES&start=2006>

Fig. 19, FPI, Foreign Portfolio Investment, PIGS countries, 2006-2013, net balance of payments, current US-Dollar



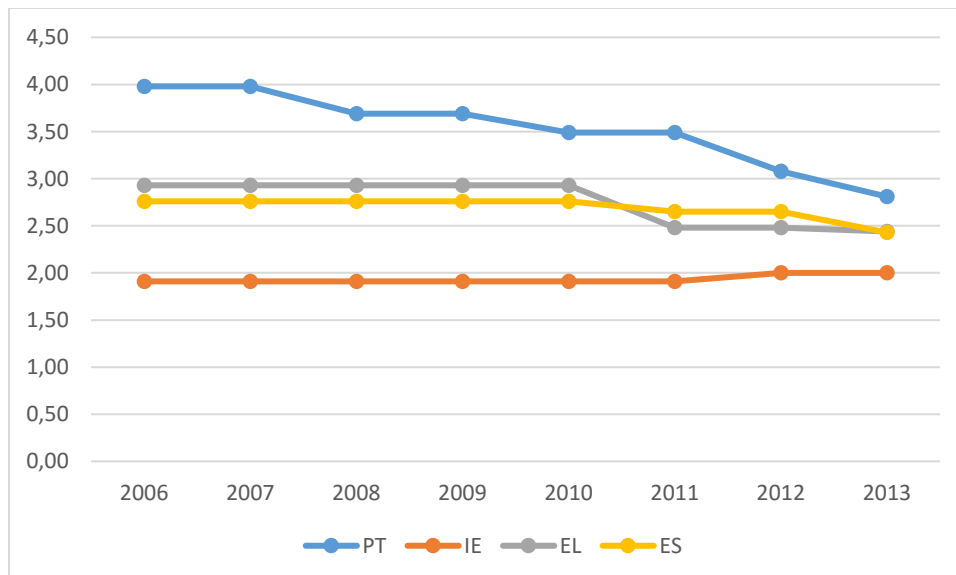
Source: World Bank (2016e). Foreign portfolio investment. Retrieved, 08 July, 2016, from <http://data.worldbank.org/indicator/BN.KLT.PTXL.CD?end=2013&locations=PT-IE-GR-ES&start=2006>

Fig. 20, Opportunity cost, PIGS countries, 2006-2013, Net benefit replacement rate including UB, HB, SA, single person, previous earnings 100 per cent of national average, 13 month of unemployment



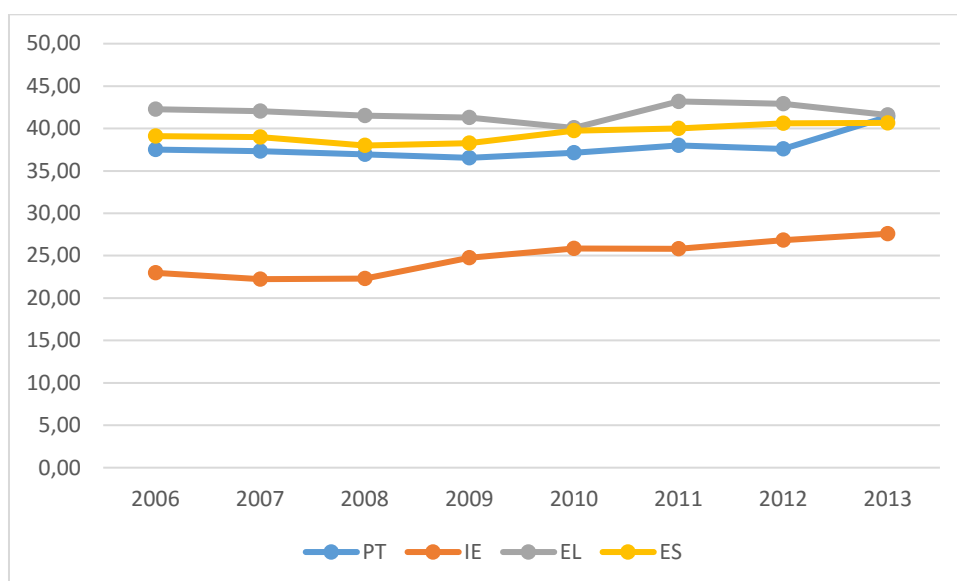
Source: Eurostat (2016a). Net benefit replacement rates. Retrieved 08 July, 2016, from http://ec.europa.eu/economy_finance/db_indicators/tab/

Fig.21, EPL, PIGS countries, 2006-2013, Employment Protection Legislation Index



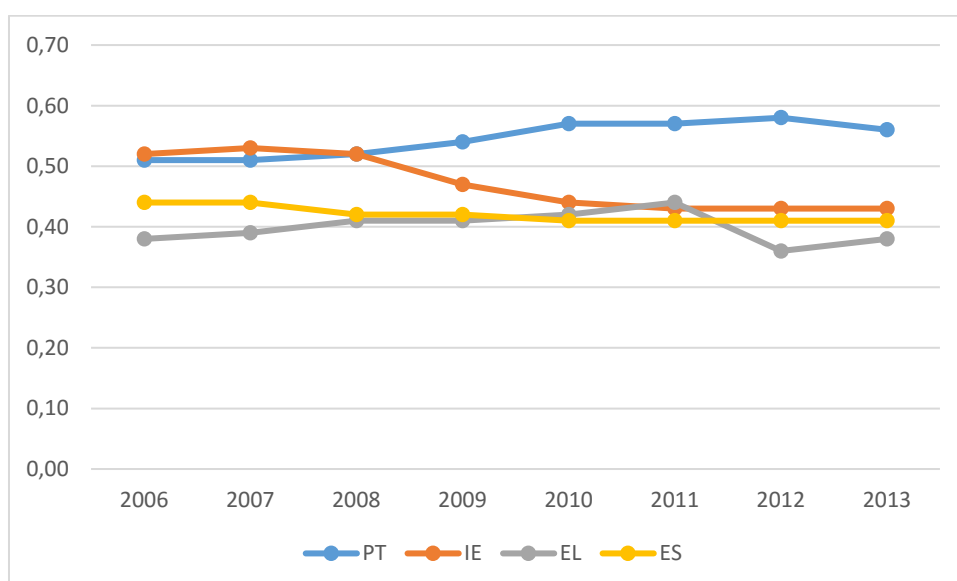
Source: OECD stats (2016). Strictness of employment protection – individual and collective dismissals (regular contracts) https://stats.oecd.org/Index.aspx?DataSetCode=EPL_OV#

Fig.22, Tax wedge, PIGS countries, 2006-2013, single person, 100 per cent of average earnings



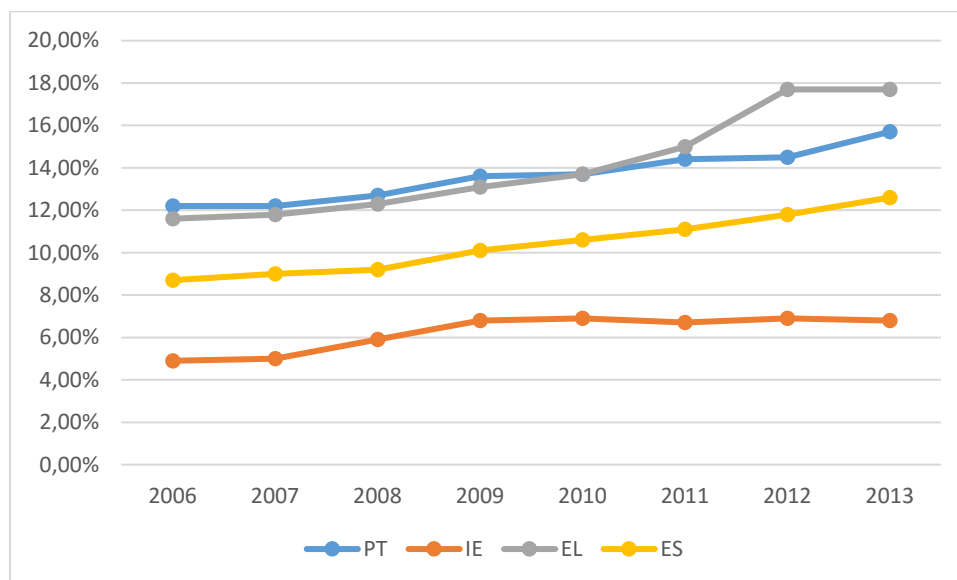
Source: Eurostat (2016b). Tax wedge. Retrieved 08 July, 2016, from http://ec.europa.eu/economy_finance/db_indicators/tab/

Fig.23, Minimum wages, PIGS countries, 2006-2013, minimum wages relative to median wages for full-time workers



Source: OECD stats (2016b). Minimum relative to average wages for full-time workers. Retrieved 08 July, 2016, from <https://stats.oecd.org/Index.aspx?DataSetCode=MIN2AVE>

Fig. 24, pension spending, PIGS countries, 2006-2013, pension expenditure as a percentage of GDP



Source: Eurostat (2016c). Pension expenditure as a percentage of GDP. Retrieved 08 July, 2016, from <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tps00103&plugin=1>